



OKLAHOMA SCHOOL READINESS

REACH-BY-RISK REPORT 2015

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[DHS-OPRS]



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Oklahoma Department of Human Services
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Oklahoma Department of Human Services
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Foreword

How do you envision Oklahoma in the future?

What is your image of Oklahoma 20 years into the future? Do you see a strong economy, a vibrant and healthy environment, and an attractive place to work, live, raise a family, and retire? I believe this is the vision of the future we all hope to see. But if we are to make our vision a reality, we must focus and fine-tune our efforts to address the education and health of our youngest and most vulnerable children, and we must do so with more intensity than ever before.

As a state, we should be brutally honest with ourselves about the status of our young children. It is widely known that children are our future, education is the key to our future success, and our children must be adequately prepared for success in education. So what are the factors that place children at risk of being unprepared to learn at school? This publication enables us to take a hard look at state, county and local data. Are you aware of the risk level of the children in your community, which impedes their readiness to learn when they arrive at school? Do you know the indicators of readiness to learn? Do you know how many children live in poverty in your county and how poverty impacts learning? Do families desiring child care have adequate access to high-quality programs? As a state, we can become familiar with risk factors that hinder the cognitive, social and mental development of children. The answers can be found in the following pages.

The gaps in education are huge, and we must do a better job of educating all children, especially those most at risk of failing. Without strong foundational academic skills, impoverished children fall further and further behind their peers. Children starting from a deficit position, compared to other children their age, present academic challenges for our schools. But we cannot give up or surrender solely because the task is too great. We must become informed and work hard to address these issues for our children and for our future. Public school professionals are generally prepared to provide foundational skills, but they cannot do the job alone.

The messages that come out loud and clear from the *Oklahoma School Readiness Reach-by-Risk Report 2015* are that the support and resources for school readiness must be strengthened. Data and information contained in this publication will help pinpoint the areas where community leaders can pull together, partner with local school officials, and develop plans of action with measurable results. The plans should be launched with the determination that we will not sit by while our children fall behind. Most of us know that once a child falls behind, it becomes increasingly difficult for them to catch up with their peers. At some point, the decline in academic success leads to other undesirable outcomes such as drop-out, difficulty finding good jobs, another generation of at risk children, and additional negative consequences.

For the sake of our future as a state, it is both an economic and moral imperative that we take important steps to provide a strong educational foundation for all of our children. Oklahomans have compassionate “grit” to address these problems head-on.

I am confident that the report will once again make a major contribution to the state school readiness risk debate and focus policymaking, program management and funding decisions on young children and their school readiness and development needs.

Sincerely,
Phyllis A. Hudecki, Ed.D.

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Head Start and Early Head Start Program Directors across the state of Oklahoma. The programs include:

Big Five Community Services Inc.
Caddo Nation Child Development Program
Central Tribes of the Shawnee Area Inc.
Cherokee Nation Early Childhood Unit
Chickasaw Nation Head Start
Choctaw Nation of Oklahoma Head Start
Community Action Development Corp
Community Action Project of Tulsa County Inc.
Community Action Resource and Development Inc.
Crossroads Youth and Family Services
Delta Community Action Foundation
INCA Community Services
Iowa Tribe of Oklahoma
KI BOIS Community Action Foundation Inc.
Little Dixie CAA Head Start/Early Head Start
Muscogee Creek Nation Head Start Program
Muskogee County Head Start
Native American Coalition of Tulsa Head Start
Osage Nation Head Start
Seminole Nation Head Start/Early Head Start
Southwest Oklahoma Community Action Group Inc.
Sunbeam Family Services
Tecumseh Early Head Start
Tulsa Educare
United Community Action Program Head Start
Washita Valley Community Action Council

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Overview

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“Early childhood care and education programmes should emphasize the child’s holistic development and extend beyond assisting the child’s transition to formal schooling. High quality childcare, particularly for children from disadvantaged backgrounds, promotes motivation, confidence, good cognitive and linguistic development and school readiness”

United Nations Educational, Scientific and Cultural Organization (UNESCO)



Early life experiences have the greatest and most enduring influences on children's development and behavior.^[1] The environments in which young children develop and the relationships they have during those years have effects that persist into subsequent stages of life. The causal chain starts even before birth and continues into adolescence and adulthood: the capabilities acquired during the preschool years are significantly linked to school readiness, which in turn has a positive and substantial impact on academic skills acquired during grade school years as well as later educational attainment and well-being.^[2,3,4,5]

Although individual differences among children's early academic skills and behaviors can be expected, research shows that socioeconomic factors significantly explain gaps in school readiness.^[6,7,8] In addition, the likelihood of a child starting school already behind his/her peers is magnified by the presence of multiple risk factors across multiple domains. The cumulative effect of multiple risks leads to poor school entry and academic achievement.^[9,10] For example, children from families with multiple risk factors, such as poverty or low maternal education, tend to exhibit lower cognitive development, lower social and emotional growth, more health problems, and an academic achievement gap at kindergarten entry compared to their peers without these risk factors.^[1,11,12,13]

Without adequate education and support, children facing early academic challenges will also have higher risk in terms of long-term education and employment achievements. Evidence shows they are more likely to drop out of school, have difficulty finding high-paying jobs, depend on the support of welfare programs, and even commit crimes.^[14,15,16] The identification of risk factors that hinder the cognitive, social and mental development of children is the essential first step toward preventing negative outcomes and promoting successful lives. Research shows that young children living in high-risk

environments can be successful if they participate in high-quality early education programs.^[1,17,18,19]

School readiness, or the quality of being prepared for school, has been approached from different perspectives, including readiness as a skill-based construct and readiness as a holistic construct that considers both cognitive and population-level factors.^[20] It is generally accepted, however, that readiness is a multidimensional construct highly influenced by interrelated factors occurring in the context of home, school and the community.^[21,22] One of the latest contributions to the field, the holistic approach proposed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2014, offers a comprehensive approach to measure and describe the status of young children on a variety of interrelated aspects including health, nutrition, education, social protection, poverty and parental support.^[23] Indicators for each of the main targets proposed by the UNESCO's framework are included in the Oklahoma School Readiness Risk Index (SRRRI).

The *Oklahoma School Readiness Reach-by-Risk Report 2015 (SRR2I Report)* serves as the second publication in the series and updates data published in 2014. The SRR2I Report is intended to provide policymakers and other early childhood education stakeholders with the most current data available on multiple school readiness risk factors across multiple domains, and the reach of services provided in each of the state's 77 counties. The ultimate goal of the report is to promote informed policy and funding decisions related to early childhood education. The issue of school readiness is critical for the state and the nation, as children who begin school already behind their peers are likely to remain behind throughout their academic lives, severely limiting their individual potential and perpetuating the cycle of poverty.

The Oklahoma Department of Human Services presents this SRR2I Report in a continued effort to highlight counties whose children are at the greatest risk of starting kindergarten unprepared to learn, and counties that are underrepresented in terms of quality early childhood education and child care services.

This report is divided into two main sections, Risk and Reach, as described below.

The *Risk* section consists of an analysis of nine socioeconomic and demographic indicators found by empirical research to increase a county's risk for poor school preparedness. These factors form the individual indicators used in the School Readiness Risk Index (SRRRI). Each of the state's 77 counties is assigned a score based on the combination of indicators, ranked according to risk level, and categorized into one of four risk groups ranging from high-to low-risk. The SRRRI ranking is not designed to capture school readiness risk in an absolute sense; rather, it aims to give a performance rating of counties relative to one another. This year's SRR2I Report introduces the analysis of changes in scores and shifts in rankings from 2014 for the overall Risk Index and each of its three components or sets of risk factors. Due to data limitations, the 2015 SRRRI excluded the indicator of children ages 3 to 5 served by the Migrant Education Program.

The *Reach* section assesses the county-level service density of six early childhood programs and services designed to contribute to the cognitive and social-emotional development of young children. Initiatives include education and home visitation programs, in addition to several aspects of child care services, such as provider quality ratings and enrollment of children with child care subsidies in quality facilities. Data for a total of 13 indicators were used to calculate the Reach Index. Reach-by-Risk county classifications are presented not only for the overall reach but also

for education and child care reach. New for 2015 is the inclusion of the Oklahoma's Reach Out and Read (ROR) program in the Overall Reach Index. Changes and shifts in ranks between 2014 and 2015 are also discussed.

Report Highlights

This SRR2I Report provides current data on factors that place children at risk of being unprepared for school compared to the reach of several services and programs that promote school readiness. The report seeks to improve understanding and raise awareness of school readiness needs for each of the state's 77 counties.

Risk

Counties that earn average scores in the High Risk category have among the highest rates of socioeconomic and demographic factors known to impede school readiness. This suggests that children in these counties are more likely to be unprepared to learn when they start kindergarten and, consequently, to have poor educational outcomes. Summaries of each risk group are presented below, along with the number of children and counties compared to the 2014 report. Although the SRRRI indicators do not move quickly over time, and thus assessing genuine change over time will require a few more years of data, patterns in risk classifications and rank changes are highlighted for each group (also referred to as "quartiles"). Summary tables highlighting counties with the highest and lowest rates for each indicator are included in the body of the report, with Appendices 3 and 4 listing rates for each county. It is important to note that some counties that changed risk groups experienced small shifts in rank (e.g., 10 or fewer positions).

HIGH RISK: Approximately 43,344 children under age 6, or 13% of the state's population of children in

this age group, reside in 19 counties with the greatest concentration of risk factors. This represents an increase of approximately 2,500 children from 2014. The number of factors for which counties in this group ranked as High Risk range from two to eight, with a mean of 4.3 High Risk factors. Of the 19 counties classified as High Risk in 2014, 12 remained High Risk in 2015. Of those that changed risk groups, all decreased in risk, with six (Custer, Marshall, Caddo, Hughes, Ottawa and Jackson) dropping to High-Medium Risk and one (Greer) dropping to Medium-Low Risk.

HIGH-MEDIUM RISK: At somewhat less risk, but still of concern, are the 104,183 children (32%) who live in the 20 counties classified as High-Medium Risk. This represents an increase of approximately 500 children from 2014. The number of factors for which counties in this group ranked as High-Medium Risk range from one to four, with a mean of 2.7 High Risk factors. Of the 19 counties classified as High-Medium Risk in 2014, 10 retained this classification in 2015; six (Sequoyah, Okfuskee, Blaine, LeFlore, Beckham and Okmulgee) increased to the High Risk group, while three (Pottawatomie, McIntosh and Beaver) moved down to the Medium-Low Risk group.

MEDIUM-LOW RISK: An estimated 103,845 children under age 6 (32%) reside in 19 counties with an even lower prevalence of risk factors, but these counties may have moderate rates for a few factors. This represents an increase of approximately 9,200 children from 2014. The number of factors for which counties in this group ranked as High Risk range from zero to four, with a mean of 1.5 High Risk factors. Of the 18 counties classified as Medium-Low Risk in 2014, 12 remained in this group in 2015, with one (Craig) increasing to the High Risk group, and four (Bryan, Jefferson, Kiowa and Cotton) moving to the High-Medium Risk group; and one (Woods) decreasing to the Low Risk group.

LOW RISK: Nineteen counties have the lowest level of overall risk, with 71,336 children (22%) residing

in these counties. This represents a decrease of approximately 6,000 children from 2014. The number of factors for which counties in this group ranked as High Risk range from zero to two, with a mean of 0.5 High Risk factors. Of the 21 counties classified as Low Risk in 2014, all but three (Creek, Major and Washita) maintained this grouping, with these counties moving to the Medium-Low Risk group.

OVERALL: In total, approximately 147,527 children under age 6 (nearly 3,000 more than in 2014) live in counties classified as High Risk or High-Medium Risk for poor school readiness. This represents an estimated 46% of all children under age 6 in Oklahoma, the same percentage as in 2014.

Hispanic Background

Three risk indicators are associated with being Hispanic and having limited English skills: the percentage of children under age 5 who are Hispanic/Latino, the percentage of Pre-Kindergarten and Kindergarten students who are English-language learners, and the percentage of infants born to mothers who lack a high school diploma. Of Oklahoma counties, 34 (44%) were classified as High Risk on at least one of these indicators, the same as in 2014, with five counties scoring High Risk on all three indicators.

Family Structure and Economic Distress

Four risk indicators are associated with poverty and family structure: the percentage of children under age 6 living under 100% of the Federal Poverty Level, the percentage of children under age 6 living in households headed by single parents, the percentage of infants born to mothers between the ages of 10 and 19, and the percentage of children under age 5 who are American Indian/Alaska Native. Of all Oklahoma counties, 42 (55%) were classified as High Risk on at least one indicator, with one

county scoring High Risk on all four indicators. Single-parent family was the risk indicator with the greatest variation in 2015 with an average change across counties of 1.7 and a standard deviation of 6.5.

Children in Child Welfare

Two risk indicators are associated with child welfare: the percentage of children under age 6 who have experienced abuse and neglect, and the percentage of children under age 6 in DHS custody. Of the 77 Oklahoma counties, 24 (31%) were classified as High Risk on at least one indicator, with 14 counties scoring High Risk on both indicators. The children in foster care risk indicator had the lowest variation in 2015, with a standard deviation of 1.4.

Reach

Counties that earn average scores in the High Reach category have high rates of reach for particular programs and services (or combinations thereof). A positive correlation was found between overall reach and risk, meaning that as risk increases, so does reach. The same results were obtained for the Education Reach index but not the Child Care Reach index, which indicates that High Risk counties are not served by child care programs and services at a significantly higher rate than lower risk counties. This mirrors the results from the 2014 report. Of the seven counties in the High Risk but Low to Medium-Low Reach groups in 2014, five (Harmon, Texas, Tillman, Adair and Kay) maintain these classifications in 2015. Summaries of results for the Education and Child Care Reach indices, as well as the Home Visitation and Other Support Programs, are presented below, with the body of the SRR2I Report presenting data for counties with the highest and lowest reach for each program. Appendix 12 shows reach data by county for all indicators/programs used in the calculation of the reach indices.

Early Childhood Education

The greatest reach for early childhood education programs continues to be among High and High-Medium Risk counties, with High Risk counties serving a considerably greater proportion of children in Head Start and publicly funded Pre-Kindergarten than all other risk groups. In addition, children in High Risk counties continue to have the highest rate of full-day Pre-Kindergarten attendance. The High-Medium Risk group serves a similar rate of children in Pre-Kindergarten and Head Start as lower risk counties, and, with the fewest number of counties with Early Head Start, continues to have by far the lowest rate of children in this program.

Child Care

The High Risk group has the lowest rates for several child care indicators. Although these counties continue to have the highest rates of licensed child care providers that are centers (compared to homes), they have by far the lowest overall capacity and capacity among high-quality providers (those with Two and Three Star ratings) for serving children under age 6 with working parents. Further, High Risk counties have one of the lowest rates of child care providers that contract with DHS to accept child care subsidy payments. While there is a high rate of children with child care subsidies in high-quality care across the state at 95%, counties in the High Risk group continue to have the lowest rates of enrollment with Two and Three Star providers.

Home Visitation and Other Support Programs

Reach ratios for this category of programs could only be determined for Oklahoma Parents as Teachers (OPAT) and Reach Out and Read (ROR). OPAT serves 25 counties, with the Medium-Low Risk group having the most counties served at 10, followed by the High Risk group at eight. The Medium-Low Risk group had

the highest rate of eligible children served, followed by the High Risk group. ROR serves 22 counties, with the High Risk group having the most counties served at nine. The High and High-Medium Risk groups had the highest rates of children served. For the three Oklahoma State Department of Health home visitation programs examined, the High and High-Medium Risk groups had the greatest number of counties served by Children First and SoonerStart, and nearly the same number served by Start Right as the lower risk groups.

Overall, the number of children under age six living in High and High-Medium Risk counties classified as having Low to Medium-Low Overall Reach declined considerably from nearly 27% of the state total (as reported in 2014) to approximately 6%. This is due in large part to the shift of Oklahoma County, which is home to 22% of the state's young children, from the Medium-Low Risk group in 2014 to the High-Medium Risk group in 2015. As the county retained the same reach classifications on the Education and Child Care Reach Indices, this shift is likely due to the inclusion of the Reach Out and Read program in the Overall Reach Index, for which Oklahoma County ranked as High-Medium Reach.

This finding should not diminish the fact that nearly 19,000 of the state's children reside in counties where the risk for starting school unprepared is high, yet the availability of quality early childhood programs is limited. Moreover, as overall risk and reach classifications are summary measures, they do not capture the complexity of school readiness risk for each county or the extent to which those children at highest risk are receiving needed services. To fully understand issues facing each county, a summary of risk and reach classifications are provided in the appendix. While data on the reach of early childhood programs allows for a comparison of risk and service levels for each county, it is important to note that reach data are limited by the potential inclusion of

duplicated numbers of children and by the inclusion of only the largest programs that benefit young children.

Because Oklahoma does not have an integrated early childhood data system that would allow tracking at the individual level, this report relies on aggregated data collected by different agencies using various approaches and covering different timeframes. As such, data presented in this document represent *estimates* of school readiness risk and reach that may be used in multiple ways to improve the state of school readiness across Oklahoma. The intent of this report is to help communities better understand the extent to which early childhood programs and services are reaching families and children with the greatest need, evaluate progress toward mitigating risk factors and increasing the availability of quality programming; and make early childhood policy and resource allocation decisions based on data-driven considerations. This report relies on those indicators described in the literature and evidenced in the SRRI analysis as having a significant effect on school readiness, but they are by no means exhaustive. In the future, additional variables that explain risk for poor school readiness may be included as more data become available at the county level.

1. MEASURING SCHOOL READINESS RISK AND REACH

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The School Readiness Risk Index (SRRI) is a summary measure of key dimensions of school readiness. Understanding risk alone, however, is insufficient. The reach of programs and services that help prepare children for school was also measured to identify gaps between the risk of starting school inadequately prepared to learn and the availability of resources.



The School Readiness Risk Index (SRRI) is a summary measure of key dimensions of school readiness. It measures the average risk at the county level for three components or domains of school readiness risk: Hispanic background, family structure and economic distress, and children in welfare. Each component is comprised of multiple indicators, and the SRRI is the arithmetic mean of standardized rates of these indicators. Understanding risk alone, however, is insufficient. The reach of programs and services that help prepare children for school is also measured to identify gaps between the risk of starting school inadequately prepared to learn and the availability of resources. Three composite reach indices are measured: overall, education and child care. They measure the average reach in each county by risk group across multiple programs and services designed to support the development of young children.

New for 2015 is the inclusion of the Oklahoma's Reach Out and Read (ROR) program in the Overall Reach Index and the analysis of changes in risk classifications between 2014 and 2015. The 2015 SRR2I Report retains the SRRI, also referred to as the Overall Risk index, as well as the domain scores that comprise the SRRI: Hispanic Background, Family Structure and Economic Distress, and Children in Welfare. In addition, the 2015 SRR2I Report also retains the Overall Reach Index, as well as the Education and Child Care Reach domain scores. As previously mentioned, the Overall Reach Index now includes the ROR program.

Over the past four years, researchers at the Office of Planning, Research and Statistics at the Oklahoma Department of Human Services have consulted with academics, advocates and practitioners to discuss approaches to improve school readiness measurement in the state. A shared goal among participants in these conversations was that the composite risk and reach indices must be easy to understand for all audiences, including policymakers, media and community leaders. Additionally, it was determined that the indices need to be periodically monitored and reported so that they continue to be useful for informing policy and funding decisions related to early childhood education and child care access and quality.

This section describes the data sources and steps that were used to calculate the SRRI, domain, and Reach indices. The analytical additions made to highlight changes between 2014 and 2015 and the tables included in the appendices are also described.

1.1 METHODOLOGY

Risk

The risk factors (also referred to as indicators) identified for possible inclusion in the SRRI were selected based on a comprehensive review of published research on socioeconomic and demographic indicators strongly associated with school readiness. To be included, indicators had to be available at the county level and be updated regularly to allow for continued monitoring. For each indicator, data at the state and county levels were collected from multiple secondary sources and reported as proportions of relevant populations (e.g., percent of live births to mothers with low levels of education). Data were statistically analyzed using multivariate techniques to narrow the number of indicators by creating components, or "sets," of factors most closely correlated with each other that significantly explain school readiness, with third-grade reading proficiency used as a proxy of readiness.⁹ Three sets, also referred to as domains in this report, emerged from the analysis as significantly associated with school readiness: Hispanic background, family structure and economic distress, and children in child welfare. For a full elaboration of the method and its rationale, see Lazarte et. al. (2013)^[1].

Figure 1 shows the domains and the individual variables that comprise each domain, as well as their corresponding weights. Due to data limitations, the 2015 SRRI excluded the indicator of children ages 3 to 5 served by the Migrant Education Program. No significant changes have occurred, however, in the risk ranking and grouping from this exclusion.

Information for these nine indicators was updated with the most recent data available as of fall 2014. Standard scores, also known as z-scores, for each indicator were calculated based on individual county and statewide percentages.^b Each indicator was weighted equally and z-scores were averaged across all nine indicators for an overall school readiness risk score. Counties were ranked from one to 77 according to the severity of the overall score, with higher scores representing higher risk, and with counties classified into four groups according to categories of High, High-Medium, Medium-Low and Low Risk for poor school readiness. SRRRI classifications were based on cut-off points derived from the quartiles of distributions of all risk indicators. The cut-off points were SRRRI scores of less than -0.413 for Low Risk,

-0.398 to -0.024 for Medium-Low Risk, -0.019 to 0.335 for Medium-High Risk and 0.336 or greater for High Risk. Counties were ranked by 2015 SRRRI value. It is important to note that risk is based on a comparison of Oklahoma counties relative to each other, which excludes direct comparisons to other states or the nation.

Table 1 shows risk group score ranges, as well as the numbers of counties and numbers and percentages of children aged 0–5 that fall into each group, which are comparable to those in the 2014 risk analysis.

Figure 1: Indicators used to measure school readiness risk

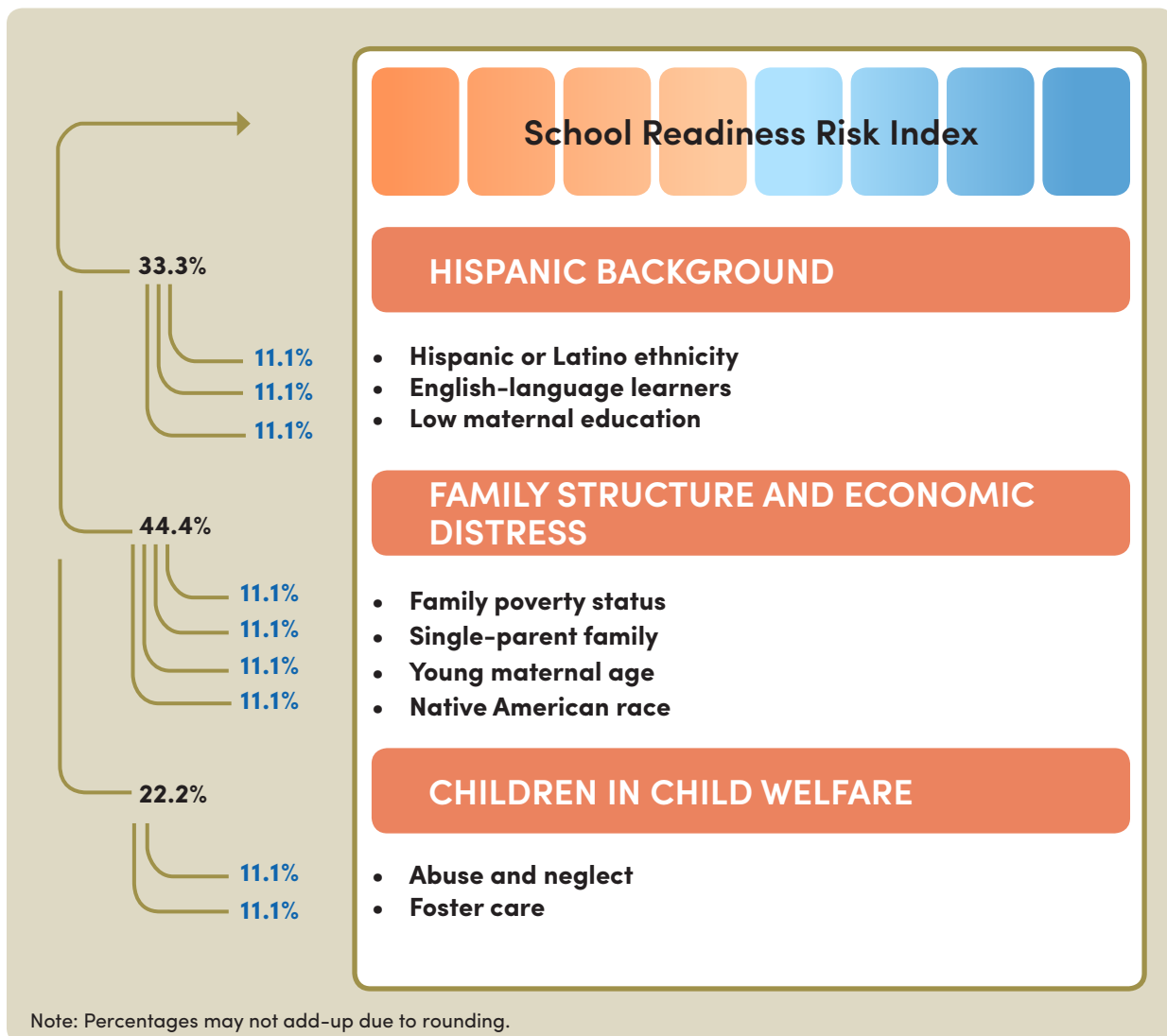


Table 1: Risk group score range, number of counties and children under age 6 in Oklahoma

Average z-score	Number of counties	Number of children (0-5) ¹	Percent of all children 0-5 in Oklahoma	Risk level
0.336 to 2.198	19	43,344	13.4%	High Risk
-0.019 to 0.335	20	104,183	32.3%	High-Medium Risk
-0.398 to -0.024	19	103,845	32.2%	Medium-Low Risk
-0.871 to -0.413	19	71,336	22.1%	Low Risk
	77	322,708		

¹Source: U.S. Census Current Population Estimates, County Characteristics: Vintage 2013; U.S. Census 2010

Summary tables highlighting counties with the highest and lowest rates for each indicator are included in the body of the report, with Appendices 3 and 4 listing rates for each county. Rates are also shown on maps included for each indicator. Counties are color-coded to represent risk level per indicator, and overall percentages for each risk group are presented next to the risk group legend. Color-coding for maps and appendix tables ranges from dark orange for High Risk to dark blue for Low Risk.

Reach

To investigate the relationship between risk classification and reach of services that support school readiness, data were requested from the following programs and services: early childhood education (Head Start, Early Head Start, the state’s universal Pre-Kindergarten program, the Oklahoma Early Childhood Program and Educare), home visitation and other support programs (Oklahoma Parents as Teachers, Children First, Start Right, SoonerStart/Early Intervention, and Reach Out and Read), and child care services. Agencies contacted for data included DHS (Oklahoma Child Care Services), the Oklahoma State Department of Health, the Oklahoma State Department of Education, the Oklahoma Association of Community Action Agencies, American Indian tribal governments responsible for Head Start and Early Head Start programs, specific programs and initiatives such as Reach Out and Read, and the Community Action Project of Tulsa.

Eleven programs and services were provided with a list of data needs, such as overall enrollment

and enrollment by age. Some data, such as low numbers that could potentially identify children or families served, were unavailable due to restrictions related to privacy. A total of 13 indicators across six programs and services (Early Head Start, Head Start, Pre-Kindergarten program, child care services, Reach Out and Read, and Oklahoma Early Childhood Program) were used to calculate the Reach Index. Table 2 lists all of the programs and services contacted for data; information about their geographic coverage, ages of children served, income eligibility requirements, and their inclusion status in the reach ratio calculations is also provided. Figure 2 shows all of the variables that comprise the Overall Reach Index and individual indices as well as their corresponding weightings.

Data for the 13 reach indicators were updated with the most recent data available as of fall 2014. The same methods noted above to calculate the SRRI were used to rank counties according to their scope of reach and compute the Reach Index based on average z-scores for all programs and indicators with reach ratios,^c with higher rank and scores representing greater reach. Reach ratios were calculated by estimating the total eligible population for each county using U.S. Census data for individual ages and, when applicable, poverty rates, and dividing the total number of children served by the total number eligible. The outcome is an estimated percent of eligible children served. To derive ratios of eligible children served by Head Start, Early Head Start, Pre-Kindergarten, Oklahoma Parents as Teachers, and Reach Out and Read programs, the

Table 2: Programs highlighted for reach

Program	# Counties served	Ages served	Income eligibility	Reach ratio
Education				
Head Start	77	3 to 4 ^a	<100% FPL ^b	x
Early Head Start	41	Pregnancy to 2	<100% FPL ^b	x
OK Pre-K (4-year-old)	77 (513 districts)	4	None	x
OK Pre-K (3-year-old)	73 (302 districts)	3	None	x
OK Early Childhood Program	7	Infant to 3	<185% FPL	
Educare	2	Infant to 5	<100% FPL	
Child Care				
Licensed centers	77	Infant to 5 ^c	<185% FPL	x
Overall capacity	77	Infant to 5	<185% FPL	x
Quality (2 & 3 Star) capacity	77	Infant to 5	<185% FPL	x
OKDHS contractors	77	Infant to 5	<185% FPL	x
Subsidy enrollment to capacity	77	Infant to 5	<185% FPL ^d	x
Quality (2 & 3 Star) subsidy enrollment	77	Infant to 5	<185% FPL ^d	x
Home Visitation (and other support programs)				
Children First	62 ^e	Pregnancy to 1	<185% FPL	
Start Right	28	Pregnancy to 4	None	
SoonerStart/Early Intervention	58 ^e	Infant to 2	None	
OK Parents as Teachers (OPAT)	25	Infant to 2	<185% FPL	x
Reach Out and Read (ROR)	22	Infant to 5	None	x

^aTechnically serves age 5, excluded from report as 28 5-year-olds served in OK in 2011–2012; ^bFederal Poverty Level, HS and EHS regulations allow 10% of children served to exceed income requirements if meet other criteria; ^cage group for all child care data used for purposes of report; ^destimated eligibility based on household income thresholds used to qualify families for subsidized care; ^eservices available to all counties

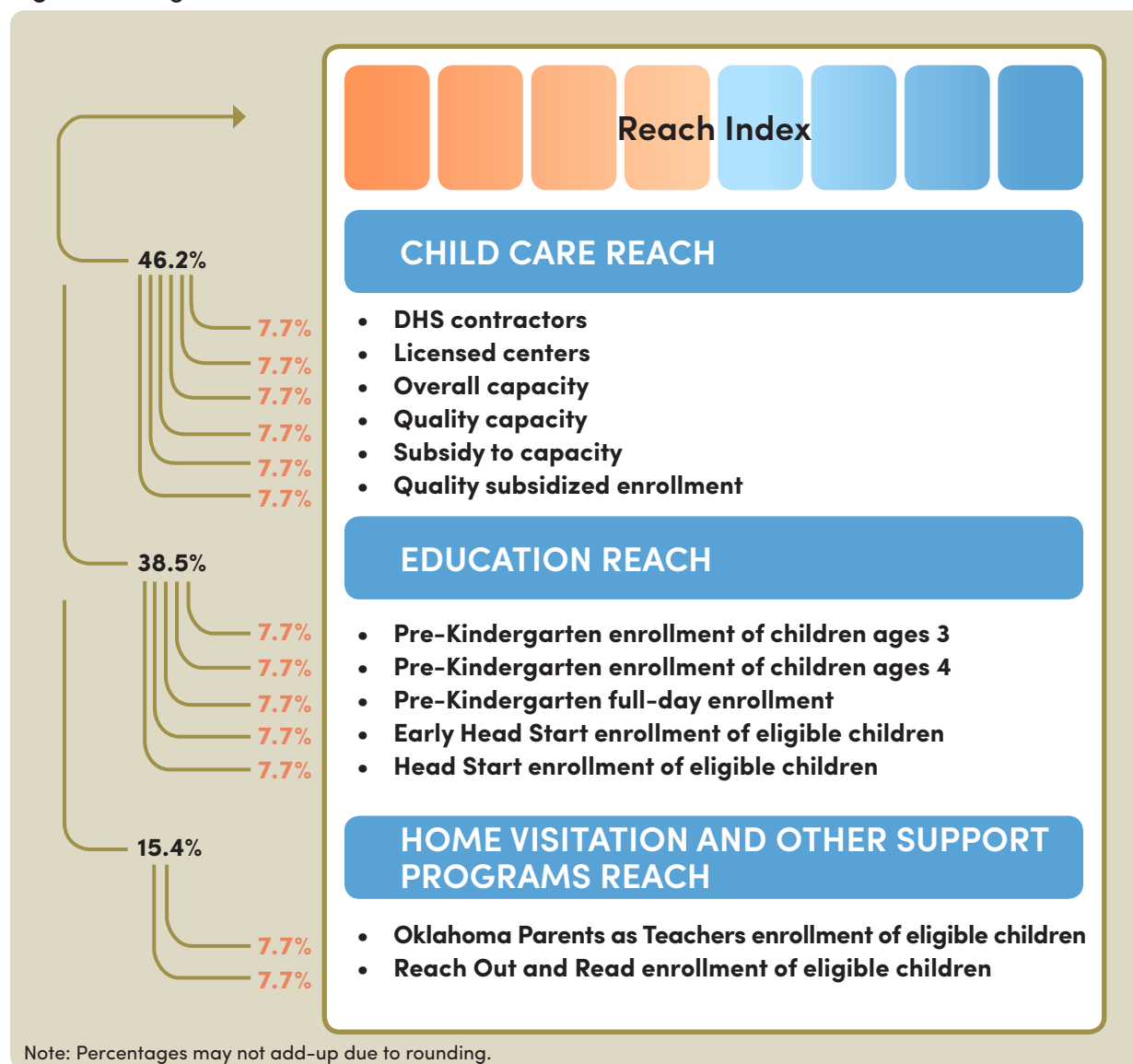
population of individual ages for each county were extrapolated using two datasets: U.S. Census Current Population Estimates, County Characteristics: Vintage 2013, and U.S. Census 2010. In comparison, the 2014 report used individual age data from the U.S. Census 2010 to derive counts of eligible children.^d

When data for Head Start and Early Head Start programs were not reported, either because the agency did not receive funding to operate in the 2013–2014 year or because the program did not respond to the survey, enrollment numbers were extrapolated using the 2013–2014 Head Start Program Information Report and program and age participation rates from the *Oklahoma School Readiness Reach-by-Risk Report 2014*.^e

For three home visitation programs (Children First, Start Right and SoonerStart) and two education programs (Oklahoma Early Childhood Program and Educare), ratios were not possible for one or more of the following reasons: data restrictions, such as masked data to protect privacy; difficulty in identifying eligible populations, such as children at risk for abuse and neglect; or programs serving municipalities rather than counties.

Quartiles were used to classify counties into four categories according to reach. The cut-off points were reach scores of less than -0.278 for Low Reach, -0.272 to 0.031 for Medium-Low Reach, 0.035 to 0.308 for Medium-High Reach and 0.323 or greater for High Reach. Table 3 shows the total number of counties, the number of counties classified as High and High-Medium Risk, and the number of children under age 6 falling into each reach group.

Figure 2: Programs and indicators used to measure reach



Reach-by-risk analysis was performed by testing the relationship between reach and risk. Additionally, reach ratios were mapped onto county risk levels to highlight counties with the greatest need for early childhood education, home visitation and child care services relative to risk. Summary tables highlighting counties with the highest and lowest reach for each program are included in the body of the report. Rates represented by circles that appear over each county and are sized according to the reach quartile classifications are also shown on maps included for several scores, programs and services. The maps also report overall risk ranking for each county, with higher scores representing higher risk, color-coded by risk group.

As in the 2014 report, in addition to the calculation of an Overall Reach score, separate indices were calculated for the four education programs combined (Head Start, Early Head Start, and Pre-Kindergarten for 3 and 4-year-olds) and the six child care indicators combined.

The same methods explained above to test the relationship between Overall Reach and risk were used to estimate the correlation between the Education and Child Care Reach indices and the SRRI in 2015.

Table 3: Reach group score range, number of counties and children under age 6 in Oklahoma

Average z-score	Number of counties	Number High / High-Medium Risk counties	Number of children (0-5) ¹ by Reach group	Percent of all children 0-5 in Oklahoma	Reach level
0.325 to 0.995	19	8 / 5	51,940	16.1%	High Reach
0.034 to 0.310	20	4 / 9	176,855	54.8%	High-Medium Reach
-0.269 to 0.033	19	3 / 3	53,531	16.6%	Medium-Low Reach
-1.285 to -0.279	19	4 / 3	40,382	12.5%	Low Reach
	77		322,708		

¹Source: US Census Current Population Estimates, County Characteristics: Vintage 2013; US Census 2010

1.2 STATISTICAL TABLES

The 14 statistical tables in the appendices provide an overview of essential data on young children and key aspects of school readiness risk. Appendix 1 lists all counties in alphabetic order, along with their 2015 SRRRI rank, risk group and most recent population estimate for children under age 6. Appendix 2 describes in detail all risk indicators used for the 2015 SRRRI, organized by domain, with the national and state data sources used for the updates. Tables in Appendices 3 and 4 contain the SRRRI and risk domain scores, ranks and components estimated by the authors. Appendix 5 presents the number of indicators by risk level for all counties. Appendix 6 shows the correlation estimates among risk indicators and their significance. Appendices 7 and 8 summarize the correlation coefficients and their significance levels among risk and reach rates and scores between 2014 and 2015. Appendix 9 describes in detail all reach indicators used for the 2015 SRR2I Report, organized by education, child care and other support programs, with the national and state data sources used for the updates. Appendix 10 presents all counties, ordered by risk rank from highest to lowest for each reach group, for all relevant comparisons across reach and risk. Appendix 11 contains reach index scores, ranks and changes from 2014 by risk group and county for Overall, Education and Child Care Reach. The remaining appendices present data on each reach indicator by risk group. Available enrollment numbers for programs not included in the reach ratio calculations are also reported.

1.3 CHANGES IN RISK AND REACH 2014-2015

The second publication of the *Oklahoma School Readiness Reach-by-Risk Report* updates risk and reach data that can be used to track risk classifications and reach of services over time. Although the SRRRI indicators do not move quickly over time, and thus assessing genuine change over time will take a few more years of data, analyzing and contrasting risk classifications with what is available at hand can reveal patterns that can be tested as time-series data become available.

At the same time as we present the most current scores and rankings of school readiness risk for each of the 77 counties in the state, we also provide a comparison measure for changes in ranks between 2014 and 2015. The focus of the analysis is on the rank changes for the counties with the largest positive and negative scores/rates (usually top and bottom 10) using the calculated values for the overall and domain level classifications, and for each individual indicator.

The analysis of changes between 2014 and 2015 further extends to include ranking percentiles, which are used to show rank changes from the 2014 SRRRI, highlighting significant shifts in the overall and domain-level classifications. There are no established thresholds against which to evaluate shifts in rankings and make judgments regarding their importance. Several researchers reporting

on rank changes have considered shifts of at least 20 percentiles to be conceptually significant [2,3,4]. To provide a broader perspective of factors contributing to large changes in rank, a cut-off point of 13 percentiles was selected as a meaningful change for the purposes of this report and corresponds to changes in rank of approximately 10 positions.

Any changes in risk group for the counties with the highest and lowest scores/rates are also described. It is important to note that changes in risk rates/scores may or may not correspond to changes in ranks and risk groups, which are organized by quartiles. A county close to the cut point for risk groups may move from one group to the other across years, but may have only experienced small changes in score or rank. Also, positive or negative changes in scores can result in positive, negative or no changes in rank. This illustrates the relative performance rating method used calculate scores and classify counties into risk groups.

As for the changes in reach, we also compare 2014 and 2015 ranks and discuss the shifts for the counties with the largest positive and negative scores/rates (usually top and bottom 10). The same word of caution about changes in rates/scores and their ambiguous impact on changes in ranks and groups also applies to the reach analysis.

Comparisons across years were undertaken by testing the statistical relationship between the 2014 and 2015 reach ranks and between all coefficients for rates and scores between those two years. The addition of “Reach Out and Read” to the pool of programs used to calculate the Reach Index in 2015 was also tested to determine any significant change in county ranks and groups.





2. STATE OF SCHOOL READINESS RISK, 2014 AND 2015

A

Counties with the highest overall risk remain concentrated in the northeast, southeast and southwest parts of the state, with pockets of concentration in counties in the panhandle, north central and south central regions.

B

C

The first two years of data reveal county-level risk patterns across indicators and domains that can be tested as time-series data become available.



2.1 OVERALL RISK

The results of the 2015 SRRI risk analysis indicate that 39 of Oklahoma’s 77 counties have overall rankings that classify them as High or High-Medium Risk, with 61 ranked as High Risk and 69 as High-Medium Risk on at least one indicator (two more than in 2014 in both cases). The number of indicators rated as high risk within the High Risk group ranges from two to eight, with a mean of four. In contrast, the number of indicators rated as high risk within the Low Risk group ranges from zero to two, with a mean of zero. These results are comparable to those found for the 2014 risk analysis. The 2014 and 2015 overall risk ranks were statistically compared to one another and no significant differences were found ($p < 0.05$).

Table 1 lists the 20 counties with the highest and lowest scores on the SRRI and compares rankings to 2014. Higher scores represent higher risk and indicate large percentages of children with multiple risk factors within counties. Risk scores in 2015 range from a high of 2.2 for Harmon County (up 0.7 points from 2014) to a low of -0.88 for Cleveland County (up 0.2 points from 2014), with Pontotoc County at the median (-0.02). A positive sign in the change in rank column in Table 1 represents higher risk rank in 2015. Four counties (Harmon, Adair, Texas and Pushmataha) remained among the 10 counties with the greatest risk levels, with Harmon retaining its position at the top. Four counties (Sequoyah, Okfuskee, Blaine and LeFlore) moved from the High-Medium Risk group to the upper end of the High Risk group. Kay and McCurtain counties retained their High Risk classifications and saw an increase in risk level. There was significantly less movement among counties classified in the Low Risk group in 2014, especially among those ranked in the bottom 10. Only two counties (Dewey and Grant) are new to this group in 2015, and they were also in the same risk group (Low Risk) in 2014. Due to the relative performance rating method used to calculate scores and classify

Table 1: Rank and score on the Oklahoma School Readiness Risk Index 2015

County	Score	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	2.197	1	1	-
Adair	1.336	2	4	+2
Texas	0.872	3	3	-
Sequoyah	0.827	4	36	+32
Kay	0.725	5	14	+9
Pushmataha	0.610	6	6	-
Okfuskee	0.533	7	27	+20
McCurtain	0.509	8	18	+10
Blaine	0.503	9	25	+16
LeFlore	0.464	10	20	+10

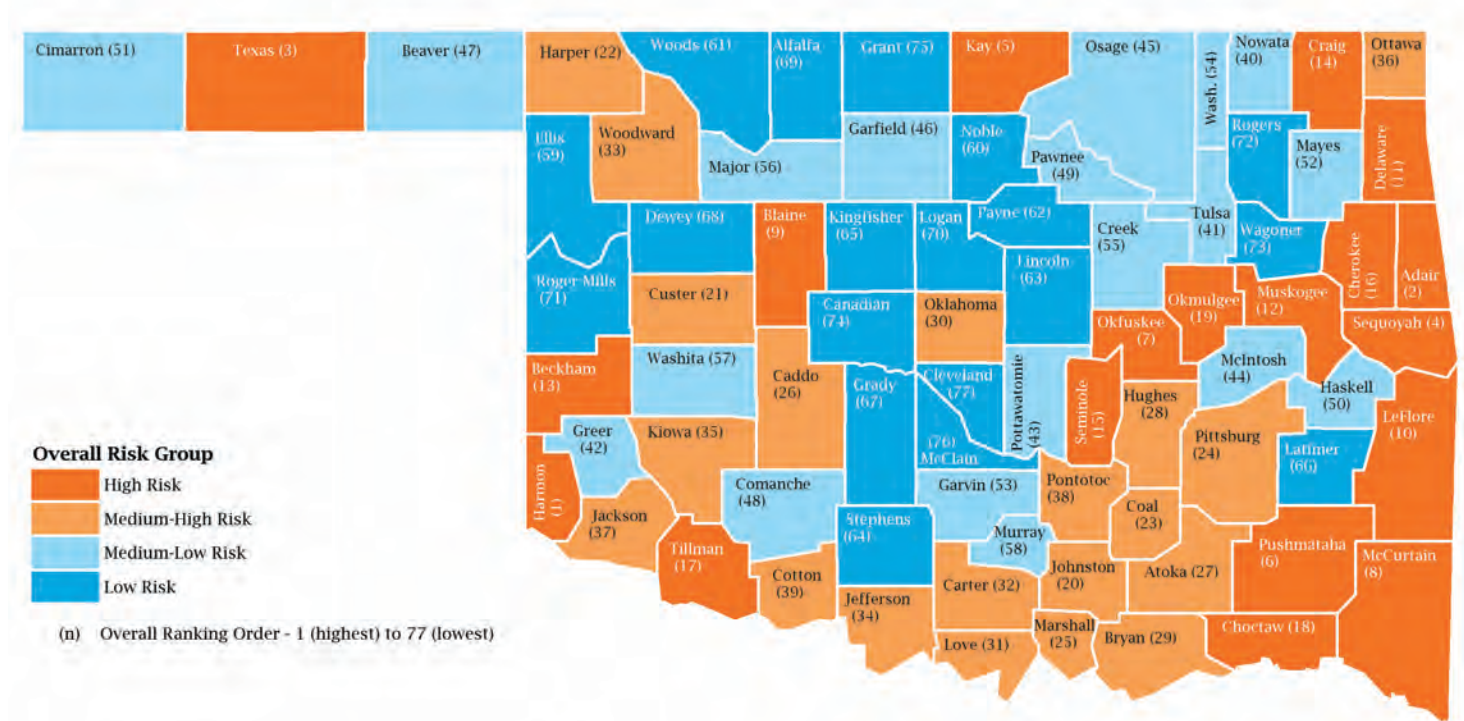
Pontotoc	-0.022	39	38	-1

Dewey	-0.662	68	66	-2
Alfalfa	-0.673	69	77	+8
Roger Mills	-0.692	70	75	+5
Logan	-0.693	71	74	+3
Rogers	-0.794	72	70	-2
Wagoner	-0.813	73	73	-
Canadian	-0.839	74	68	-6
McClain	-0.847	75	71	-4
Grant	-0.851	76	63	-13
Cleveland	-0.877	77	76	-1

counties into risk groups, changes in scores and/or risk rank do not necessarily imply changes in risk group. The counties with the largest change in rank were Sequoyah (from 36th to 4th [increase in risk]) and Grant (from 63rd to 76th [decrease in risk]). Appendix 3 includes overall and domain risk scores, ranks and rank changes from 2014. Appendix 4 lists risk indicators, ranks and changes from 2014, including risk group changes for each county.

Map 1 shows how Oklahoma counties ranked in the School Readiness Risk Index in 2015. As in 2014, counties are ranked from 1 to 77, with 1 being the highest risk rank. As the map shows, counties with the highest overall risk remain concentrated in the northeast, southeast and southwest parts of the state, with pockets of concentration in counties in the panhandle, north central and south central regions.

Map 1: Overall risk 2015



Note: Color coding represents overall risk classification across all factors.

Overall Shifts in Rankings from 2014

The analysis of changes between 2014 and 2015 extends beyond risk classification and the direct calculation of changes in ranks to include ranking percentiles to highlight significant shifts from the 2014 index. A percentile represents the percentage of counties below a particular rank. Higher percentiles represents greater risk values, and vice versa. For example, Tillman County's rank of second on the 2014 index corresponded to the 99th percentile, which means the county ranked at higher risk than 99% of remaining counties in Oklahoma. In 2015, Tillman County ranked 17th, which corresponds to a lower risk rank (79th percentile). In instances of tied counties, e.g., counties having exactly the same rates or no rates at all for particular indicator, percentiles will be the same. While a few more years of data are necessary to make meaningful comparisons over time, analyzing and contrasting risk classifications for the first two years of data can reveal patterns that can be tested as time-series data become available.

There are no established thresholds against which to evaluate shifts in rankings and make judgments regarding their importance. Several researchers reporting on rank changes have considered shifts of at least 20 percentiles to be conceptually significant^[1,2,3]. To provide a broader perspective of factors contributing to large changes in rank, a cutpoint of 13 percentiles was selected as a meaningful change for the purposes of this report and corresponds to changes in rank of approximately 10 positions.

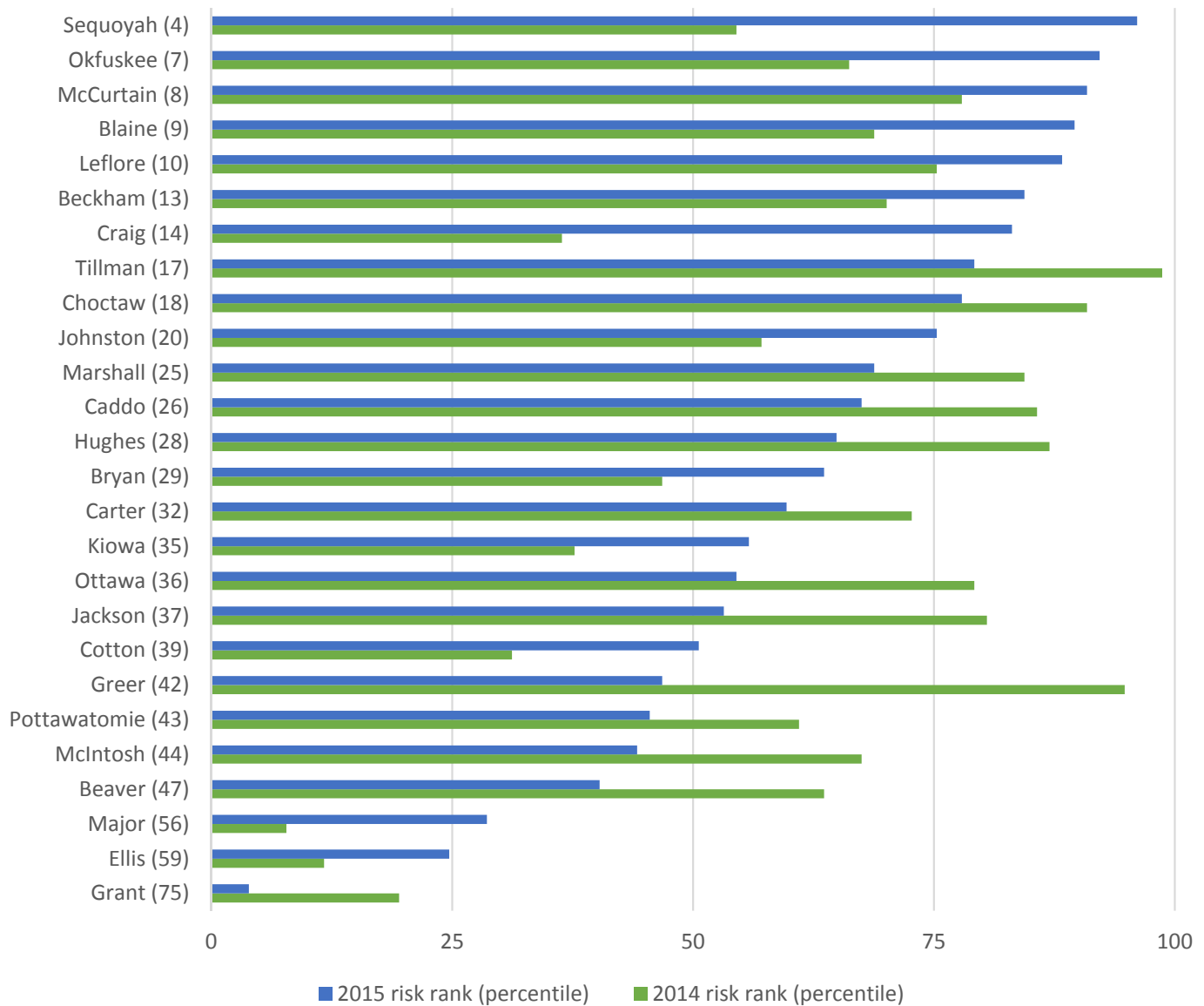
Figure 1 compares rankings for 2015 and 2014 for counties with shifts of 13 percentiles or more. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015. It is important to note that large shifts in rank may or may not correspond to changes in risk groups, which are organized by quartiles. For example, counties with percentile ranks at the 75th percentile or more are considered High Risk, while those at the 25th percentile or less are considered Low Risk. A county close to the cutpoint for risk groups may move from one group to the other across years but may have only experienced small changes in rank. Of the

26 counties that changed overall rank by 13 percentiles or more, half (13) increased in risk ranking from 2014. Craig and Sequoyah counties experienced extremely large increases of more than 40 percentiles. Both counties saw an increase in risk classification to the highest group from their Medium-Low and High-Medium risk groups in 2014, respectively. Similar patterns emerged for the 13 counties that declined in rank by 13 percentiles

or more. Greer County experienced the sharpest decline at 48 percentiles.

Table 2 presents some descriptive statistics for shifts in overall and domain scores and indicator rates within each domain. The median rank shift for overall risk is 9.1, higher than those of the Hispanic Background and Family Structure/Economic Distress domains.

Figure 1: Overall risk percentile rank comparison between 2014 and 2015*
(2015 overall risk rank, 1 = highest risk)



* For counties with rank changes of approximately 13 percentiles for overall risk. Counties organized from largest to smallest shifts on the overall risk index. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

Table 2: Scores and rates shifts descriptive statistics

Domain	Indicator	Median rank shift*	Mean rank shift*	Maximum rank shift*	Number of counties shifting ≥ 13 ranks
Overall risk		9.1	11.2	48.1	26.0
Hispanic Background		5.2	8.6	48.1	19.0
	Hispanic	5.2	8.3	44.2	18.0
	ELL	3.9	6.5	35.1	11.0
	Maternal education	10.4	13.5	59.7	33.0
Family Structure/Economic Distress		6.5	9.1	31.2	17.0
	Poverty	6.5	11.1	57.1	24.0
	Single parent	11.7	13.9	45.5	36.0
	Young maternal age	9.1	11.5	54.5	29.0
	American Indian	5.2	7.8	33.8	16.0
Children in Child Welfare		14.3	18.3	66.2	44.0
	Abuse and neglect	13.0	17.7	62.3	41.0
	Foster care	15.6	20.8	80.5	44.0

*Note: N = 77; *ranks are represented by percentiles in absolute values.



2.2 HISPANIC BACKGROUND

This domain represents risk associated with being of Hispanic or Latino ethnicity, having poor English language skills and being born to a mother with low educational attainment (Figure 3). The English-language learner (ELL) and Hispanic indicators are highly correlated and have the largest correlation among all indicators (see Appendix 6 for risk indicator correlations).

Table 3 lists the 20 counties with the highest and lowest scores on this domain and compares rankings to 2014. Higher scores represent higher risk and indicate that, relative to the rest of the state, these counties have large percentages of children who are Hispanic, are ELL and/or were born to mothers with less than a high school diploma. Scores range from a high of 4.1 for Texas County to a low of -0.8 for Noble County, with Stephens County at the median (-0.3). Maps 2 through 4 show indicator rates by county and by risk group. The color-coding used for risk groups (quartiles) throughout the report is the same as in 2014: dark orange = High Risk, light orange = High-Medium Risk, light blue = Medium-Low Risk and dark blue = Low Risk.

Eight counties remained among the 10 with the highest risk levels for this domain, with Texas County retaining its position at the top. One county (Sequoyah) moved from the High-Medium Risk group to the upper end of the High Risk group, while Love County, which retained its High Risk classification, moved into the top 10. Among the 10 lowest-ranked counties, only Dewey and Pawnee counties changed risk groups, declining from Medium-Low to Low Risk. The counties with the largest change in rank on the Hispanic Background domain were Sequoyah (from 29th to 10th [increase in risk]) and Dewey (from 42nd to 70th [decrease in risk]).

In terms of overall risk classifications, the High-Medium Risk group had the highest average rate of ELL and Hispanic children, exceeding statewide rates for these indicators, while the Medium-Low Risk group had the second highest group rate for these

Table 3: Rank and score on the Hispanic Background domain

County	Score	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Texas	4.149	1	1	-
Harper	2.230	2	3	+1
Adair	1.646	3	6	+3
Harmon	1.631	4	2	-2
Tillman	1.559	5	4	-1
Marshall	1.321	6	5	-1
Beaver	1.208	7	8	+1
Love	1.190	8	18	+10
Oklahoma	1.138	9	7	-2
Sequoyah	0.921	10	29	+19

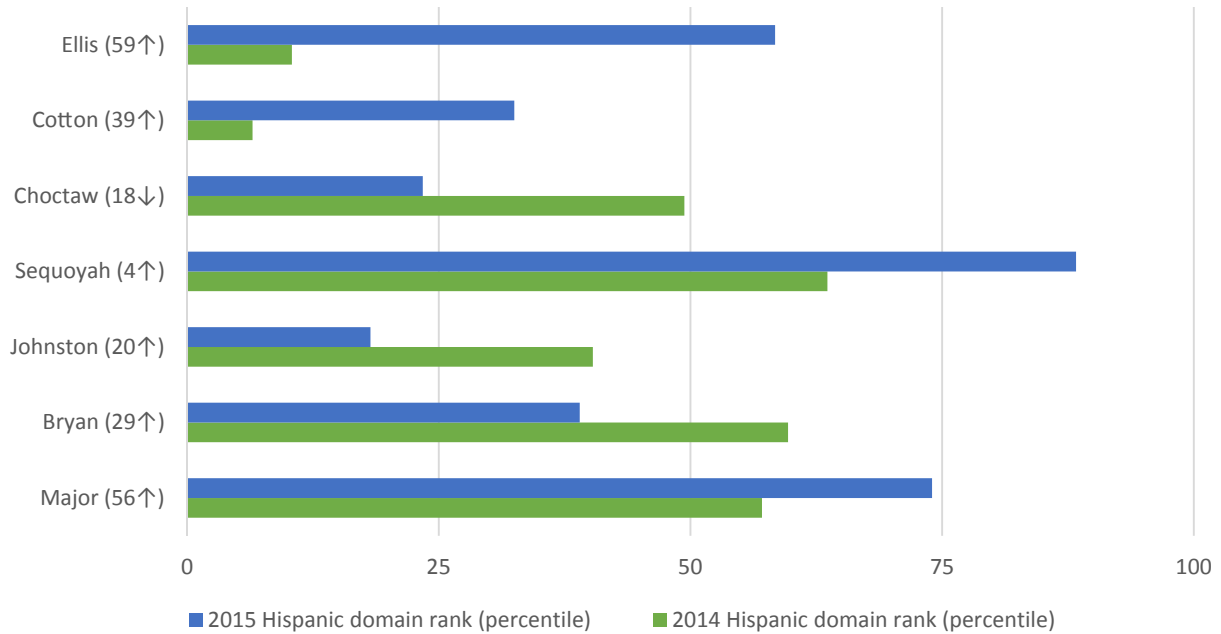
Stephens	-0.291	39	36	-3

Osage	-0.654	68	67	-1
Rogers	-0.654	69	65	-4
Dewey	-0.655	70	42	-28
Grant	-0.681	71	75	+4
Pawnee	-0.692	72	54	-18
Roger Mills	-0.729	73	72	-1
Alfalfa	-0.749	74	77	+3
Lincoln	-0.766	75	69	-6
Nowata	-0.786	76	63	-13
Noble	-0.812	77	73	-4

indicators. The High Risk group had the highest rate for low maternal education followed by the High-Medium Risk group, with rates for both groups exceeding those of the state.

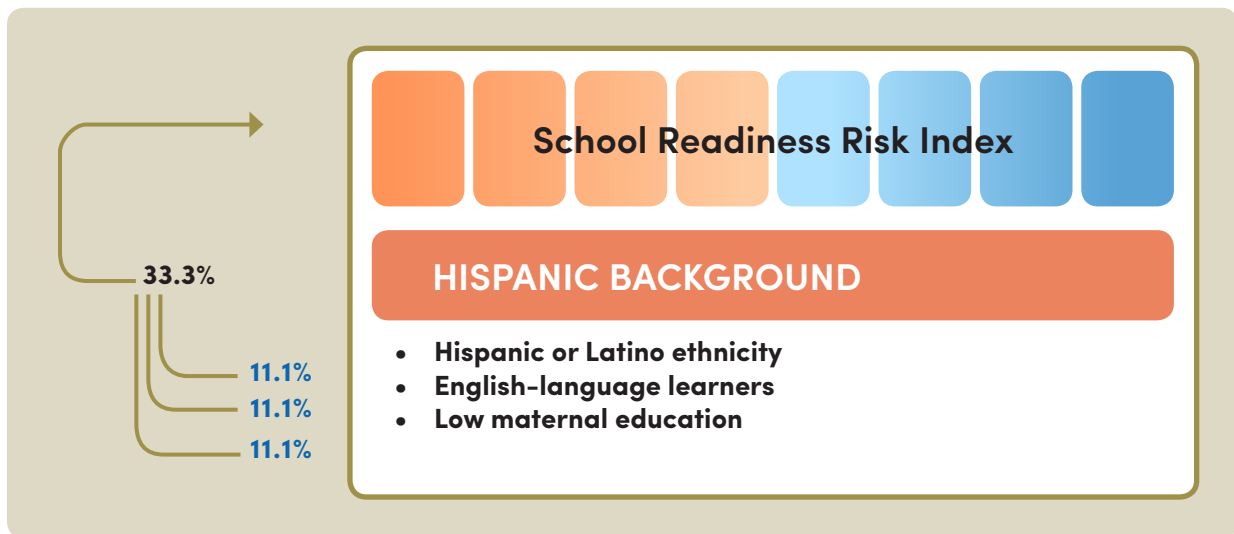
Figure 2 shows counties with the largest shifts in rank on the overall index from 2014 that also had the largest shifts in rank on the Hispanic Background domain. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015. Among these counties, Medium-High Risk Cotton County and High Risk Sequoyah County had the largest increases on this domain (approximately 25 percentiles). Medium-Low Risk Major County saw a moderate increase of 17 percentiles, and Medium-High Risk Bryan and Johnston counties experienced the sharpest declines on this domain of approximately 20 percentiles.

Figure 2: Hispanic domain risk percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and Hispanic Background domain. Counties organized from largest to smallest shifts on the Hispanic domain. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

Figure 3: Indicators used to measure Hispanic Background domain



HISPANIC/LATINO ETHNICITY

County-level rates of Hispanic ethnicity among children under age 5 were obtained from five-year estimates of the U.S. Census. The statewide population of Hispanic children remains unchanged at an estimated 17% from 2009 to 2013. Although this is lower than the national rate of 26%, 11 counties have rates that are approximately the same or higher than the national average, and a total of 19 counties are above the state average. Changes in concentrations of Hispanic children ranged from an increase of nearly 10% for Kiowa County to a decline of 7% for Harmon County. The average change in concentration across all counties was +.87%.

Table 4 presents rates for the Hispanic risk indicator, county ranks associated with this indicator, and the change in ranks between 2014 and 2015 for the top and bottom 10 counties in 2015. As demonstrated, concentrations of Hispanic children under age 5 ranged from a high of 60% in Texas County to a low of 2% in Nowata County, with Bryan County at the median (11%).

Eight counties remained among the 10 counties with the highest concentrations of Hispanic children, with Texas County retaining its position at the top. Harper and Kingfisher counties edged up slightly, while Cimarron and Greer dropped a few positions but remained in the High Risk group for this indicator. Of the 10 counties listed here, all but three (Ellis, McIntosh and Major) are classified as High or Medium-High Risk on the overall 2015 index. Although McIntosh declined in overall risk from a higher risk group in 2014, it experienced a relatively large increase in rank on the Hispanic indicator. Hughes County behaved similarly. Conversely, Craig County was the only county that increased in overall risk but declined in Hispanic risk. Kiowa and Sequoyah counties had the largest shifts on the Hispanic indicator, both increasing approximately 30 percentiles (23 to 25 rankings).

Six counties remained among the 10 lowest-ranked this year (Woods, Mayes, Choctaw, Coal, Atoka and Lincoln), with all 10 classified as Low Risk since 2014. The counties with the largest change in rank on the

Table 4: Rank and rate of children under age 5 who are Hispanic (2009–2013)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Texas	60.0	1	1	-
Tillman	37.4	2	3	+1
Beaver	34.5	3	4	+1
Marshall	31.6	4	6	+2
Harmon	30.3	5	2	-3
Jackson	30.3	6	5	-1
Harper	30.0	7	11	+4
Oklahoma	27.1	8	8	-
Custer	26.6	9	9	-
Kingfisher	26.3	10	12	+2

Bryan	10.7	39	36	-3

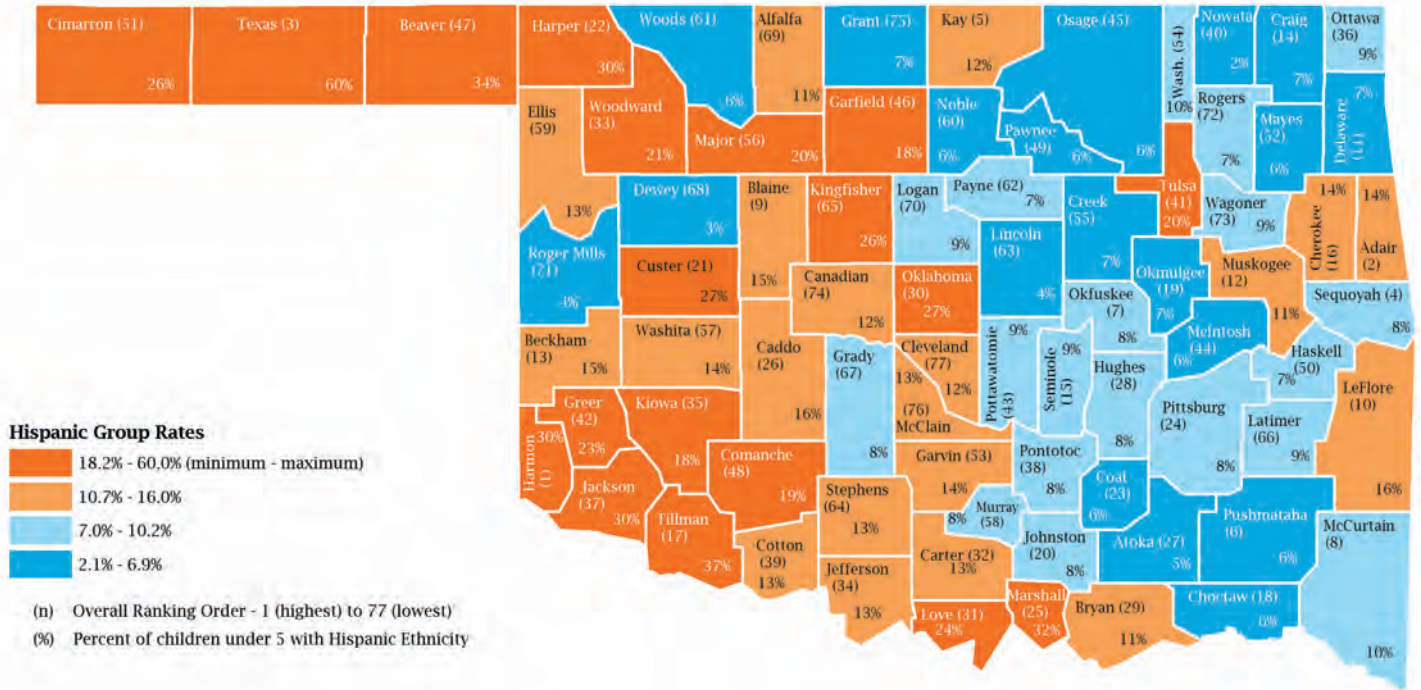
Woods	6.0	68	76	+8
Mayes	6.0	69	69	-
Choctaw	6.0	70	68	-2
Osage	5.8	71	65	-6
Coal	5.7	72	73	+1
Atoka	5.4	73	70	-3
Lincoln	4.4	74	74	-
Roger Mills	3.6	75	66	-9
Dewey	3.0	76	60	-16
Nowata	2.1	77	62	-15

Hispanic indicator were Woods (from 76th to 68th [increase in risk]) and Dewey (from 60th to 76th [decrease in risk]).

As Map 2 shows, the greatest concentrations of Hispanic children are in the western part of the state, particularly northwestern and southwestern Oklahoma. High concentrations are also found in west-central counties, as well as the urban counties of Oklahoma and Tulsa.

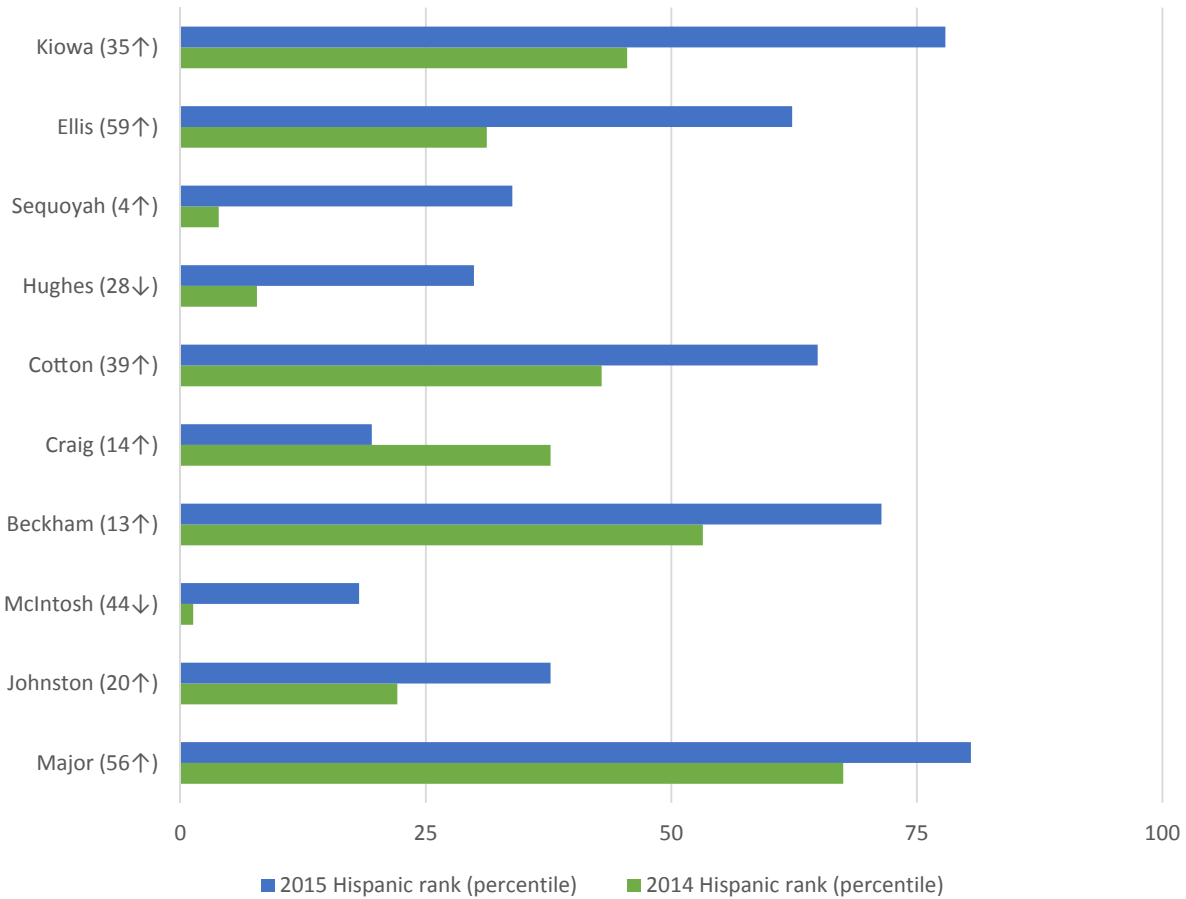
Figure 4 shows the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the Hispanic indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015. Among these counties, Medium-High Risk Kiowa County and High Risk Craig County had the largest increase (32 percentiles) and decrease on this indicator (18 percentiles), respectively.

Map 2: Hispanic Ethnicity



Note: Color coding represents overall risk classification across all factors.

Figure 4: Hispanic Ethnicity indicator percentile rank comparison between 2014 and 2015* (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and Hispanic indicator. Counties organized from largest to smallest shifts on the Hispanic Ethnicity indicator. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

ENGLISH LANGUAGE LEARNERS

Living in homes where little-to-no English is spoken places children at an extreme disadvantage for language development.^[4,5] According to the Oklahoma State Department of Education, from 2012-2013 approximately 11% of children in Pre-Kindergarten and Kindergarten were English language learners; this rate is unchanged from the figure reported in 2014. Eleven counties were higher than the estimated national rate of 16%, and 16 counties were higher than the state average.

Changes in rates of English language learners ranged from an increase of approximately 15% for Cimarron County to a decline of 15% for Harper County. The average change in rate across all counties was +.01%. With the fifth highest rate of ELL children (23%), Adair County deviates from the relationship between Hispanic and ELL, with Hispanic children comprising 14% of those under age 5 compared to 44% for American Indian/Alaska Native children. This is the only county that follows this trend.

As demonstrated in Table 5, rates of ELL pre-kindergartners and kindergartners range from a high of 47% in Texas County to a low of 0.5% in Okmulgee County, with Garvin County at the median (5%). The median excludes 15 counties with no young ELL children. Eight counties remained among the 10 with the highest rates of English language learners, with Texas and Harper counties retaining their positions at the top. The rankings of Oklahoma and Marshall counties also remained unchanged. All but three counties (McIntosh, Osage and Haskell) are new among the lowest-ranked this year. The counties with the largest changes in rank on the ELL indicator were Cimarron (from 20th to seventh [increase in risk]) and Osage (from 45th to 57th [decrease in risk]). Appendix 4 includes risk indicators, ranks and changes, including risk group changes for each county.

As Map 3 shows, the greatest concentration of ELL children is in western Oklahoma, particularly the panhandle and west-central Oklahoma. High

Table 5: Rank and rate of Pre-Kindergarten and Kindergarten English learners (AY 2012-2013)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Texas	47.2	1	1	-
Harper	32.3	2	2	-
Tillman	26.0	3	5	+2
Harmon	24.3	4	3	-1
Adair	23.2	5	4	-1
Oklahoma	22.7	6	6	-
Cimarron	21.6	7	20	+13
Beaver	21.3	8	7	-1
Kingfisher	20.1	9	8	-1
Marshall	18.6	10	10	-
Garvin	4.6	31	37	+6
Pushmataha	1.5	53	62	+9
McIntosh	1.5	54	62	+8
Creek	1.4	55	53	-2
Noble	1.3	56	55	-1
Osage	1.3	57	45	-12
Mayes	1.0	58	59	+1
Haskell	0.9	59	50	-9
Greer	0.7	60	54	-6
Johnston	0.7	60	58	-2
Okmulgee	0.5	61	61	-

concentrations are also found in southwestern Oklahoma and eastern counties.

Figure 5 shows the counties with the largest percentile shifts in rank on the overall risk index from 2014 that also had the largest percentile shifts in rank on the ELL indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015. Sequoyah and Blaine counties showed an increase of approximately 10 percentiles, while McIntosh showed a decrease of about 12 percentiles. Two of the three counties listed (Sequoyah and Blaine) are classified as High Risk on the overall 2015 index. Consistent with the county's relatively large increase in rank on the Hispanic indicator, McIntosh County also experienced a moderately large increase in rank on the English language learner indicator.

Map 3: English Language Learners

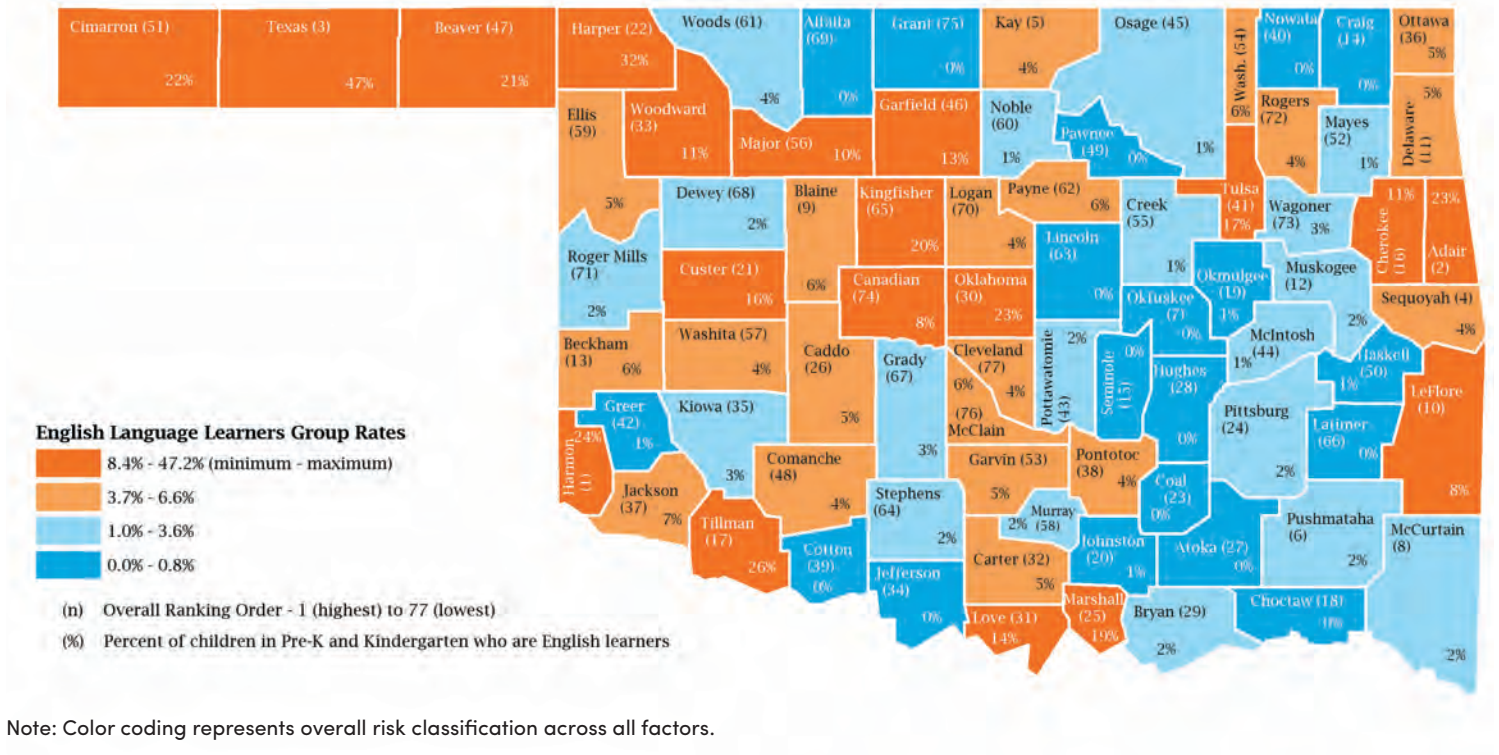
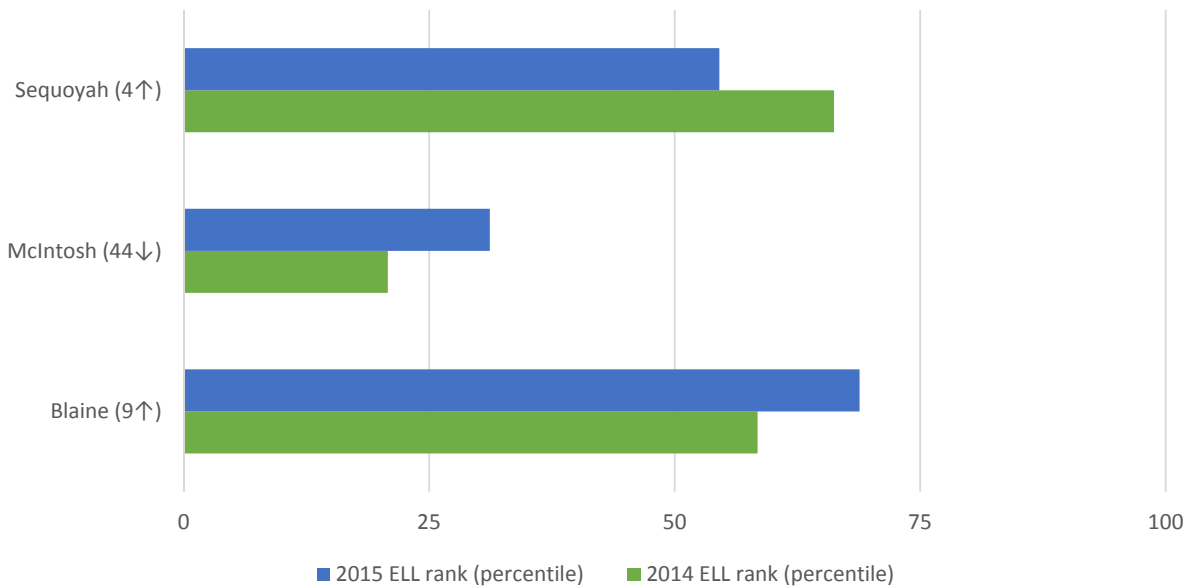


Figure 5: English language learners indicator percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and English-language learners indicator. Counties organized from largest to smallest shifts on the ELL variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

LOW MATERNAL EDUCATION

Hispanic children in Oklahoma are more likely than American Indian/Alaska Native or African American children to have a mother with a low level of education, which is consistent with the national trend.^[6] Associated with low rates of enrollment in early childhood education programs, young maternal age and poor prenatal care, low maternal education is one of the most important variables that explains gaps in young children’s academic performance.^[7,8,9,10]

The most recent county-level data for low maternal education is from 2013 and was obtained from the Oklahoma State Department of Health. For 2012 and 2013, the state average was 20%, which was higher than the national average of 15%. Thirty-one (31) counties had rates higher than the nation, with 14 higher than the state average. As demonstrated in Table 6, rates ranged from a high of 48% in Sequoyah to a low of 10% in Canadian County, with Jackson County at the median (18%). Changes in rates of low maternal education ranged from an increase of approximately 21% for Sequoyah County to a decline of 9% for Cimarron County. The average change in rate across all counties was -1.16%.

Eight counties remained among the top 10 counties with the highest rates of low maternal education, but the two new counties among the top 10, Love and Haskell, jumped 36 and 46 places, respectively. Sequoyah moved up nine places, supplanting Texas as the county with the highest rate of low maternal education in the state. Six counties remained among the 10 lowest-ranked (i.e., with lowest risk) this year (Wagoner, Logan, Payne, Cleveland, Alfalfa and Canadian), with all 10 having been classified as Low Risk since 2014.

As Map 4 shows, the greatest concentrations of infants born to mothers with low maternal education are along the state’s eastern border, with high concentrations also found in south-central, southwestern, and panhandle counties.

Table 6: Rank and rate of births to mothers with less than a high school diploma (2012-2013)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Sequoyah	47.6	1	10	+9
Texas	43.3	2	1	-1
Adair	42.9	3	3	-
LeFlore	35.9	4	7	+3
Harper	35.8	5	9	+4
Delaware	34.8	6	5	-1
Love	32.1	7	43	+36
Haskell	30.4	8	54	+46
Harmon	28.8	9	2	-7
Marshall	25.6	10	4	-6

Jackson	18.0	39	29	-10

Wagoner	12.2	68	72	+4
Washington	12.0	69	64	-5
Comanche	11.9	70	65	-5
Rogers	11.8	71	67	-4
Logan	11.7	72	68	-4
Noble	11.7	73	66	-7
Payne	10.7	74	69	-5
Cleveland	10.3	75	73	-2
Alfalfa	10.2	76	77	+1
Canadian	10.2	77	76	-1

Figure 6 shows rankings for the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the low maternal education indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014-2015, which range from shifts of 48 percentiles for Greer County to 13 percentiles for Choctaw County. Of the sixteen counties listed here, all but six (Greer, Beaver, McIntosh, Major, Grant, and Ellis) are classified as High or High-Medium Risk on the overall 2015 index. Whereas Greer County had the sharpest drop in rank for low maternal education risk indicator (35 percentiles), Greer County showed the greatest increase (30 percentiles).

Map 4: Low Maternal Education

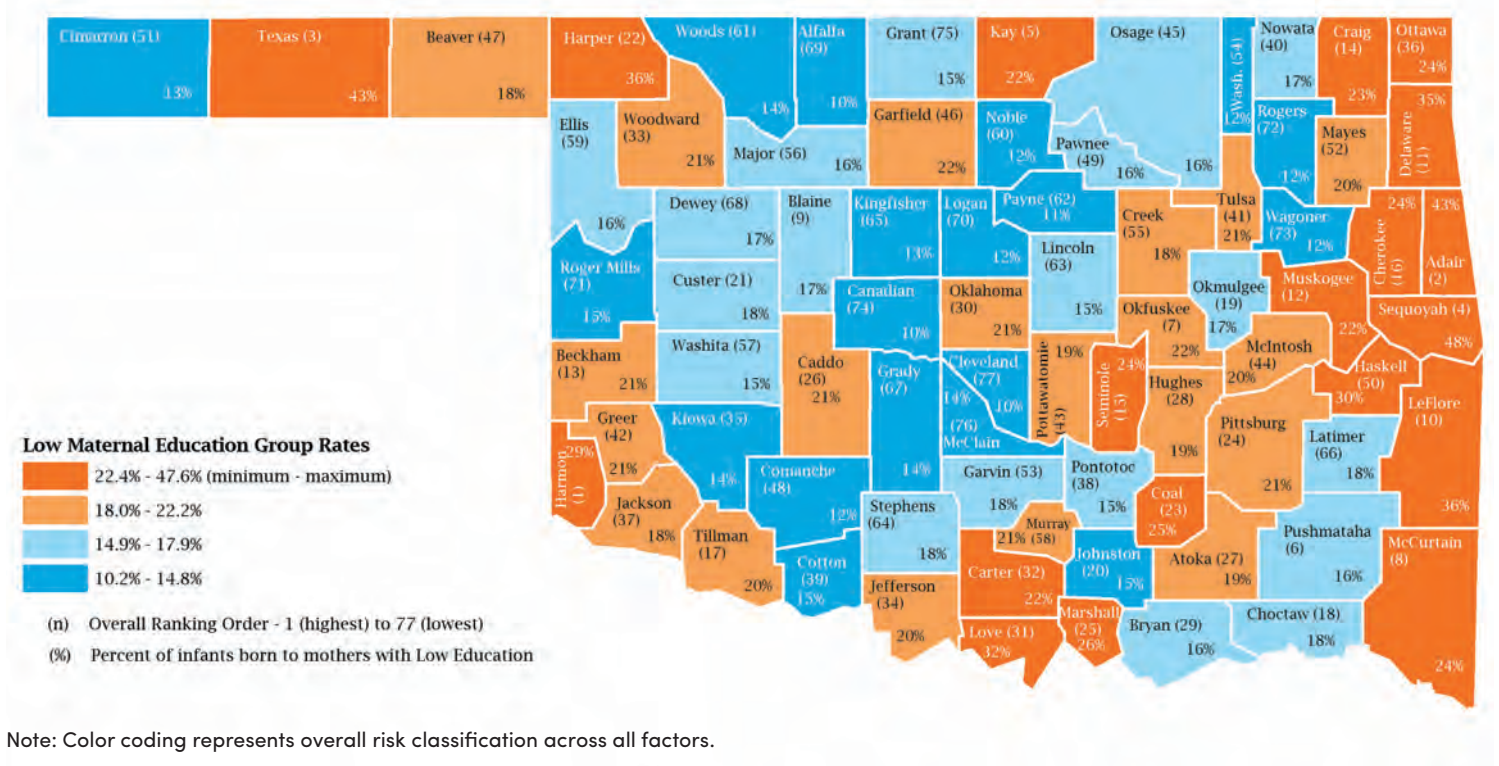
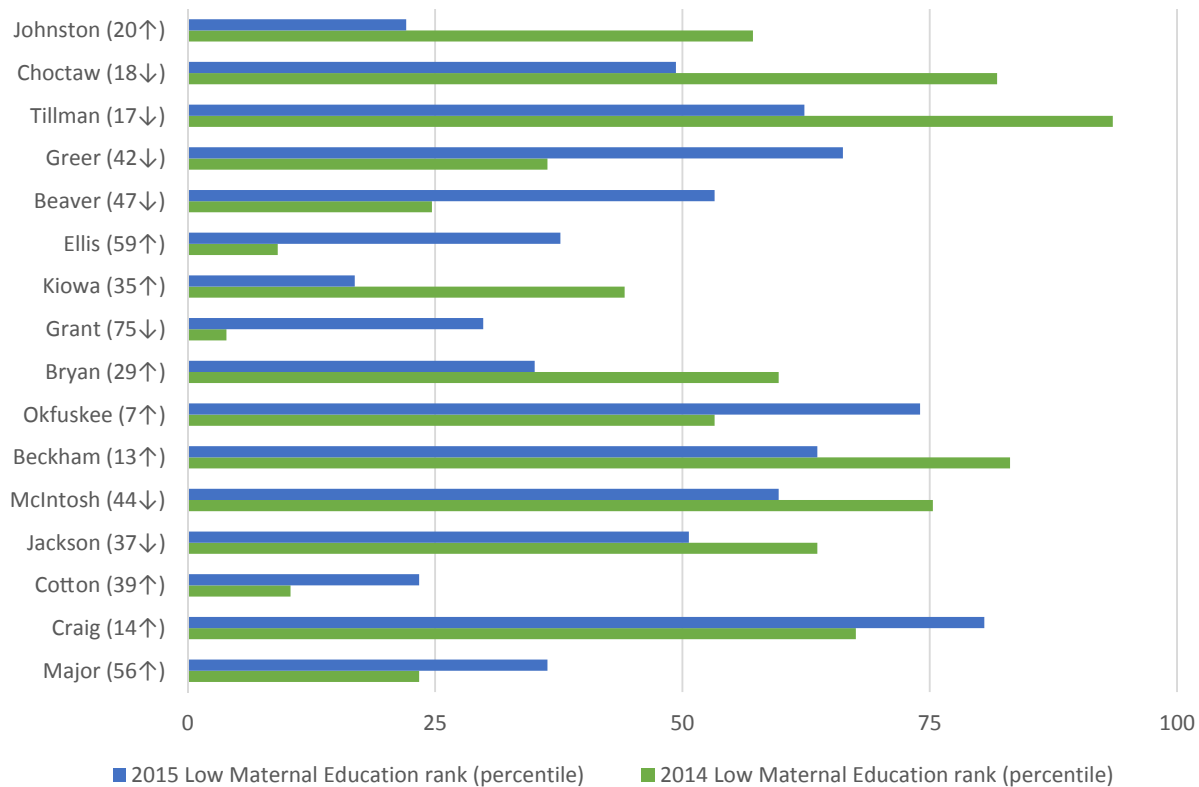


Figure 6: Low maternal education indicator percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and low maternal education indicator. Counties organized from largest to smallest shifts on the Low maternal education variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

2.3 FAMILY STRUCTURE AND ECONOMIC DISTRESS

This component represents risk associated with being born to a teenage mother, having a single parent, and/or being of American Indian or Alaska Native descent, all of which are highly related to poverty (Figure 8).^[11,12] In Oklahoma, the correlation between race/ethnicity and poverty is considerably higher for American Indian/Alaska Natives than for Hispanics.

Table 7 lists the 20 counties with the highest and lowest scores on this domain and compares rankings to 2014. Higher scores represent higher risk and indicate that, relative to the rest of the state, these counties have large percentages of children who live in poverty, were born to teenage mothers, have single parents, and/or are American Indian/Alaska Native. Scores range from a high of 2.16 for Harmon County to a low of -1.35 for Canadian County, with Garvin County at the median (-0.1). Maps 5, 6, 7 and 8 show indicator rates for all four variables used to measure the domain by county and risk group. Counties classified as High Risk have the greatest percentage of children for each risk factor, with rates considerably higher than state averages. Eight counties remained among the 10 counties with the highest risk levels for this domain, with Harmon County rising six rankings to the top of the list. Two counties (Sequoyah and Okfuskee) moved from the High-Medium Risk group into the High Risk group, while Seminole and Okmulgee, which retained their High Risk classification, moved into the top 10. Eight counties also remained among the 10 counties with the lowest risk for this domain, with Canadian County dropping five rankings to become the county with the lowest risk in the state. Grant and Noble counties joined the bottom 10, dropping 23 and five rankings, respectively. Among the lowest-ranked counties, only Grant County changed risk groups, declining from Medium-Low to Low Risk. The counties with the largest change in rank on the Family Structure and Economic Distress domain were Harmon (from seventh to first), Major (from 77th to 71st) and Grant (from 45th to 68th).

Table 7: Rank and score on the Family Structure and Economic Distress component

County	Score	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	2.156	1	7	+6
Adair	1.434	2	6	+4
Delaware	1.332	3	1	-2
Pushmataha	1.222	4	2	-2
Choctaw	1.213	5	5	-
Hughes	1.185	6	3	-3
McCurtain	1.097	7	10	+3
Cherokee	0.939	8	4	-4
Seminole	0.930	9	11	+2
Okmulgee	0.920	10	14	+4

Garvin	-0.098	39	48	+9

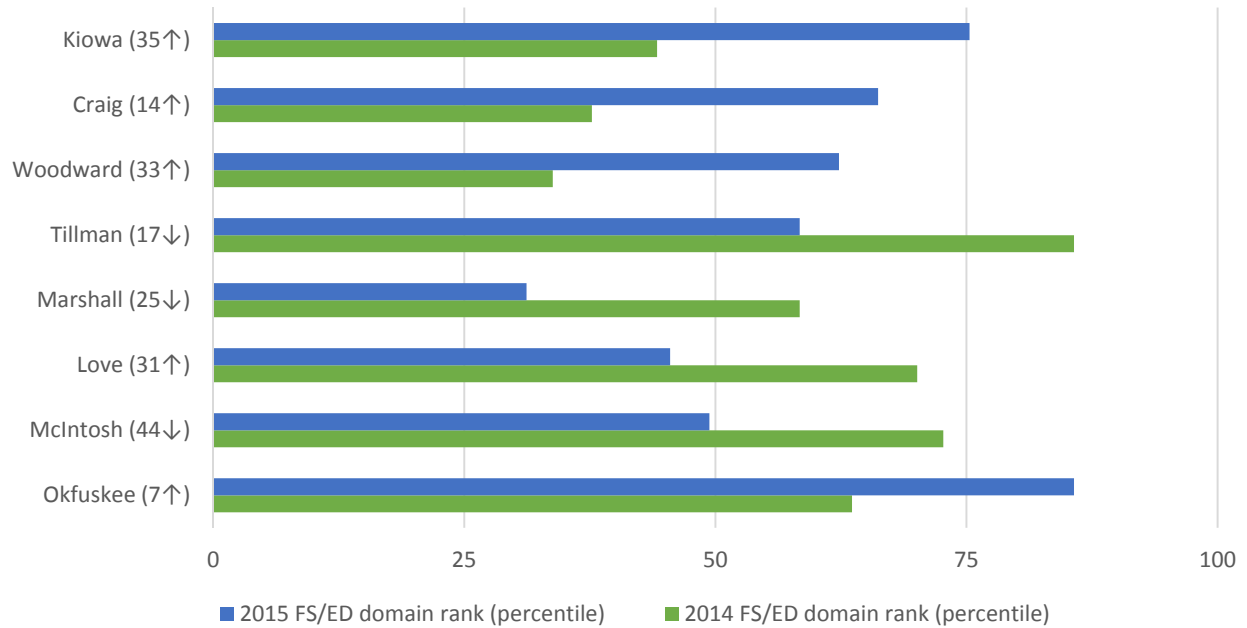
Grant	-0.831	68	45	-23
Noble	-0.838	69	64	-5
Woods	-0.876	70	69	-1
Major	-0.900	71	77	+6
McClain	-1.122	72	71	-1
Alfalfa	-1.149	73	76	+3
Cleveland	-1.161	74	74	-
Logan	-1.222	75	73	-2
Kingfisher	-1.347	76	75	-1
Canadian	-1.349	77	72	-5

In terms of overall risk classifications, the High Risk group had the highest average rates of all four indicators in this domain, all of which exceeded the average rates for both the state and the nation.

Figure 7 shows rankings for the counties with the largest shifts in rank on the overall index from 2014 that also had the largest shifts in rank on the Family Structure and Economic Distress domain. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015. Among these counties, Medium-High Risk Kiowa County had the largest increase in this domain (approximately 31 percentiles). High-Risk Craig County and Medium-High Risk Woodward County saw similarly large increases of approximately 29 percentiles, whereas High-Risk Tillman County and Medium-High Risk Marshall County exhibited the sharpest declines of approximately 27 percentiles.

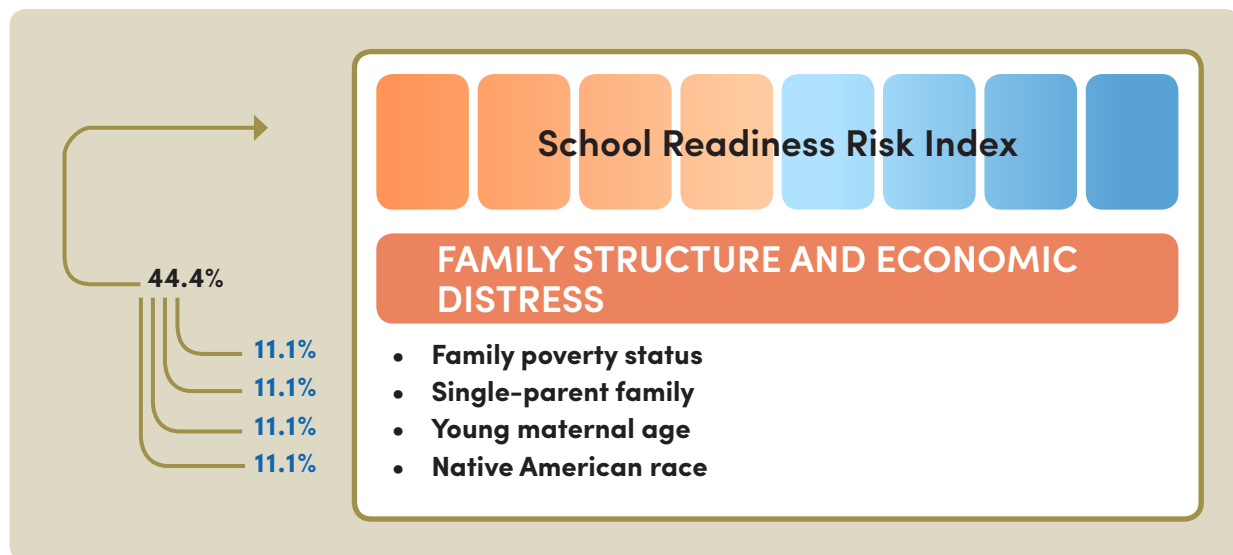
Figure 7: Family Structure and Economic Distress domain risk percentile rank comparison between 2014 and 2015*

(2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and Family Structure and Economic Distress domain. Counties organized from largest to smallest shifts on the Family Structure and Economic Distress domain. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

Figure 8: Indicators used to measure Family Structure and Economic Distress domain



CHILDREN IN POVERTY

Poverty is one of the strongest predictors of adverse child outcomes, including low academic skills at kindergarten entry.^[13] Children in poverty are three times more likely than those not in poverty to be born to an unmarried teenager, twice as likely to be retained a grade in school or to drop out of school, and nearly seven times as likely to experience child abuse and neglect.^[14]

Data on childhood poverty, defined as children under age six living at less than 100% of the Federal Poverty Level, were obtained from the U.S. Census. At 27% of young children in poverty, Oklahoma exceeds the national rate of 24.5%. Of 77 Oklahoma counties, 52 have child poverty rates higher than the nation, with two counties above 50% (Harmon and Pushmataha). Changes in rates of children in poverty ranged from an increase of approximately 18% for Craig County to a decline of 16% for Pawnee County. The average change in rate across all counties was +.56%.

As demonstrated in Table 8, rates range from a high of 63% in Harmon to a low of 8% in Greer, with Garvin County at the median (28%). Seven counties remained among the top 10 counties with the highest rates of children in poverty. Choctaw, Okfuskee, and Adair counties joined the top 10 (rising seven, 11 and four rankings, respectively). Harmon and Pushmataha counties retained their positions as the two counties with the highest rates of children in poverty. Only three counties are new among the 10 lowest-ranked this year (Wagoner, Grant and Greer), with all but Grant County having been classified as Low Risk since 2014.

As Map 5 shows, the greatest concentrations of children in poverty are in eastern Oklahoma, particularly east-central, southeast and northeast counties, with pockets of concentrations in the north central, southwest and panhandle areas.

Table 8: Rank and rate of young children living under 100% of Federal Poverty Level (2009–2013)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	63.4	1	1	-
Pushmataha	54.6	2	2	-
Coal	48.8	3	8	+5
Cimarron	45.0	4	3	-1
Choctaw	43.0	5	12	+7
McCurtain	42.9	6	9	+3
Hughes	42.3	7	4	-3
Okfuskee	41.6	8	19	+11
Adair	41.1	9	13	+4
Tillman	40.5	10	5	-5

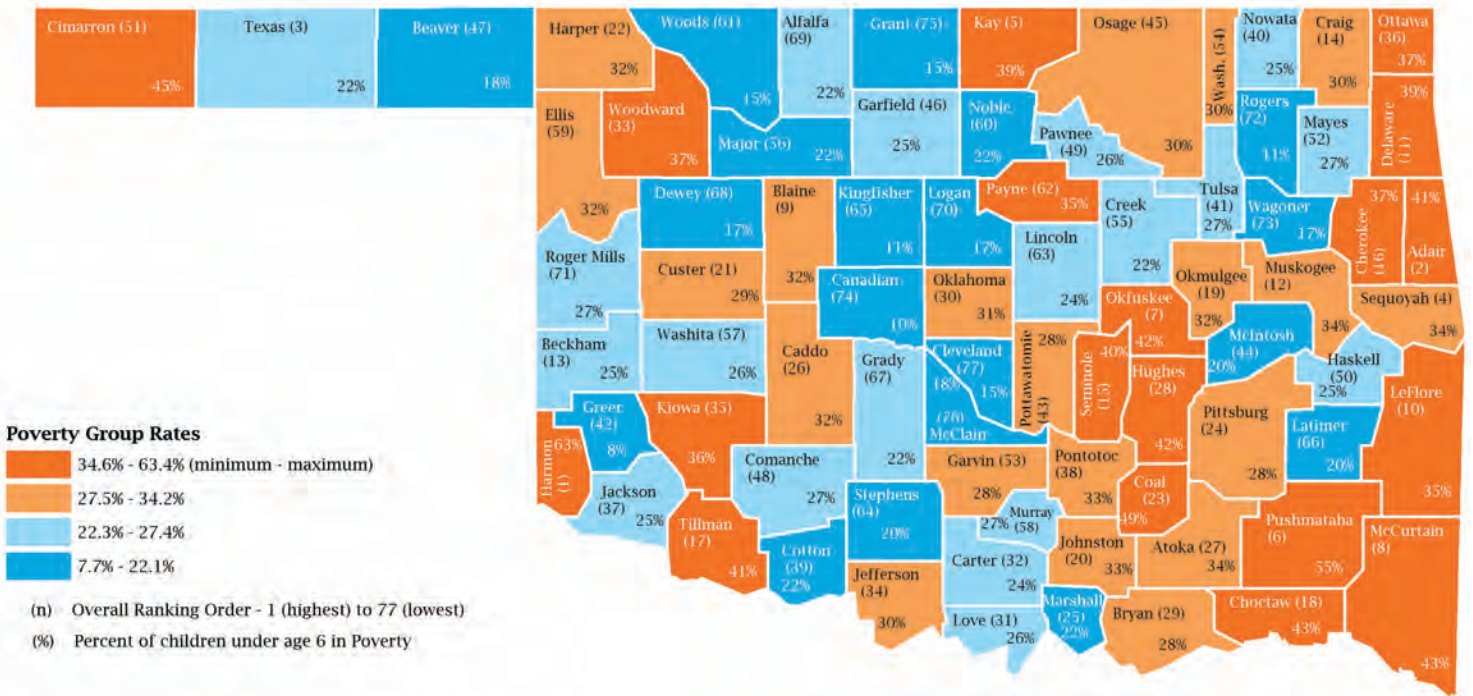
Garvin	27.5	39	56	+17

Dewey	17.4	68	73	+5
Wagoner	17.3	69	60	-9
Logan	16.6	70	69	-1
Woods	14.8	71	68	-3
Grant	14.8	72	52	-20
Cleveland	14.6	73	70	-3
Kingfisher	11.1	74	77	+3
Rogers	11.0	75	71	-4
Canadian	10.4	76	76	-
Greer	7.7	77	65	-12

Figure 9 shows rankings for the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the poverty indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015, which ranged from shifts of 48 percentiles for Greer County to 13 percentiles for Ellis County.

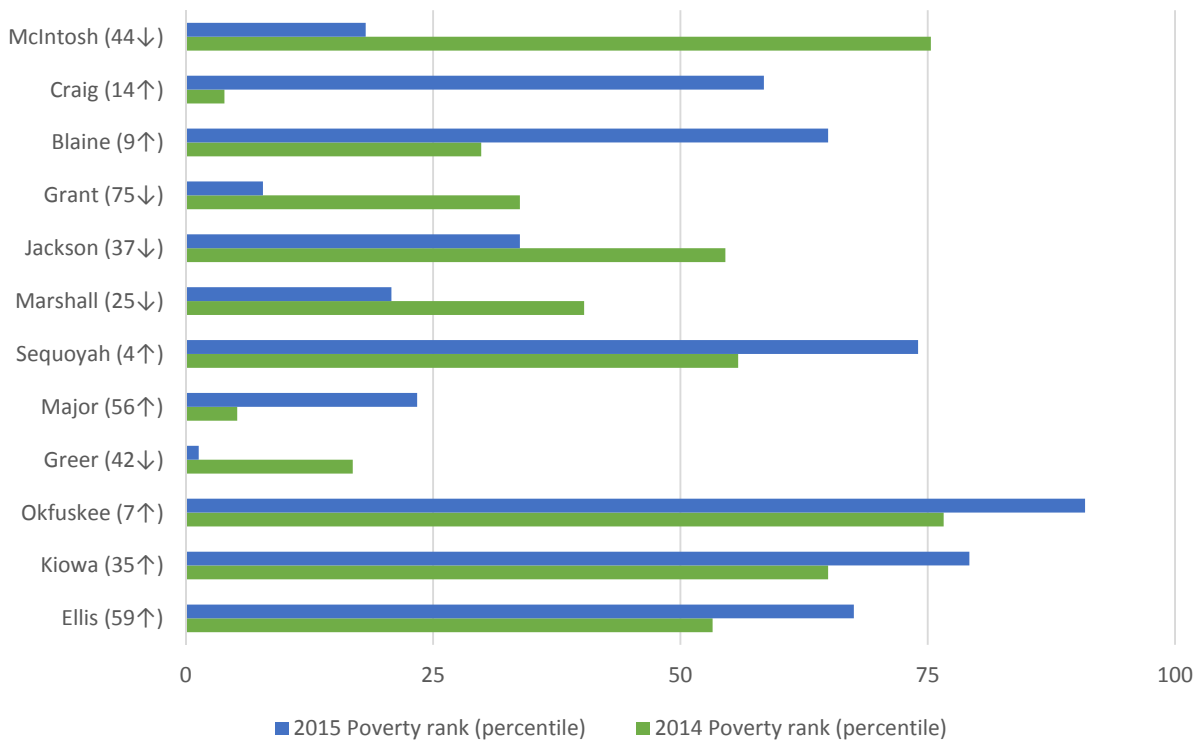
Of the 12 counties listed in the figure, all but five (Greer, McIntosh, Major, Grant and Ellis) are classified as High or High-Medium Risk on the overall 2015 index. McIntosh County exhibited the greatest change on the children in poverty indicator rank with a decrease of 57 percentiles. In contrast, Grant County had the sharpest increase of about 54 percentiles.

Map 5: Children in Poverty



Note: Color coding represents overall risk classification across all factors.

Figure 9: Poverty indicator percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and poverty indicator. Counties organized from largest to smallest shifts on the poverty variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

CHILDREN WITH SINGLE PARENTS

Factors associated with being from a single-parent family, such as poverty and decreased parent/child interaction, place children at high risk of delayed social and academic development.^[15] Of single parents, most are mothers, and research shows that households headed by single mothers are more likely to be impoverished than two-parent households.^[16]

Data for children under age 6 living with single parents was obtained from the U.S. Census. The rate of young children with single parents in Oklahoma is equal to that of the nation at 31.5%. Rates of young children with single parents exceed the national rate in 37 counties, with 10 counties above 40%. As demonstrated in Table 9, rates of children with single parents range from a high of 61% in Harmon to a low of 15% in Kingfisher, with Caddo County at the median (31%). Changes in rates of children with single parents ranged from an increase of approximately 27% for Harmon County to a decline of 18% for Tillman County. The average change in rate across all counties was +1.67%.

Only four counties (Pushmataha, Choctaw, Comanche and Kay) remained among the top 10 counties with the highest rates of children with single parents. Harmon County was not among the top 10 in 2014, but jumped 20 rankings into its current position as the county with the highest rate of children with single parents. Okmulgee and Johnston counties also exhibited large increases in ranking (15 and 12 positions, respectively), while Jefferson and Muskogee increased their rankings moderately. Haskell County dropped 16 rankings and is now among the bottom 10 counties with the lowest rates of children with single parents. Five counties remained among the 10 lowest-ranked this year (Roger Mills, Rogers, Logan, Greer and Kingfisher), with all 10 but Haskell County classified as Low Risk since 2014.

As Map 6 shows, the greatest concentrations of children with single parents are in southern and eastern Oklahoma, in particular south- and east-central, southeastern and northeastern counties.

Table 9: Rank and rate of young children with single parents (2009–2013)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	61.4	1	21	+20
Pushmataha	48.7	2	3	+1
Choctaw	47.6	3	2	-1
Okmulgee	45.1	4	19	+15
Atoka	44.7	5	11	+6
Johnston	44.5	6	18	+12
Comanche	44.0	7	4	-3
Jefferson	44.0	8	13	+5
Kay	42.6	9	5	-4
Muskogee	41.3	10	14	+4

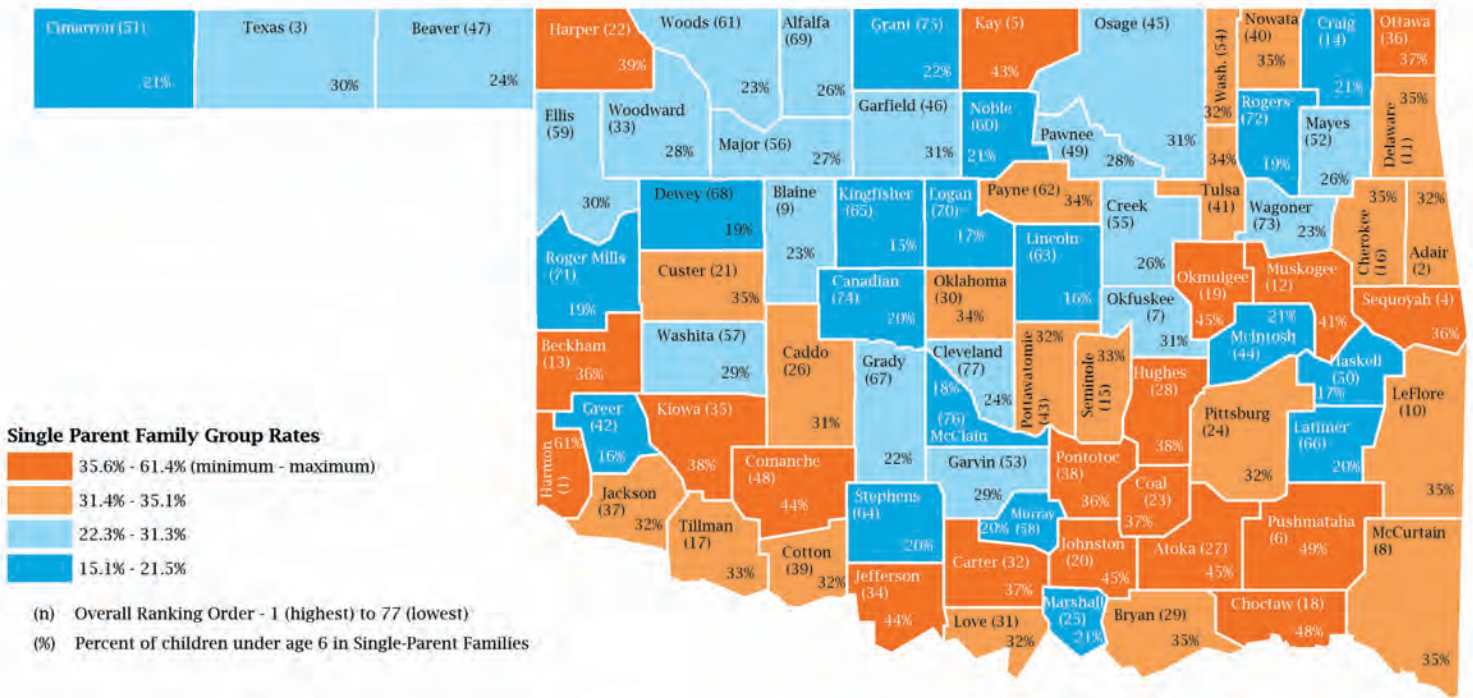
Caddo	31.4	39	50	+11

Stephens	19.6	68	64	-4
Roger Mills	19.3	69	72	+3
Dewey	18.8	70	65	-5
Rogers	18.7	71	69	-2
McClain	18.1	72	66	-6
Haskell	17.3	73	57	-16
Logan	16.9	74	73	-1
Greer	16.3	75	75	-
Lincoln	15.6	76	67	-9
Kingfisher	15.1	77	77	-

Pockets of concentrations are also found in southwestern and north- and west-central counties.

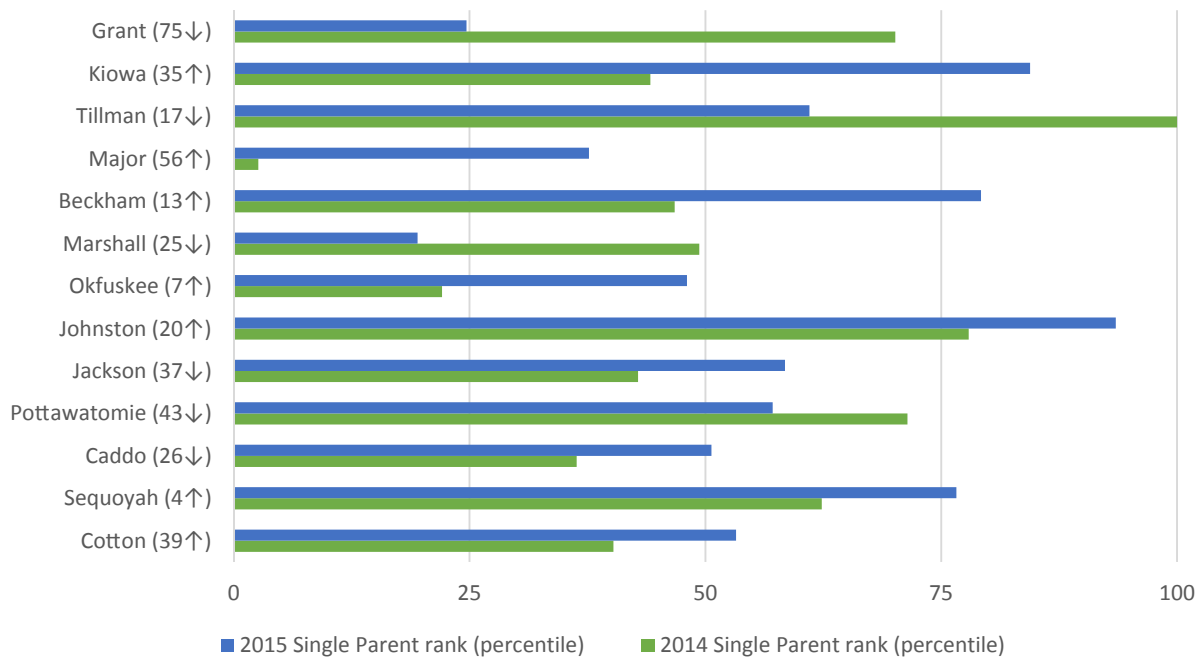
Figure 10 shows rankings for the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the children with single parents indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015, which ranged from shifts of 42 percentiles for Sequoyah County to 14 percentiles for Beckham County. Of the 13 counties listed in the figure, all but three (Major, Grant and Pottawatomie) are classified as High or Medium-High Risk on the overall 2015 index. Kiowa County exhibited the greatest increase on the children with single parents indicator (40 percentiles), while Tillman County exhibited the greatest negative shift in the indicator (39 percentiles).

Map 6: Children with Single Parents



Note: Color coding represents overall risk classification across all factors.

Figure 10: Children with single parents indicator percentile rank comparison between 2014 and 2015* (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and children with single parents indicator. Counties organized from largest to smallest shifts on the single parents variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = <= 25th percentile (ranks 59-77).

YOUNG MATERNAL AGE

As of 2010, Oklahoma was among the top five states in births to teenage mothers.^[17] Having a teen mother exacerbates risks for poor school readiness and creates a cycle of poverty, as opportunities for a mother to advance her education are limited. Teenage mothers are considerably less likely to earn a high school diploma by age 22 than their non-maternal peers, and negative birth outcomes are more likely with teen pregnancies than with adults.^[18,19,20] According to the Oklahoma State Department of Health, the rate of live births to teenage mothers averaged 11% from 2009 to 2013, a decline in the overall trend of 14% from 2007 to 2010 but still greater than the national rate of 8%.

As demonstrated in Table 10, rates of infants born to teen mothers range from a high of 20% in Harmon County to a low of 5% in Alfalfa County, with Kiowa County at the median (13%). Changes in rates of live births to teenage mothers ranged from an increase of approximately 4% for Okfuskee County to a decline of 7% for Johnston County. The average change in rate across all counties was -1.16%. Six counties remained among the top 10 counties with the highest rates of live births to teenage parents. Harmon rose one position to supplant Greer as the county with the highest rate on this risk indicator. Cotton, Sequoyah, and Carter counties exhibited relatively large increases in ranking (17, 14, and 12 positions, respectively), while Okmulgee and McCurtain counties increased their rankings moderately. Caddo County dropped five rankings and is now at the bottom of the top 10. All but Harper County remained among the 10 lowest-ranked this year, with all 10 having been classified as Low Risk since 2014.

As Map 7 shows, the greatest concentrations of infants born to teen mothers are in southeastern, south-central, and southwestern Oklahoma, with pockets of concentrations in the northeast, north-central and northwest.

Figure 11 shows rankings for the counties with the

Table 10: Rank and rate of births to teenage mothers (2012–2013)

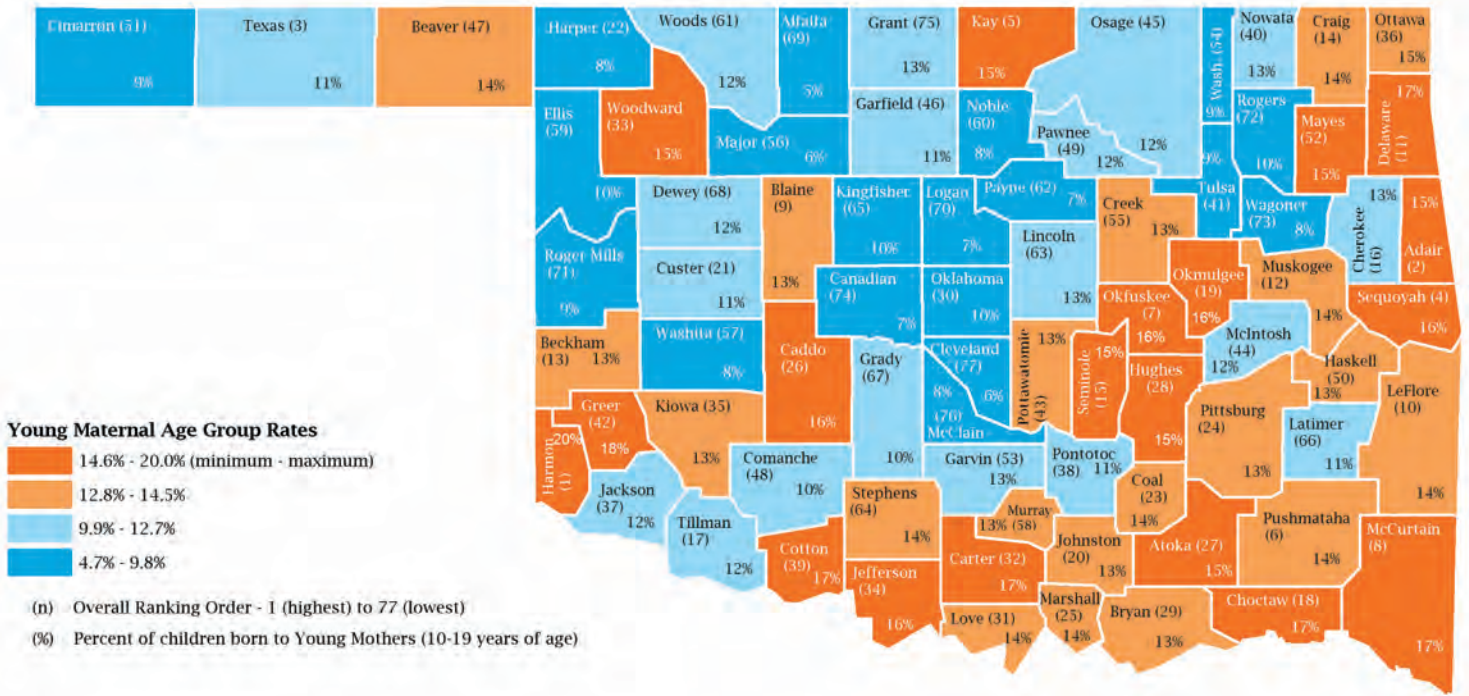
County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	20.0	1	2	+1
Greer	18.5	2	1	-1
McCurtain	17.2	3	9	+6
Choctaw	17.0	4	4	-
Delaware	16.6	5	8	+3
Carter	16.6	6	18	+12
Cotton	16.6	7	24	+17
Sequoyah	16.1	8	22	+14
Okmulgee	15.9	9	15	+6
Caddo	15.9	10	5	-5

Kiowa	12.8	39	56	+17

McClain	8.3	68	71	+3
Harper	8.1	69	65	-4
Wagoner	8.0	70	72	+2
Noble	7.5	71	70	-1
Payne	7.3	72	76	+4
Logan	7.0	73	74	+1
Canadian	6.5	74	73	-1
Cleveland	6.4	75	75	-
Major	6.3	76	68	-8
Alfalfa	4.7	77	77	-

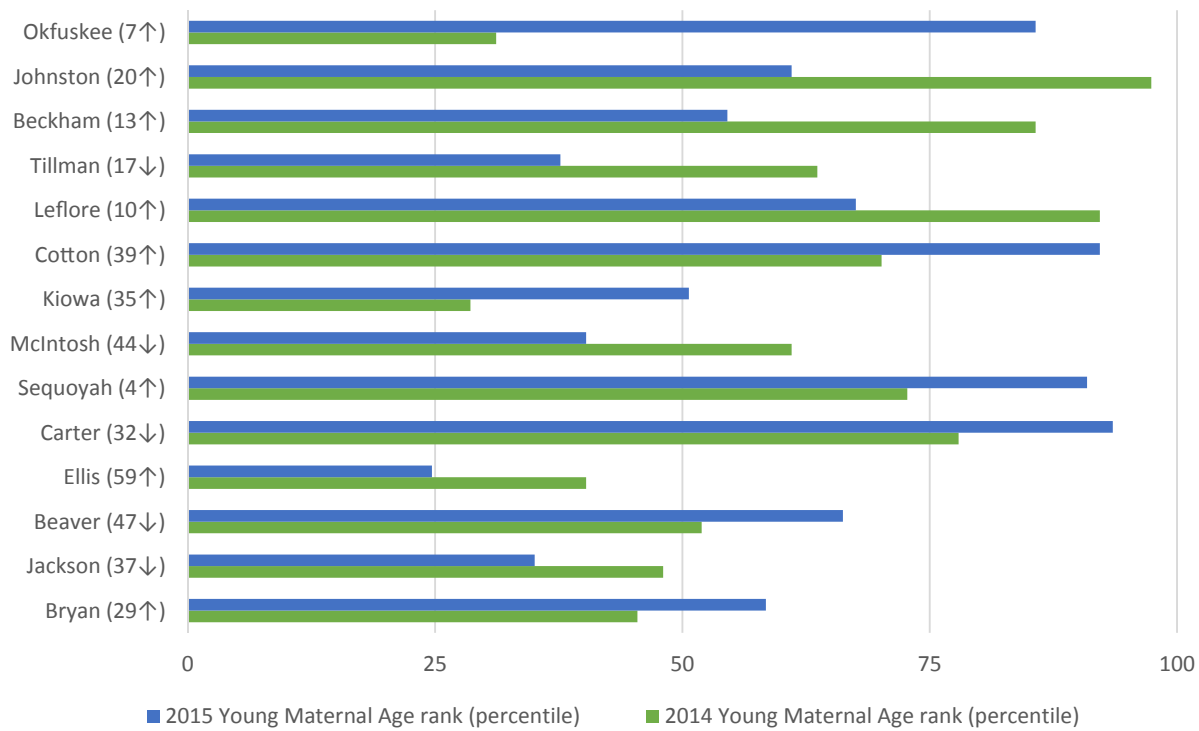
largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the Young Maternal Age indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015, which ranged from shifts of 42 percentiles for Sequoyah County to 13 percentiles for LeFlore County.

Map 7: Young Maternal Age



Note: Color coding represents overall risk classification across all factors.

Figure 11: Young maternal age indicator percentile rank comparison between 2014 and 2015* (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and young maternal age indicator. Counties organized from largest to smallest shifts on the young maternal age variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77)

AMERICAN INDIAN/ ALASKA NATIVE RACE

American Indian/Alaska Native children are likely to experience numerous school readiness risk factors. Nationally, they are one of the most over-represented racial/ethnic groups in foster care and one of the least represented in early childhood education programs. In addition, American Indian/Alaska Native children exhibit high rates of learning disabilities.^[21,22,23] In Oklahoma, American Indian/Alaska Native children are more likely than Hispanic or African-American children to live in poverty and have a teen mother. According to data from the U.S. Census, Oklahoma has one of the highest populations of American Indian/Alaska Native children under age 5 in the nation at 9%. American Indian/Alaska Native children comprise 10% or more of all young children in nearly half of the state's counties.

As demonstrated in Table 11, concentrations range from a high of 44% in Adair County to a low of 0.4% in Texas County, with Noble County at the median (10%). The median excludes five counties with no young American Indian/Alaska Native children. Changes in concentrations of American Indian/Alaska Native children ranged from an increase of approximately 9% for Bryan County to a decline of 7% for Love County. The average change in concentration across all counties was +.13%. Eight counties remained among the top 10 counties with the highest concentrations of American Indian/Alaska Native children. Adair, Delaware and Cherokee counties maintained their positions as the top three counties for this indicator. Nowata and Osage counties increased 10 and 6 rankings, respectively, thereby joining the top 10. Love and Cotton counties plummeted into the bottom 10, decreasing 25 and 24 rankings, respectively. Except for Love, Cotton and Beaver counties, all remained among the 10 lowest-ranked this year, with all 10 but Love and Cotton having been classified as Low Risk since 2014.

As Map 8 shows, the greatest concentrations of American Indian/Alaska Native children are in

Table 11: Rank and rate of children under age 5 who are American Indian (2009–2013)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Adair	43.8	1	1	-
Delaware	33.9	2	2	-
Cherokee	33.3	3	3	-
Caddo	30.3	4	8	+4
Hughes	26.7	5	4	-1
Nowata	25.5	6	16	+10
McIntosh	25.0	7	5	-2
Osage	24.0	8	14	+6
Seminole	23.4	9	10	+1
Craig	23.0	10	9	-1

Noble	10.0	37	41	+4

Jackson	2.3	63	70	+7
Woodward	1.5	64	66	+2
Love	1.5	65	40	-25
Garfield	1.4	66	64	-2
Cotton	1.4	67	43	-24
Alfalfa	1.3	68	69	+1
Grant	0.8	69	63	-6
Tillman	0.6	70	71	+1
Beaver	0.6	71	73	+2
Texas	0.4	72	72	-

eastern Oklahoma, particularly the northeast and east-central, with pockets of high concentrations in southeastern and west-central counties.

Figure 12 shows rankings for the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the American Indian/Alaska Native race indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015, which range from shifts of 42 percentiles for Sequoyah County to 13 percentiles for Ellis County. Of the six counties listed in the figure, Bryan County exhibited the greatest increase on the American Indian/Alaska Native indicator (34 percentiles). In contrast, Cotton County exhibited the sharpest decline in the American Indian/Alaska Native indicator with a decrease of 32 percentiles.

Map 8: American Indian/Alaska Native Race

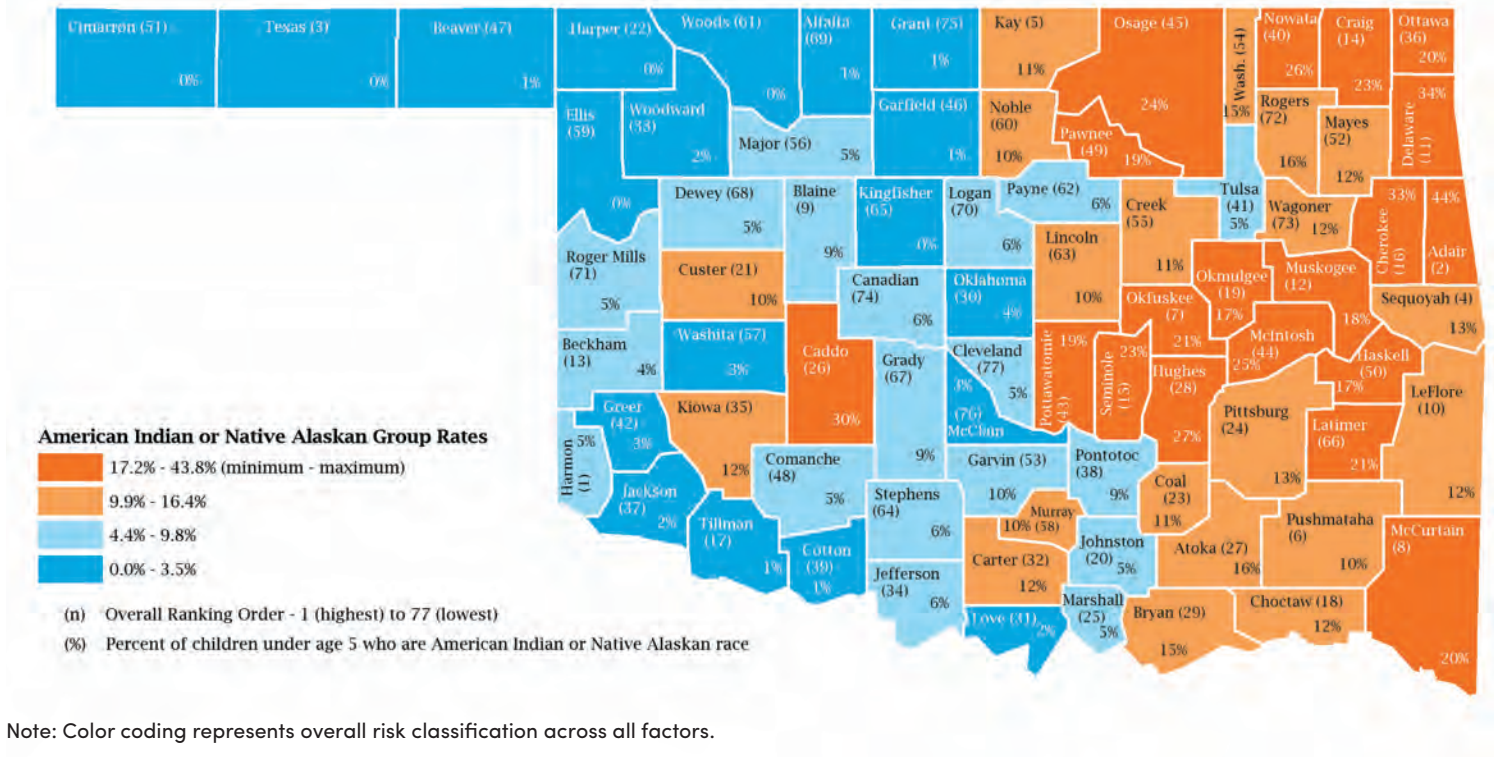
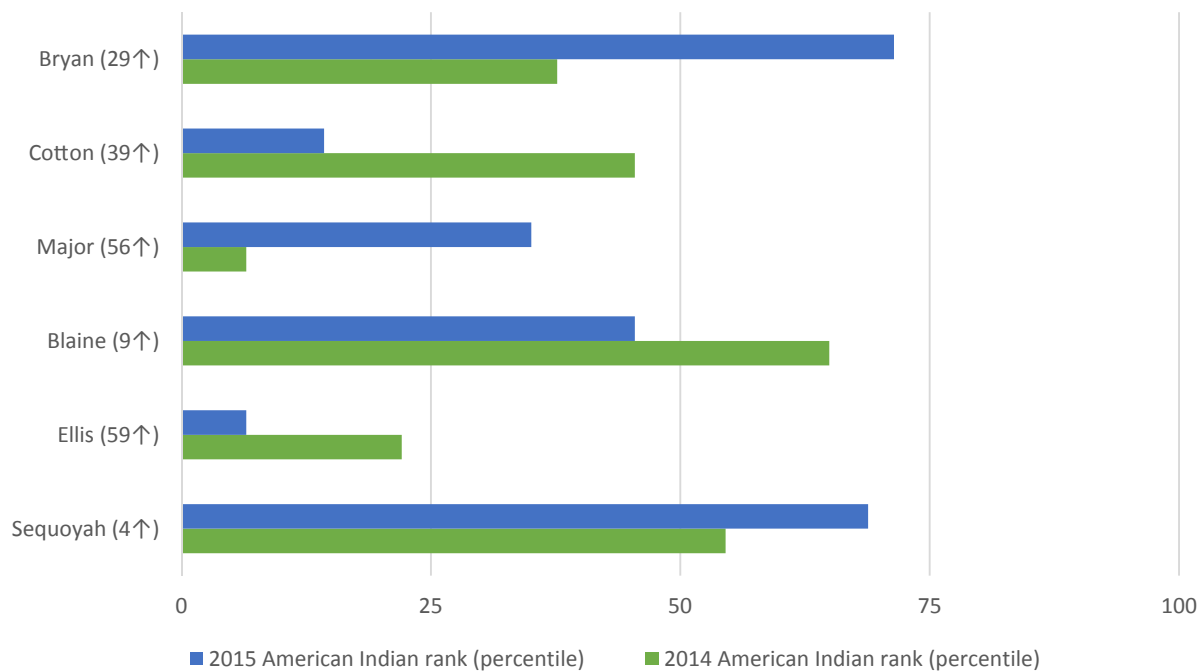


Figure 12: American Indian/Alaska Native race indicator percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and American Indian indicator. Counties organized from largest to smallest shifts on the American Indian/Alaskan Native variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

2.4 CHILDREN IN CHILD WELFARE

This component represents risk associated with having an abusive and/or neglectful family environment, which may result in foster care placement (Figure 14). Children in abusive and neglectful environments are at an elevated risk for slowed brain development and poor academic performance.^[24,25] Among all SRRRI risk factors, abuse, neglect and entrance into protective custody are most strongly correlated with having been born to a teenage mother.

Table 12 lists the 20 counties with the highest and lowest scores on this domain and compares current rankings to those from 2014. Higher scores represent higher risk and indicate that, relative to the rest of the state, these counties have the greatest percentages in the state of children who have been confirmed as having suffered abuse or neglect and who have been placed in foster care. Children in Child Welfare domain scores range from a high of 3.13 for Harmon County to a low of -1.415 for Beaver County, with Kiowa County at the median (-0.1). Six counties remained among the 10 counties with the highest risk levels for this domain, with Harmon County rising three rankings to become the county with the highest risk level in the state. Okfuskee and Sequoyah counties rose into the top 10, with Okfuskee County also rising from the High-Medium Risk group into the High Risk group. Only two counties remained among the 10 counties with the lowest risk for this domain, with Beaver County dropping four rankings to become the county with the lowest risk in the state. Eight counties joined the bottom 10, dropping between 2 and 21 rankings. Among the 10 lowest-ranked counties, only Delaware and Latimer counties changed risk groups, declining from Medium-Low to Low Risk.

Table 12: Rank and score on the Children in Child Welfare component

County	Score	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	3.133	1	4	+3
Blaine	2.680	2	3	+1
Beckham	2.033	3	6	+3
Craig	2.019	4	30	+26
Kay	1.653	5	56	+51
Johnston	1.618	6	31	+25
Pittsburg	1.428	7	10	+3
Pushmataha	1.278	8	8	-
Okfuskee	1.226	9	9	-
Sequoyah	1.127	10	33	+23

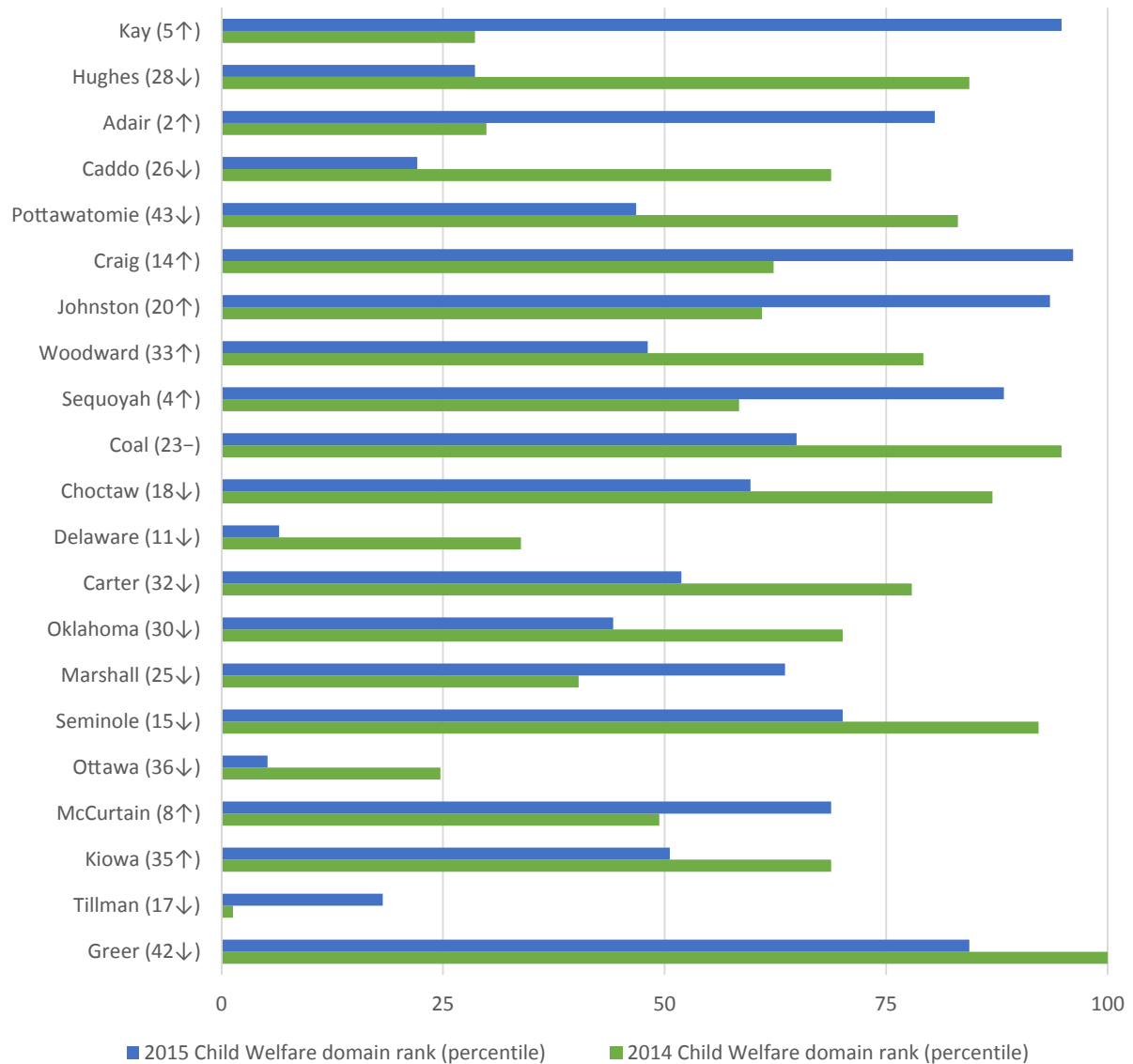
Kiowa	-0.097	39	25	-14

Latimer	-1.083	68	57	-11
Wagoner	-1.122	69	67	-2
Grant	-1.123	70	60	-10
McClain	-1.127	71	63	-8
Cimarron	-1.127	72	65	-7
Delaware	-1.167	73	52	-21
Ottawa	-1.226	74	59	-15
Texas	-1.228	75	66	-9
Harper	-1.343	76	75	-1
Beaver	-1.415	77	73	-4

High Risk counties have the highest rates of children between infancy and age 5 who are victims of abuse and neglect as well as the highest rates of young children in foster care.

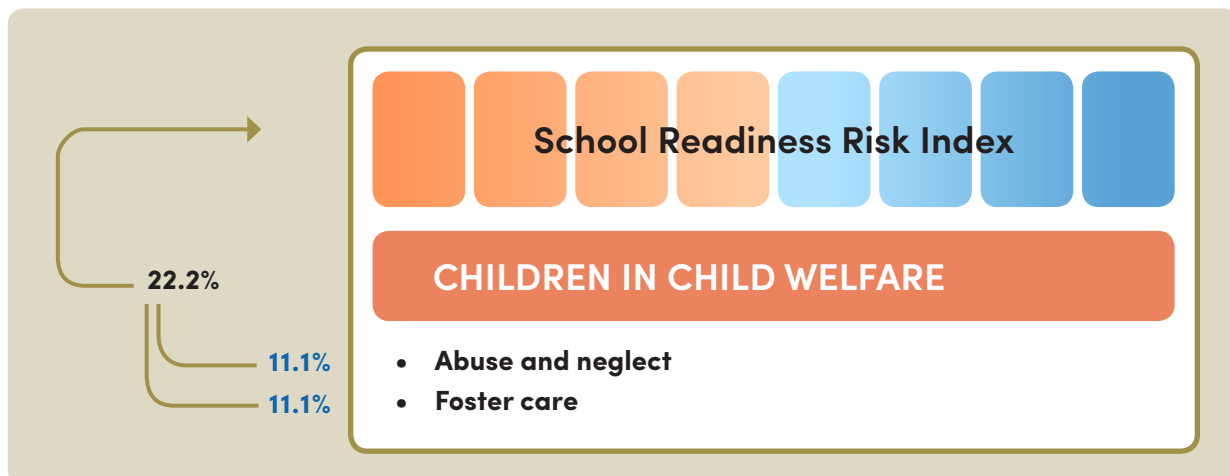
Figure 13 shows rankings for the counties with the largest shifts in rank on the overall index from 2014 that also had the largest shifts in rank on the Children in Child Welfare domain. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015. Among these counties, High Risk Kay County had the largest increase on this domain (approximately 66 percentiles). Medium-High Risk Hughes County saw a large decrease of approximately 56 percentiles.

Figure 13: Children in Child Welfare domain risk percentile rank comparison between 2014 and 2015* (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and Children in Child Welfare domain. Counties organized from largest to smallest shifts on the Children in Child Welfare domain. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

Figure 14: Indicators used to measure Family Structure and Economic Distress domain



ABUSE AND NEGLECT

Chronic stress from exposure to abuse and neglect is a serious risk factor for poor school readiness. Adults who were abused or neglected as children have lower IQ scores and an increased risk of dropping out of school compared to those who had nurturing childhood environments.^[26,27,28]

According to DHS, in state fiscal year 2014, 63 counties had rates of abuse and neglect among children under age 6 that were higher than the nation (1.3%), and 25 counties had rates of 3.0% or more. As demonstrated in Table 13, rates ranged from a high of 7.1% in Craig County to a low of 0.6% in Cimarron County, with Creek County at the median (1.8%). Changes in rates of abuse and neglect ranged from an increase of approximately 5% for Craig County to a decline of 4% for Greer County. The average change in rate across all counties was +.63%.

Five counties remained among the top 10 counties with the highest rates of abuse and neglect. Craig County was not among the top 10 counties in 2014, but jumped 41 rankings in 2015 to become the county with the highest rate of abuse and neglect in the state of Oklahoma. Kay, Johnston, Noble, and Sequoyah counties also exhibited relatively large increases in ranking to join the top 10 (44, 32, 24, and 13 rankings, respectively), while Blaine and Beckham edged up slightly. Although several counties are new this year among the 10 lowest-ranked, all 10 but Delaware have been classified as Low Risk since 2014.

As Map 9 shows, the greatest concentrations of young children suffering abuse and neglect are in east-central and southeastern Oklahoma, with pockets of high concentrations in the southwest, north-central, and northwestern parts of the state.

Figure 15 shows rankings for the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the

Table 13: Rank and rate of OKDHS confirmed abuse & neglect for children under 6 (SFY 2014)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Craig	7.1	1	42	+41
Blaine	5.9	2	7	+5
Beckham	5.1	3	8	+5
Harmon	4.9	4	5	+1
Okfuskee	4.5	5	4	-1
Pittsburg	4.5	6	10	+4
Johnston	4.5	7	39	+32
Sequoyah	4.4	8	21	+13
Noble	4.4	9	33	+24
Kay	4.4	10	54	+44

Creek	2.3	39	29	-10

Rogers	1.2	68	68	-
Delaware	1.1	69	55	-14
Grant	1.0	70	60	-10
Harper	1.0	71	74	+3
Wagoner	1.0	72	65	-7
McClain	0.9	73	59	-14
Texas	0.9	74	58	-16
Ottawa	0.8	75	70	-5
Beaver	0.8	76	64	-12
Cimarron	0.6	77	72	-5

Abuse and Neglect indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015, which range from shifts of 48 percentiles for Greer County to 13 percentiles for Choctaw County.

Five of the thirteen counties listed in the figure (Ellis, Pottawatomie, Grant, Beaver and Greer) are classified as High or High-Medium Risk on the overall 2015 index. Craig County exhibited the greatest increase on the Abuse and Neglect indicator (53 percentiles). Conversely, Hughes County exhibited the sharpest decline in the Abuse and Neglect indicator (62 percentiles).

Map 9: Abuse and Neglect

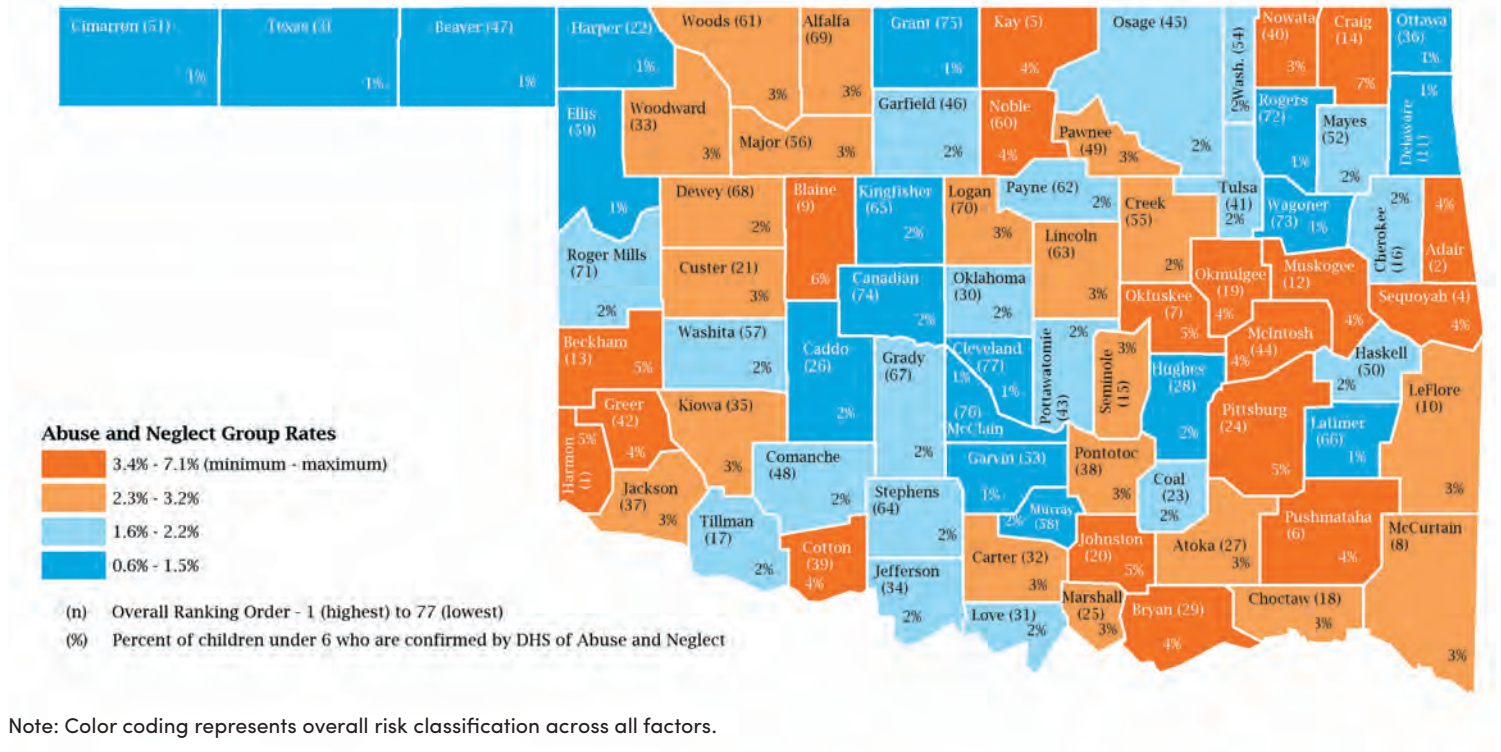
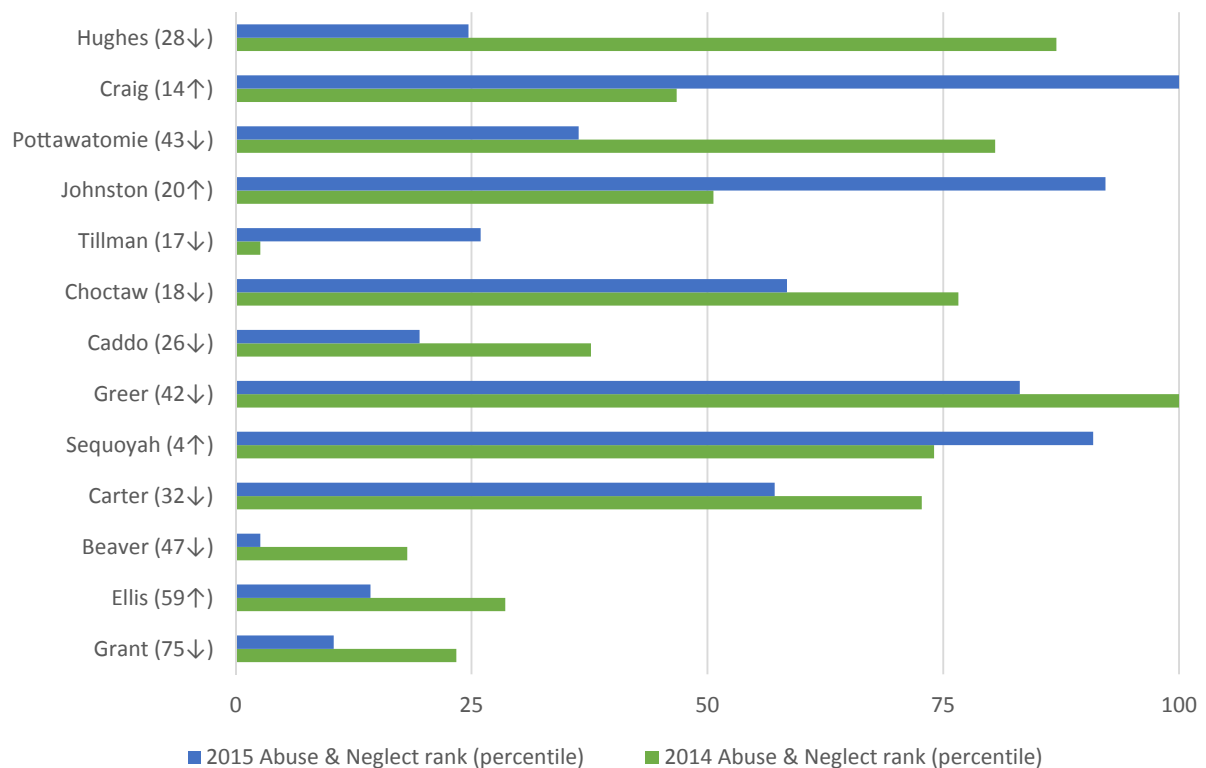


Figure 15: Abuse and neglect indicator percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and abuse and neglect indicator. Counties organized from largest to smallest shifts on the abuse and neglect variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

FOSTER CARE

Foster care placement is predicated by severe child abuse and neglect and is most prominent among racial/ethnic minorities and the poor.^[29,30,31,32,33]

Several studies have demonstrated a strong relationship between foster care placement and health problems, developmental delays, and poor academic outcomes.^[34,35,36] These issues are further exacerbated by multiple foster care placements.^[37]

In Oklahoma, children under age 6 comprised more than half (55%) of all children placed in foster care in state fiscal year 2014, compared to 40% for the nation. According to DHS, 55 counties had rates of young children in foster care higher than the nation, with three counties at or above 3%. As demonstrated in Table 14, rates ranged from a high of 4.9% in Harmon County to a low of .23% in Latimer County, with Washington County at the median (1%). Changes in rates of foster care ranged from an increase of approximately 2% for Alfalfa County to a decline of 6% for Greer County. The average change in rate across all counties was -1.27%.

Five counties remained among the top 10 counties with the highest rates of foster care. Kay, Johnston and Bryan counties joined the top 10 via relatively large increases in ranking (50, 22 and 15 rankings, respectively). Pittsburgh County also rose a moderate nine rankings into the top 10, while Okfuskee County edged its way into the top 10 by rising two rankings. Woodward, Stephens, Ottawa and Delaware counties exhibited relatively large decreases in ranking (42, 38, 28 and 27 rankings, respectively), joining the bottom 10. Eight counties ranked among the 10 lowest this year (Tillman, McClain, Wagoner, Grant, Ottawa, Texas, Delaware and Latimer) have been classified as Low or Medium-Low Risk since 2014.

As Map 10 shows, the greatest concentrations of young children in protective custody are in east-central Oklahoma, with pockets of high concentrations in the southwest, north-central and northwest regions.

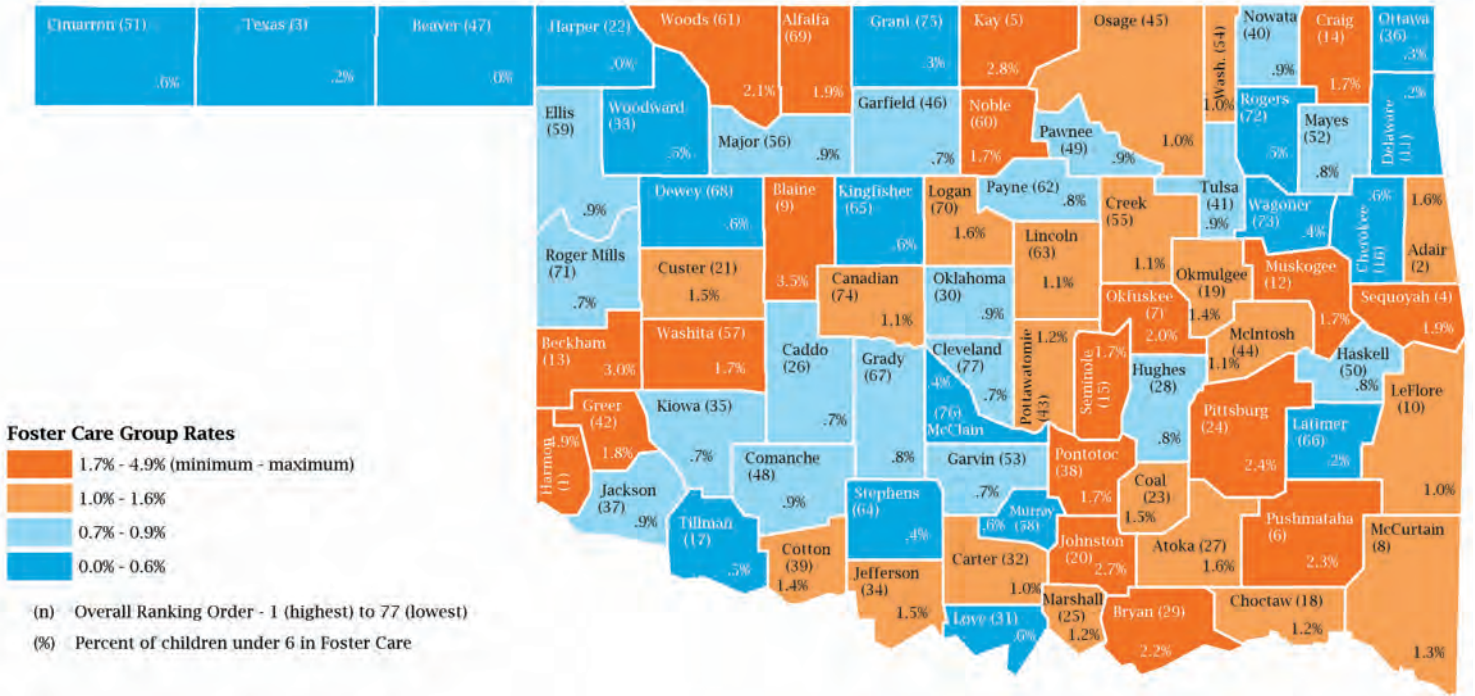
Table 14: Rank and rate of children under age 6 in OKDHS protective custody (SFY 2014)

County	Percent	Rank 2015	Rank 2014	Change in Rank (2014-2015)
Harmon	4.91	1	4	+3
Blaine	3.55	2	3	+1
Beckham	2.95	3	5	+2
Kay	2.80	4	54	+50
Johnston	2.68	5	27	+22
Pittsburg	2.36	6	15	+9
Pushmataha	2.32	7	6	-1
Bryan	2.21	8	23	+15
Woods	2.09	9	2	-7
Okfuskee	2.00	10	12	+2
Washington	0.98	38	28	-10
Tillman	0.49	66	75	+9
Woodward	0.48	67	25	-42
Stephens	0.43	68	30	-38
McClain	0.39	69	67	-2
Wagoner	0.37	70	68	-2
Grant	0.34	71	60	-11
Ottawa	0.28	72	44	-28
Texas	0.23	73	69	-4
Delaware	0.23	74	47	-27
Latimer	0.23	75	63	-12

Figure 16 shows rankings for the counties with the largest shifts in rank on the overall risk index from 2014 that also had the largest shifts in rank on the Foster Care indicator. Counties are ordered from highest to lowest shifts on the overall risk index from 2014 to 2015, which range from shifts of 48 percentiles for Greer County to 13 percentiles for McCurtain County.

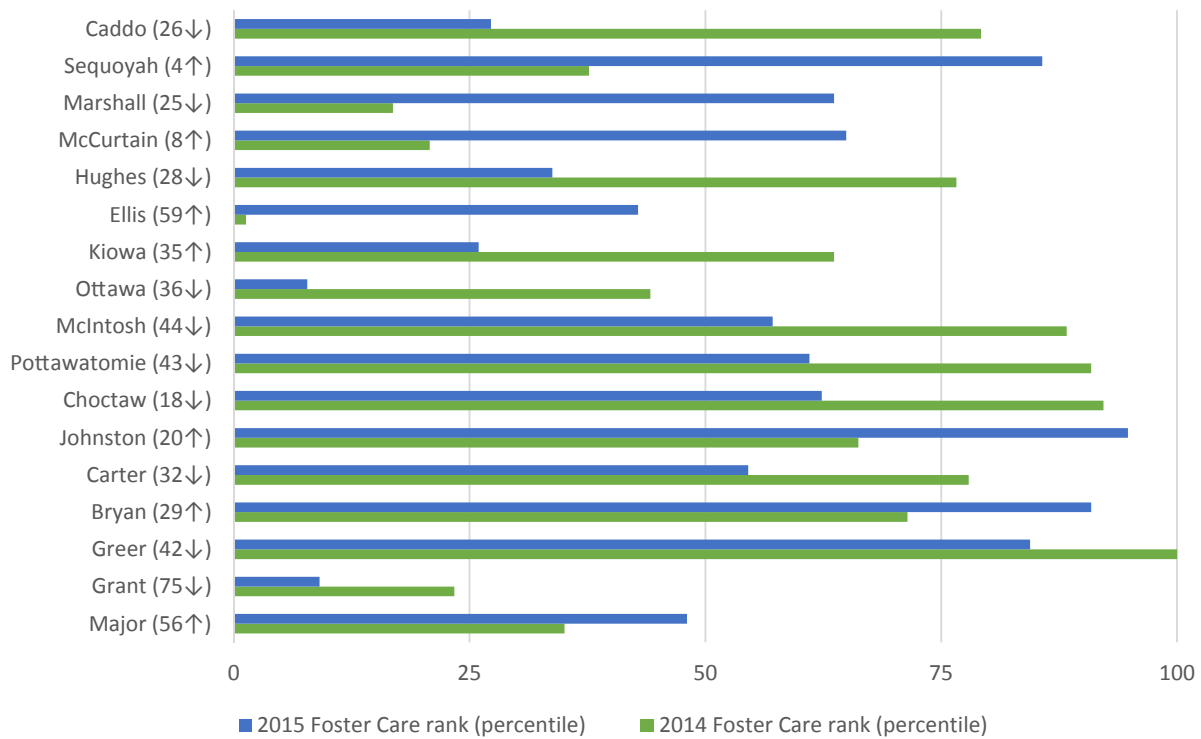
Six of the 17 counties listed in the figure (Greer, McIntosh, Major, Grant, Pottawatomie, and Ellis) are classified as High or High-Medium Risk on the overall 2015 index. Of the 17 counties, Sequoyah County exhibited the largest rank increase in the foster care indicator (48 percentiles), with Caddo County chowing the largest drop of 52 percentiles.

Map 10: Foster Care



Note: Color coding represents overall risk classification across all factors.

Figure 16: Foster care indicator percentile rank comparison between 2014 and 2015*
 (2015 overall risk rank, 1 = highest risk, & direction of overall shift from 2014)



*For counties with rank changes of approximately 13 percentiles or more for both overall risk and foster care indicator. Counties organized from largest to smallest shifts on the foster care variable. Risk groups by percentiles: High Risk = > 75th percentile (ranks 1-19); Medium-High Risk = 75th to > 50th percentile (ranks 20-39); Medium-Low Risk = 50th to > 25th percentile (ranks 40-58); Low Risk = ≤ 25th percentile (ranks 59-77).

3. STATE OF EARLY CHILDHOOD PROGRAMS AND SERVICES REACH, 2014 and 2015

A
B
C

Comparing overall risk for poor school readiness with the percentage of eligible children reached by quality programs highlights those counties with the greatest need for early childhood education, child care services, and/or other support programs. Frequently, High Risk counties are among those with the widest discrepancies between risk and reach across reach indices.



3.1 OVERALL REACH

The reach ratios in 2015 were calculated using 13 indicators (one more than in the 2014 report) across four early childhood education programs (Early Head Start, Head Start, and Pre-Kindergarten), two other support programs (Reach Out and Read and OK Parents as Teachers), and child care services. As in 2014, three indices were obtained: Overall Reach, Education Reach and Child Care Reach.

Table 1 lists the 20 counties with the highest and lowest scores on the Overall Reach Index, with higher scores representing higher reach. Medium-Low Risk Garvin county ranks at the median with a reach score of 0.034, which has not changed since 2014 when Delaware County was at the median. County reach ranks for both 2014 and 2015 and risk group classifications are also included in the table.

Although new counties are listed among the top 10 (Cherokee, Pushmataha, McCurtain, Haskell, Hughes and Sequoyah) and bottom 10 (Tillman and Jefferson) in 2015, all 20 counties were classified in the same reach groups in 2014. Table 1 also illustrates reach rank changes between 2014 and 2015, with the majority of the counties listed showing higher reach (lower rank) this year. Among the few counties that experienced a decrease in reach (higher rank in 2015), Tillman County had the largest drop in rank, from 58th to 70th. As explained in the methodology section, changes in scores and/or ranks do not necessarily imply changes in reach group classifications, which are organized by quartiles (High, High-Medium, Medium-Low and Low Reach). These scenarios are possible because of the relative performance rating method used in the calculation of reach scores and groups.

The 2014 and 2015 overall reach ranks were statistically compared to one another and no significant differences were found^a.

Coefficients across years for all scores and rates were also tested, and most of them showed a strong or very strong correlation, with all correlations being statistically significant^b (Appendix 9). The addition of Reach Out and Read to the pool of programs used to

Table 1: Rank and score on Overall Reach Index (Higher scores = higher reach)

County	Reach Score	Reach Rank 2015	Reach Rank 2014	Risk Group
Greer	0.992	1	5	Med-Low
Cherokee	0.833	2	19	High
Pushmataha	0.758	3	11	High
McCurtain	0.739	4	13	High
Choctaw	0.678	5	4	High
Haskell	0.517	6	18	Med-Low
Creek	0.507	7	8	Med-Low
Hughes	0.504	8	17	High-Med
Sequoyah	0.503	9	12	High
Pittsburg	0.491	10	10	High-Med

Garvin	0.034	39	48	Med-Low

Harmon	-0.557	68	69	High
Harper	-0.654	69	70	High-Med
Tillman	-0.676	70	58	High
Wagoner	-0.683	71	73	Low
Jefferson	-0.711	72	66	High-Med
Beaver	-0.758	73	75	Med-Low
Texas	-0.775	74	76	High
Washita	-1.003	75	71	Med-Low
Ellis	-1.186	76	74	Low
Dewey	-1.284	77	77	Low

calculate the Reach Index in 2015 did not significantly change the county ranks or early childhood education programs and services reach grouping^c. While a few more years of data are necessary to make meaningful comparisons over time, analyzing and contrasting reach classifications for the first two years of data can reveal patterns that can be tested as time-series data become available.

As in 2014, there was a positive and statistically significant relationship between reach and risk in 2015^d, with overall reach increasing by risk group. Table 2 shows the distribution of counties by school readiness risk and overall reach. The highest overall reach was, as in 2014, among High Risk counties, with 42% in the High Reach group (five percentage points lower than before), compared to 25% of counties statewide.

Appendix 10 groups all 77 counties ordered by risk rank from highest to lowest for each reach group. Appendix 11 lists the reach indices scores, ranks, and changes in ranks from 2014, by risk group and county.

Table 2: Percent of counties by risk and overall reach

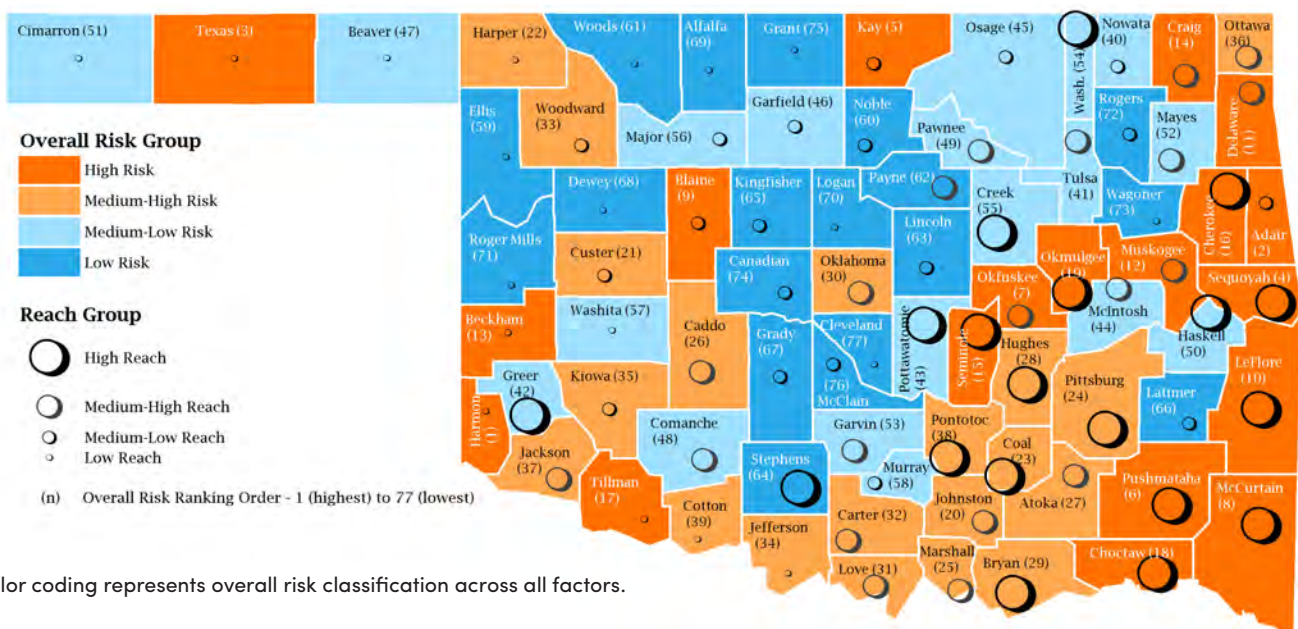
Overall Reach-by-Risk						
Risk	Reach	Low	Medium-Low	High-Medium	High	Total
	High		21%	16%	21%	42%
High-Medium		15%	15%	45%	25%	100%
Medium-Low		16%	26%	32%	26%	100%
Low		47%	42%	5%	5%	100%
State Total		25%	25%	26%	25%	100%

A visual depiction of the reach of programs and services that support school readiness and a comparison of that reach to the risk of school unpreparedness is illustrated in Map 1 for each county in the state. The color coding represents overall risk classifications across quartiles. The bubbles (circles) that appear over each county denote overall reach, sized according to the reach quartile classification. The Overall Risk Ranking is also reported for each county, with higher scores representing higher risk.

As Map 1 shows, counties with the highest overall reach are still concentrated in southeastern Oklahoma, with pockets of concentrations in the northeast and southwest. Nearly two-thirds of High Risk and Medium-High Reach groups. Of particular interest, however, are those High Risk counties with the lowest reach of programs and services, namely, Beckham, Harmon, Texas and Tillman. In 2015, all but Beckham County continued to show the widest discrepancies between risk and reach.

The following pages present reach data on two separate indices that were calculated for the three early childhood education programs (Early Head Start, Head Start, and Pre-Kindergarten) combined, and the six child care indicators combined. Scores and ranks for specific programs and services within each reach index are also presented. 2015 data on other support programs are included toward the end of this section, for both those that have reach ratios and were included in the Overall Reach Index, and those that are not part of any reach score calculation due to data/geographic scope limitations.

Map 1: Reach-by-Risk county classification



Note: Color coding represents overall risk classification across all factors.

3.2 EDUCATION REACH

Table 3 presents the 2015 counties with education reach scores, which are comprised of five indicators across three programs^e that rank in the top and bottom 10. All remain in the same position group of the reach ranking as in 2014, with the exceptions of Creek, Pawnee and Haskell counties in the first group, and Woods and Beckham counties in the second. Among the few counties that experienced a decrease in reach (higher rank in 2015), Woods County showed the largest drop in rank from 62nd to 68th. Only one county (Pawnee) improved its reach quartile standings from High-Medium to High in 2015. Appendix 12 shows reach data by county for all indicators/programs used in the calculations of the education reach.

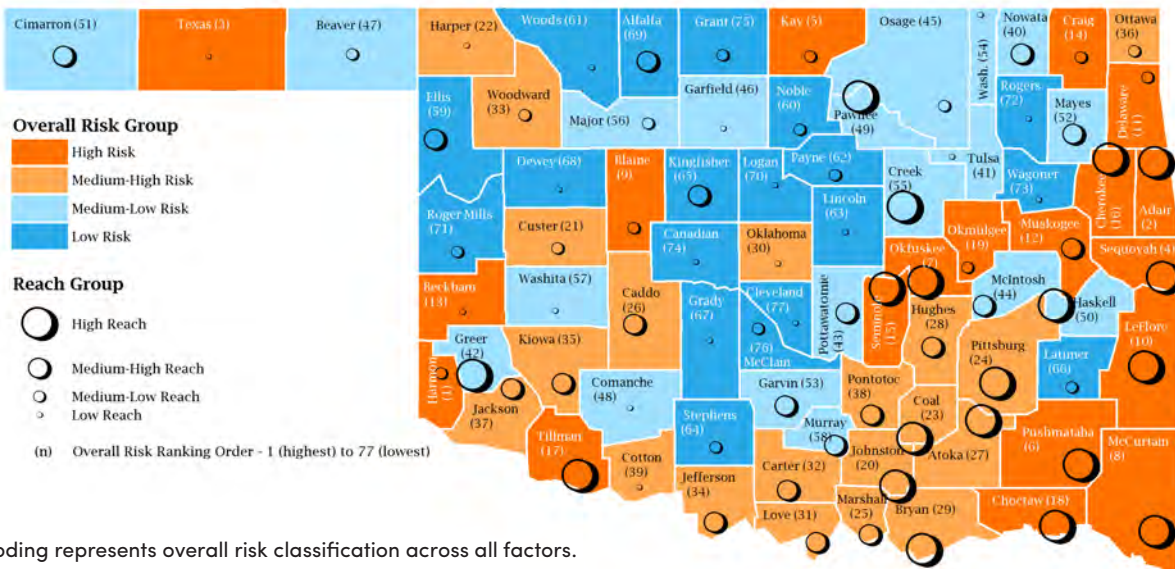
The highest education reach in 2015 remained among High Risk counties, with 53% in the High Reach group, compared to 25% of counties statewide (Table 4).

Table 4: Percent of counties by risk and overall reach

Education Reach-by-Risk						
Risk	Reach	Low	Medium-Low	High-Medium	High	Total
	High	11%	32%	5%	53%	100%
High-Medium	15%	15%	45%	25%	100%	
Medium-Low	26%	16%	37%	21%	100%	
Low	47%	37%	16%	0%	100%	
State Total	25%	25%	26%	25%	100%	

Overall, the education classification in 2015 was not significantly different from that of 2014^f,

Map 2: Education reach



Note: Color coding represents overall risk classification across all factors.

and as in the previous year, there was a positive and statistically significant correlation between reach and risk^g, with education reach increasing by risk group. This trend can also be seen in Map 2, where only two High Risk counties were among those with the lowest reach of programs and services (Texas and Beckham).

Table 3: Rank and score on the education Reach Index (higher scores = higher reach)

County	Reach Score	Reach Rank 2015	Reach Rank 2014	Risk Group
Pushmataha	1.758	1	2	High
Greer	1.654	2	1	Med-Low
Seminole	1.069	3	4	High
Sequoyah	0.960	4	10	High
Choctaw	0.868	5	5	High
Adair	0.820	6	8	High
Coal	0.679	7	6	High-Med
Creek	0.668	8	13	Med-Low
Pawnee	0.540	9	21	Med-Low
Haskell	0.430	10	11	Med-Low
Nowata	0.010	39	55	Med-Low
Woods	-0.610	68	62	Low
Beckham	-0.707	69	64	High
Canadian	-0.834	70	70	Low
Dewey	-0.983	71	74	Low
Oklahoma	-0.989	72	73	High-Med
Harper	-1.010	73	71	High-Med
Texas	-1.068	74	75	High
Wagoner	-1.077	75	77	Low
Logan	-1.292	76	72	Low
Cleveland	-1.405	77	76	Low

Head Start/Early Head Start

During 2013–2014 enrollment year, approximately 16,672 children were served by 36 HS programs, including 14 American Indian programs,^[2] across all 77 counties. In addition, 2,681 children were served through EHS programs in 41 counties. Overall, enrollment was about three percentage points lower in 2013–2014 than in the previous year.

Greer and Dewey counties continued to serve the highest and lowest rates of children, respectively (Table 5). In 2015, half of the counties listed among the top 10 (Greer, Haskell, Latimer, Tillman and Caddo) and eight among the bottom 10 (all except Woodward and Cotton) were new to the list of 20 counties with the highest and lowest enrollment rates among eligible children. Only three of the top 10 counties (Pawnee, Cherokee and McIntosh) experienced an increase in reach standings, moving up to the High Reach group in 2015. Despite the frequent drop in reach rank among the bottom 10 counties, no changes in reach quartiles were observed for the counties in this group.

As Map 3 shows, High Risk counties served a considerably greater proportion of children in HS and EHS than all other risk groups.^h Four of these counties (Texas, Kay, Beckham and Craig) were among those with the lowest enrollment rates in the state (EHS was not available in Kay and Craig counties).

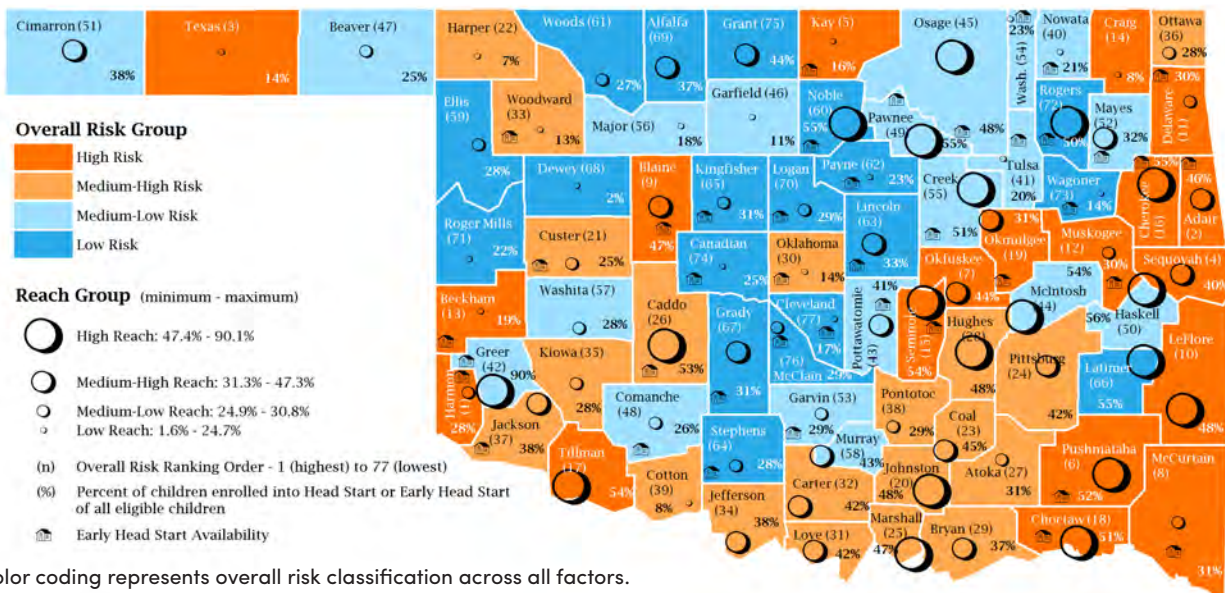
Table 5: Rank and rate of children reached by Head Start/Early Head Start (higher scores = higher reach)

County	Percent	Reach Rank 2015	Reach Rank 2014	Risk Group
Greer	90.1	1	1 (tie)	Med-Low
Haskell	55.6	2	1 (tie)	Med-Low
Noble	55.3	3	18	Low
Pawnee	55.1	4	38	Med-Low
Latimer	55.0	5	4	Low
Cherokee	54.6	6	27	High
Seminole	54.4	7	12	High
McIntosh	53.9	8	56	Med-Low
Tillman	53.6	9	6	High
Caddo	52.8	10	2	High-Med

Okmulgee	31.3	39	44	High

Kay	16.4	68	70	High
Texas	14.4	69	67	High
Oklahoma	14.0	70	68	High-Med
Wagoner	13.6	71	72	Low
Woodward	12.8	72	64	High-Med
Garfield	11.4	73	74	Med-Low
Cotton	8.4	74	58	High-Med
Craig	8.4	75	69	High
Harper	7.0	76	75	High-Med
Dewey	1.6	77	76	Low

Map 3: Head Start and Early Head Start reach



Note: Color coding represents overall risk classification across all factors.

Oklahoma Universal Pre-Kindergarten

As of October 2013, nearly 41,000 4-year-olds and more than 1,900 3-year-olds were enrolled in pre-K. These numbers represent enrollment increases of two and one percentage point(s), respectively, over the previous year. Of those enrolled, more than 33,000 children (78%) attended full-day (an increase of about eight percentage points from 2012) and approximately 9,500 attended half-day programs.

Most counties listed among the top 10 in Table 6 are new to the list of those with the highest enrollment rates, except for Pushmataha, Roger Mills, Greer and Kingfisher counties. Of the counties with the largest improvements in reach rank, three (Okfuskee, Seminole and Major) moved up from the Medium-High to the High Reach group. On the other end, nine of the 10 lowest-ranked counties retained their positions at the bottom. One county (Beckham) worsened its reach classification from Medium-Low to Low Reach. As demonstrated in Map 4, High Risk counties served the greatest proportion of both age groups, reaching nearly half of all 3- and 4-year-olds¹ in these counties, which had the highest rate of full-day attendance (93%). Two of these counties (Harmon and Beckham) are among those with the lowest pre-K enrollment rates in the state.

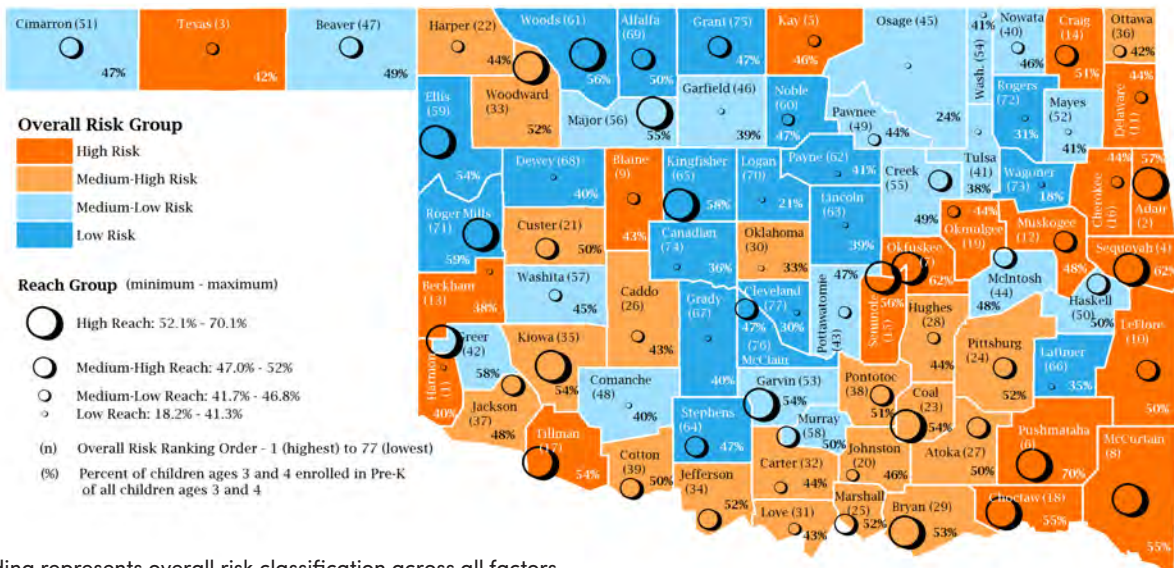
Table 6: Rank and rate of children reached by Pre-Kindergarten (higher scores = higher reach)

County	Percent	Reach Rank 2015	Reach Rank 2014	Risk Group
Pushmataha	70.1	1	2	High
Sequoyah	62.2	2	15	High
Okfuskee	61.9	3	49	High
Roger Mills	58.6	4	1	Low
Greer	58.4	5	9	Med-Low
Kingfisher	57.8	6	7	Low
Adair	57.2	7	18	High
Woods	56.5	8	12	Low
Seminole	56.2	9	24	High
Major	55.4	10	23	Med-Low

Cimarron	47.0	39	5	Med-Low

Beckham	38.2	68	44	High
Tulsa	37.5	69	71	Med-Low
Canadian	35.9	70	69	Low
Latimer	34.6	71	70	Low
Oklahoma	32.9	72	72	High-Med
Rogers	30.8	73	73	Low
Cleveland	29.7	74	74	Low
Osage	23.7	75	76	Med-Low
Logan	20.6	76	75	Low
Wagoner	18.2	77	77	Low

Map 4: Pre-Kindergarten (3- and 4-year-old) reach



Note: Color coding represents overall risk classification across all factors.

Other Education Programs

As in 2014, the Oklahoma Early Childhood Program and Educare were not included in the reach ratio calculations due to their limited geographic scope. Nevertheless, updated data are presented since they expand quality education for specific counties or municipalities.

Oklahoma Early Childhood Program (OECF)

As of Fall 2013, 11 organizations, including the Cherokee Nation, provided OECF-funded services to 2,566 children in seven counties, which is an increase of more than 30% from the previous year. Of those children, nearly 90% attended center-based programs (Table 7). Three counties with OECF-funded programs were High Risk (Choctaw, McCurtain and Pushmataha), one was High-Medium Risk (Oklahoma), and three were Medium-Low Risk (Mayes, Tulsa and Washington).

Table 7: OECF enrollment, 2013-2014

	Center-based	Home-based
High	48	0
High-Medium	164	0
Medium-Low	2037	317
Low	0	0
State Total	2249	317

¹Final counts. Data reported in 2014 School Readiness Report were projected for 2013-2014.

Educare

Oklahoma has four Educare programs: one stand-alone site in Oklahoma City that predominately serves children in Head Start and Early Head Start, and three centers located adjacent to or on the grounds of elementary schools in Tulsa. During the 2013-2014 academic year, a total of 503 children were served by Educare in one Medium-High Risk county (Oklahoma) and one Medium-Low Risk county (Tulsa) who were not also served by Head Start/Early Head Start (Table 8). This number represents a decrease of approximately 25% from the previous year.

Table 8: Educare enrollment, 2013-2014

	Enrollment (non-HS/EHS)
High	0
High-Medium	20
Medium-Low	483
Low	0
State Total	503

¹Timeframe for data reported in 2014 School Readiness Report should have been 2012-2013, rather than 2013-2014 as listed. Data represent non-Head Start/Early Head Start enrollment.



3.3 CHILD CARE REACH

Table 9 presents the counties with the top and bottom 10 child care reach scores in 2015. The same six indicators for licensed and subsidized care that were used in 2014 were also used in 2015. Scores ranged from a high of 1.1 for Hughes County to a low of -2.5 for Ellis County, with Rogers County at the median (0.1). Appendix 12 shows reach data by county for all indicators used in the calculations of the child care reach.

All counties remained in the same position groups as in 2014, with the exceptions of Greer, Stephens, Okmulgee and Choctaw counties in the top tier, and Washita and Tillman counties in the lower tier. The majority of counties listed in the table increased their child care reach rankings (higher reach), with only one county (Stephens) moving up in reach group from Medium-High to High. Among the counties that experienced a decrease in reach ranking (lower reach), Tillman County showed the largest drop in ranking, from 66th to 75th. None of the counties with the lowest scores experienced a change in reach group. Table 9 also reports the 2015 risk group.

Table 10: Percent of counties by risk and child care reach

Child Care Reach-by-Risk						
	Reach	Low	Medium-Low	High-Medium	High	Total
Risk	High	21%	21%	26%	32%	100%
	High-Medium	15%	30%	20%	35%	100%
	Medium-Low	26%	21%	26%	26%	100%
	Low	37%	26%	32%	5%	100%
State Total		25%	25%	26%	25%	100%

Table 9: Rank and score on the child care Reach Index (Higher scores = higher reach)

County	Reach Score	Reach Rank 2015	Reach Rank 2014	Risk Group
Hughes	1.080	1	6	High-Med
Greer	0.922	2	24	Med-Low
Stephens	0.908	3	12	Low
Craig	0.894	4	1	High
Okmulgee	0.839	5	15	High
Choctaw	0.772	6	13	High
Washington	0.796	7	3	Med-Low
Oklahoma	0.760	8	10	High-Med
Bryan	0.755	9	2	High-Med
Comanche	0.727	10	7	Med-Low

Rogers	0.090	39	33	Low

Murray	-0.789	68	71	Med-Low
Cimarron	-0.728	69	74	Med-Low
Adair	-0.865	70	73	High
Harmon	-1.028	71	72	High
Beaver	-1.266	72	75	Med-Low
Jefferson	-1.413	73	69	High-Med
Washita	-1.674	74	67	Med-Low
Tillman	-1.702	75	66	High
Dewey	-1.812	76	76	Low
Ellis	-2.475	77	77	Low

The highest child care reach in 2015 was among High-Medium Risk counties, with 35% in the High Reach group, compared to 25% of counties statewide (Table 10). In comparison, the highest child care reach in 2014 was among Medium-Low Risk counties, with only 32% in the High Reach Group.

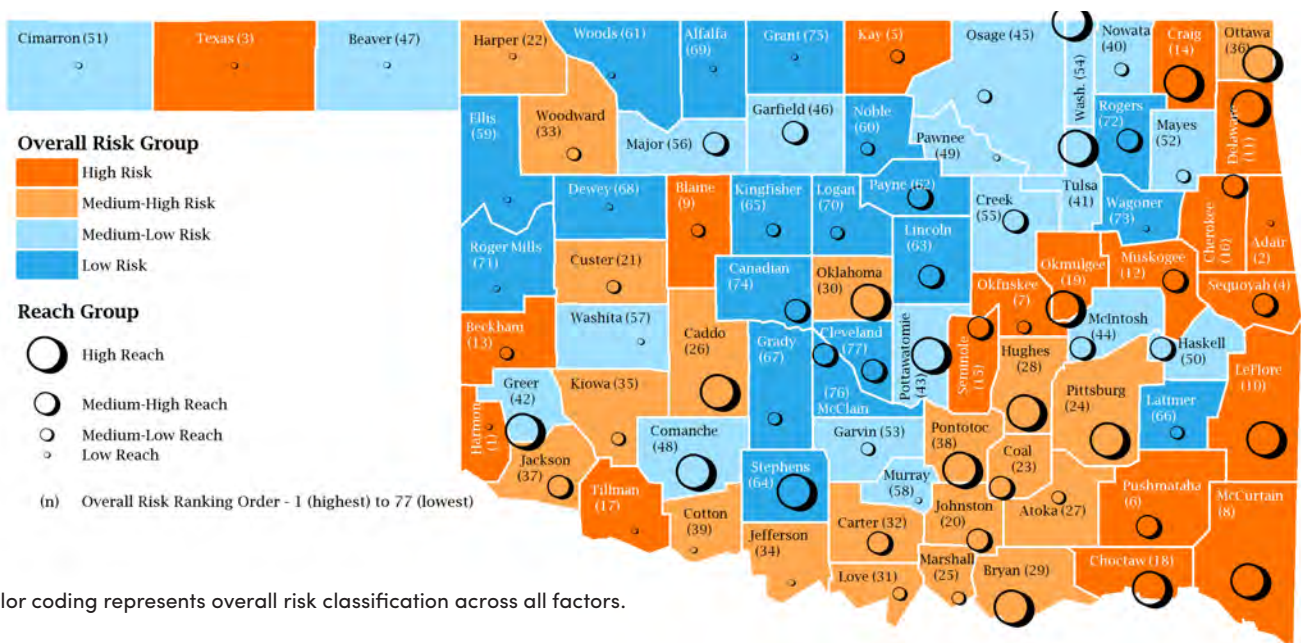
Child care reach classifications in 2015 were not significantly different from those in 2014ⁱ, and as in 2014, comparing the six child care indicators to the risk classifications showed no significant^k relationship with child care reach, with reach being highly comparable across three of the four risk groups (High, High-Medium and Medium-Low).

concentrated in southeastern Oklahoma. Four High Risk counties (Harmon, Adair, Texas and Tillman) are among those with the lowest child care reach scores.

Child care quality capacity and subsidized enrollment rates are discussed on the following pages.

Map 5 shows Child Care reach classifications mapped into the overall risk groupings. Higher reach scores for child care are geographically

Map 5: Child Care reach



Note: Color coding represents overall risk classification across all factors.



Child Care Quality Capacity For Overall Enrollment

In state fiscal year 2014, there were 4,307 licensed child care providers (9% more than in 2013), among which 1,666 (39%) were Two-Star and 286 (7%) were Three-Star programs, together representing a six percent increase from 2013. The remaining 54% were One- and One-Star Plus facilities. Across the state, there are fewer center-based (41%) than home-based (59%) providers. In addition, High Risk counties have the highest rate of licensed centers at 46%, which decreases with risk.

While the majority of counties with the highest rates of quality capacity in 2014 remained among the top 10 in 2015 (Craig, Ottawa, Tulsa, Oklahoma, Washington, Jackson and Bryan), half of those showing the lowest rates of quality capacity this year are new to the group (Johnston, Pushmataha,

Table 11: Rank and rate of quality capacity to serve child care demand (higher scores = higher reach)

County	Percent	Reach Rank 2015	Reach Rank 2014	Risk Group
Craig	82.2	1	1	High
Hughes	68.9	2	33	High-Med
Ottawa	63.3	3	4	High-Med
Greer	62.8	4	23	Med-Low
Tulsa	62.5	5	5	Med-Low
Payne	59.2	6	15	Low
Oklahoma	58.7	7	7	High-Med
Washington	57.8	8	6	Med-Low
Jackson	56.9	9	10	High-Med
Bryan	56.6	10	3	High-Med

Grady	33.7	37	44	Low

Johnston	20.0	63	63	High-Med
Pushmataha	18.5	64	62	High
Adair	16.5	65	69	High
Atoka	16.3	66	64	High-Med
Blaine	15.7	67	67	High
Murray	12.1	68	68	Med-Low
Grant	12.0	69	66	Low
Texas	9.7	70	70	High
Beaver	8.8	71	73	Med-Low
Jefferson	8.4	72	31	High-Med

Adair, Grant and Jefferson) (see Table 11). Among the counties that experienced an increase in quality capacity reach ranking, only two (Hughes and Greer) changed their classification and moved up from Medium-High to High Reach. Only one county (Jefferson) showed a decrease in reach ranking that led it to a decrease in reach group, from Medium-Low to Low.

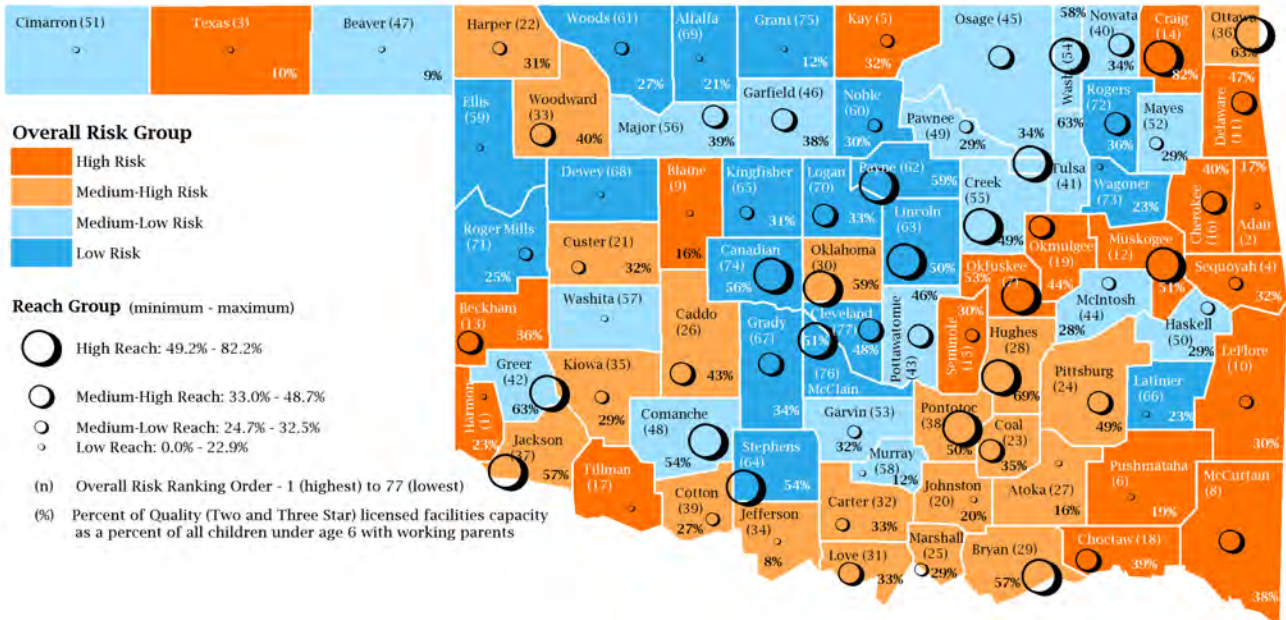
The demand for child care, proxied by the number of children under age 6 with parents in the labor force, increased slightly from 183,461 to 187,427 (an increase of approximately two percentage points), while the overall supply rose from 133,638 to 141,717 (an increase of six percentage points). The result was an increase in overall licensed capacity from 73% to 77%, with an estimated gap of 23%. The greatest gap (39% compared to 41% in 2014) was in High Risk counties, with the lowest (20%) in Medium-Low and Medium-High Risk counties. Map 6 shows quality child care capacity rates across the state. Two and Three Star providers have only enough capacity to reach an estimated 51% of young children with working parents (three



percentage points higher than in 2014), leaving a gap of 49%. Again, the highest gap (64%) was in High Risk counties, with the lowest (46%) in Medium-Low Risk

counties (Table 11). Six High Risk counties (Harmon, Adair, Texas, Pushmataha, Blaine and Tillman) were among those with the lowest child care reach scores.

Map 6: Quality licensed child care capacity



Note: Color coding represents overall risk classification across all factors.



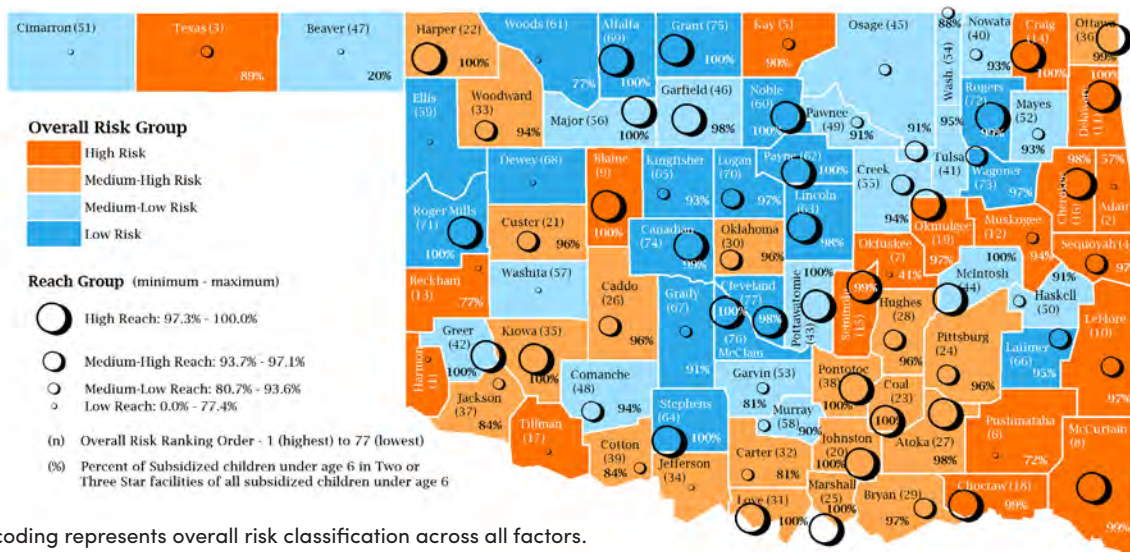
Quality and Capacity for Subsidy Enrollment

For state fiscal year 2014, 66% of licensed providers (up seven percentage points) contracted with DHS to offer subsidized child care to 43,907 Oklahoma children under age 6 (a decrease of about five percentage points; 23% compared to 25% in the 2014 report of all young children with working parents). The greatest rate of DHS contractors was in High-Medium and Medium-Low Risk counties (70%). Across the state, children with subsidies attending Two and Three Star programs represented 95% of all children with child care subsidies (compared to 94% in the 2014 report).

There are 18 counties that are tied at the top of the reach rankings for 2015 (Table 12 only lists 10 of them), with the first five retaining their top rates from 2014 for quality subsidized enrollment. Among the counties with the lowest rates, there are also five that were already ranked among the bottom 10 in 2014 (Jackson, Garvin, Woods, Adair and Beaver). The great majority of counties with the highest and lowest scores on this indicator experienced an increase in reach rank from 2014, with seven of the 18 in the top tier moving up from Medium-High to High Reach. Only one county (Beckham) went down in reach classification, from Medium-Low to Low Reach. No change in rank occurred for this county, however.

Low Risk counties had the highest rate of subsidized children (98%) to quality capacity, with High Risk counties showing the lowest rate (94%).

Map 7: Quality enrollment of subsidized children



Note: Color coding represents overall risk classification across all factors.

Table 12: Rank and rate of quality subsidized enrollment (higher scores = higher reach)

County	Percent	Rank 2015	Rank 2014	Risk Group
Harper	100.0	1 (tie)	1 (tie)	High-Med
Johnston	100.0	1 (tie)	1 (tie)	High-Med
Delaware	100.0	1 (tie)	2	High
Marshall	100.0	1 (tie)	3	High-Med
Pontotoc	100.0	1 (tie)	6	High-Med
Coal	100.0	1 (tie)	13	High-Med
Love	100.0	1 (tie)	21	High-Med
Kiowa	100.0	1 (tie)	22	High-Med
Craig	100.0	1 (tie)	42	High
Blaine	100.0	1 (tie)	46	High
Wagoner	97.0	19	34	Low
Cotton	84.1	44	54	High-Med
Jackson	83.7	45	60	High-Med
Carter	80.9	46	55	High-Med
Garvin	80.7	47	62	Med-Low
Beckham	77.4	48	48	High
Woods	76.7	49	58	Low
Pushmataha	72.2	50	56	High
Adair	56.8	51	63	High
Okfuskee	40.6	52	53	High
Beaver	20.0	53	61	Med-Low

Although High Reach of quality subsidized enrollment was relatively well distributed across the state, there were still several counties that were classified as High Risk but faced Low Reach rates (Harmon, Adair, Pushmataha, Okfuskee, Beckham and Tillman) (Map 7).

3.4 HOME VISITATION AND OTHER SUPPORT PROGRAMS

Oklahoma Parents as Teachers

It was not possible to measure home visitation reach using multiple programs due to data restrictions that limited analysis at the county level. Reach ratios were calculated for the Oklahoma Parents as Teachers (OPAT) and Reach Out and Read programs, with data on children and families served by home visitation programs discussed later in this section.

During academic year 2013-2014, 2,775 children received OPAT services in 25 counties across the state (a drop of about one quarter of children served from the previous year). While the great majority of counties (20) remained served in 2013-2014, seven discontinued receiving OPAT services (Caddo, Grady, Kiowa, Lincoln, McClain, Noble and Woodward), and five new counties were added to the program (Adair, Garvin, Haskell, Mayes and Muskogee). The Medium-Low Risk group had the largest percentage of children reached by OPAT (4.4%), while the Medium-High and Low-Risk groups were tied for the lowest (2.7%) (Map 8).

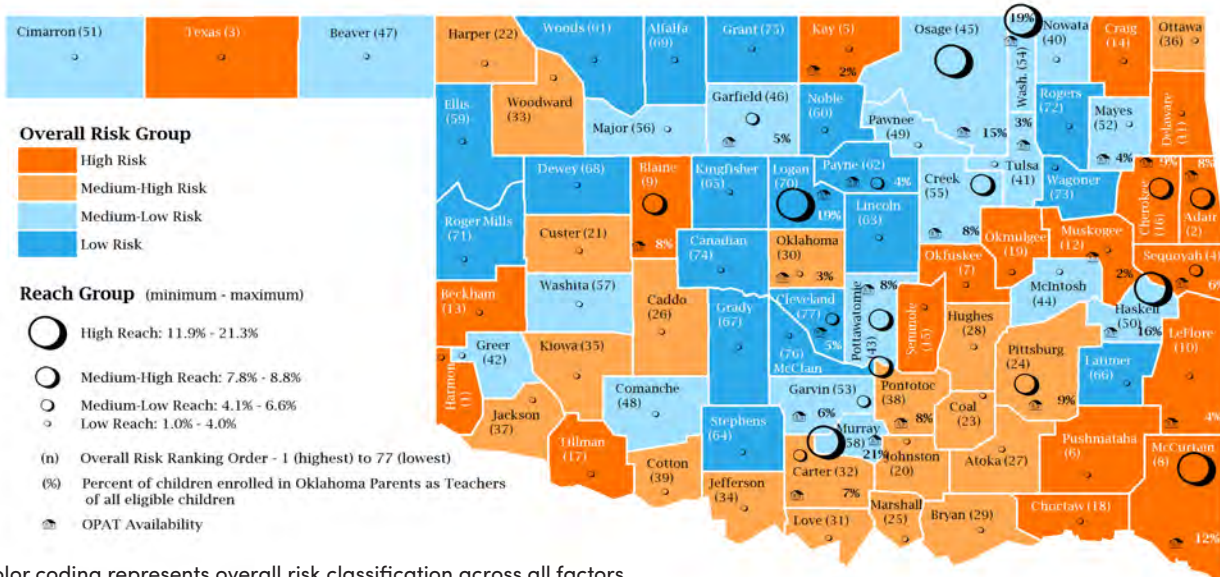
Six of the top 12 counties in 2014 remained among the top 12 in 2015. Medium-Low Risk Murray County maintained its position at the top by again serving

Table 13: Rank and rate of children reached by OPAT *

County	Percent	Rank 2015	Rank 2014	Risk Group
Murray	21.3	1	1	Med-Low
Washington	18.5	2	5	Med-Low
Logan	18.5	3	3	Low
Haskell	16.0	4	28	Med-Low
Osage	14.9	5	2	Med-Low
McCurtain	11.9	6	8	High
Pittsburg	8.8	7	4	High-Med
Cherokee	8.5	8	20	High
Blaine	8.3	9	26	High
Pontotoc	8.1	10	12	High-Med
Creek	7.9	11	16	Med-Low
Pottawatomie	7.9	12	15	Med-Low
Adair	7.8	13	28	High
Carter	6.6	14	17	High-Med
Sequoyah	5.7	15	6	High
Garvin	5.6	16	28	Med-Low
Cleveland	4.9	17	14	Low
Garfield	4.8	18	27	Med-Low
Payne	4.1	19	23	Low
Mayes	4.0	20	28	Med-Low
LeFlore	3.8	21	18	High
Tulsa	3.0	22	21	Med-Low
Oklahoma	3.0	23	19	High-Med
Kay	2.4	24	22	High
Muskogee	2.2	25	28	High

the highest percentage of children through OPAT (21%), while High Risk Muskogee County served the lowest percentage (2%). High Risk Adair County was at the median (8%) (Table 13).

Map 8: Oklahoma Parents as Teachers reach



Note: Color coding represents overall risk classification across all factors.

Reach Out and Read

This year, a new program, Reach Out and Read (ROR), was added to the analysis of early childhood reach. The program data was included in the Overall Reach Index, while the Education Reach Index continued to focus on HS/EHS, Pre-Kindergarten and OECP.

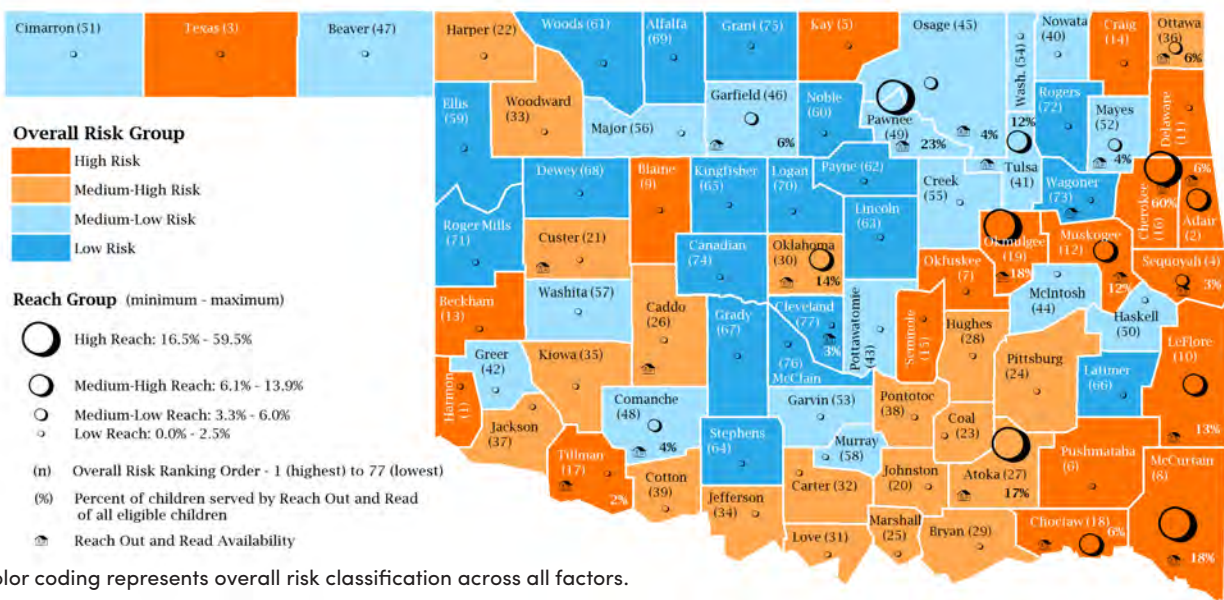
During fiscal year 2014, the Oklahoma ROR program served 23,358 children in 38 sites across 22 counties. A total of 164 health care providers participated and distributed 37,296 children’s books. The High Risk group had the highest percentage of children reached by ROR (11.1%); closely behind was the Medium-High (9.7%), and Medium-Low (7.6%) risk groups, with the Low Risk group reaching less than one percent of all children served by ROR. Out of all counties, High Risk Cherokee County served the highest percentage of children (60%) through ROR, while High-Medium Risk Custer County served the lowest percentage (.04%) (Table 14). Medium-Low Risk Garfield County was at the median (6%). The addition of Reach Out and Read to the pool of programs used to calculate the Reach Index in 2015 did not significantly change the county ranks or early childhood education programs and services reach grouping ^c.

Table 14: Rank and rate of children reached by ROR (counties without ROR excluded)

County	Percent	Rank 2015	Risk Group
Cherokee	59.5	1	High
Pawnee	22.5	2	Med-Low
McCurtain	17.7	3	High
Okmulgee	17.5	4	High
Atoka	16.5	5	High-Med
Oklahoma	13.9	6	High-Med
LeFlore	13.2	7	High
Muskogee	12.1	8	High
Tulsa	11.7	9	Med-Low
Adair	6.4	10	High
Choctaw	6.1	11	High
Garfield	6.1	12	Med-Low
Ottawa	6.1	13	High-Med
Comanche	4.4	14	Med-Low
Mayes	4.4	15	Med-Low
Osage	4.2	16	Med-Low
Sequoyah	3.3	17	High
Cleveland	2.5	18	Low
Tillman	2.2	19	High
Caddo	0.32	20	High-Med
Wagoner	0.13	21	Low
Custer	0.04	22	High-Med

Map 9 shows the ROR reach rates and classifications mapped into the overall risk groupings. As the map illustrates, the program was not available in 10 out of the 19 High Risk counties in 2015, and among those that were covered by ROR, only one county (Tillman) had one of the lowest reach scores.

Map 9: Reach Out and Read reach



Note: Color coding represents overall risk classification across all factors.

Home Visitation: Oklahoma State Department of Health Programs

The following programs provide home visitation services through the Oklahoma State Department of Health. All programs are supported by federal and state funds, with Children First and Start Right also supported by local funds.

Children First (Nurse–Family Partnership)

In 2014, Children First served 1,808 families in 62 counties, which is approximately half the number of families that were served in 2014. High–Medium Risk counties served the greatest number of families, followed by Medium–Low Risk counties.

Children First is Oklahoma’s Nurse–Family Partnership program that serves low-income women expecting their first child. Services begin prior to the 29th week of pregnancy and may continue until a child’s second birthday, and are available to families with household incomes no more than 185% of the Federal Poverty Level.^[12] Services are delivered through county health departments by registered nurses who work with expectant mothers to reduce the risk of poor birth outcomes. Although Children First is available in all counties, some counties may not receive services due to lack of referrals, full caseloads, or vacant nurse positions.

Start Right

In 2014, Start Right served 1,545 families in 28 counties, which is an increase of approximately 50% from the previous year. The greatest number of families served resided in High-Medium Risk counties, although the most counties served were in the High Risk group.

Start Right targets children who may be at-risk for abuse and neglect due to family environment. Research on HFA suggests that the program reduces child maltreatment and family dependency on cash assistance programs.^[15,16] Using the Healthy Families America (HFA) home visitation model, trained staff works with families to adopt parenting approaches that stimulate child development.^[13] There are no income eligibility requirements. First-time mothers beyond the 29th week of pregnancy, pregnant women expecting the birth of a subsequent child, and/or legal guardians with a child less than 1 year old are eligible for services up to a child’s fifth birthday.^[14]



SoonerStart/Early Intervention (Idea Part C)

In 2014, SoonerStart served 61,159 children in 58 counties, which is a sizable increase from the number of children served in 2014. Medium-Low and High-Medium Risk counties served the most children, while about the same number of counties were served in each group.

Table 15 lists the number of families or children served by each program. All data were reported for state fiscal year 2014. Due to numerous counties with masked data, reach ratios could not be calculated for these programs.

SoonerStart/Early Intervention provides services for every county as required under the Individuals with Disabilities Education Act (IDEA) Part C for infants and toddlers through 36 months who have disabilities and/or developmental delays. There are no income eligibility requirements. Services are provided in the home or child care setting and include diagnostics, case management, family training and home visits, physical and speech-language therapy, and health services. The Oklahoma State Department of Education contracts with the Department of Health to deliver services and ensure program compliance.

Table 15: Children First, Start Right and SoonerStart enrollment, SFY 2014

	Children First		Start Right		SoonerStart	
	Mothers	Counties	Caregivers	Counties	Children	Counties
High	280	16	325	8	8,745	15
High-Medium	636	18	591	5	19,733	15
Medium-Low	526	13	500	9	20,268	13
Low	366	15	129	6	12,413	15
State Total	1,808	62	1,545	28	61,159	58



4. LIMITATIONS AND CONCLUSIONS

A
B
C

“...children’s development and learning must be tracked in partnership with measurement of the functioning of programs, services, and government support for young children and families ...This will require measuring multiple layers of the systems that support early childhood development, including contextual factors inputs (policies and laws); outputs or coverage of interventions, services, and programs; and impact on child development outcomes.”

Institute of Medicine Perspectives



The Oklahoma School Readiness Reach-by-Risk Report 2015 serves as the second publication in the series and updates data published in 2014. The SRR2I Report is intended to provide policymakers and other early childhood education stakeholders with the most current data available on multiple school readiness risk factors across multiple domains and the reach of services provided in each of the state's 77 counties. The research presented in the SRR2I Report, however, is not without limitations. Data collection challenges and methodological specificities are noted below and should be used as the framework within which the results are interpreted.

4.1 LIMITATIONS

The method for calculating an overall risk level as an average of the nine individual indicators is limited by the assumption that each indicator carries the same weight, or degree of influence, on school readiness. It is likely that some indicators, such as poverty, are more strongly associated with poor school readiness than other indicators. However, considerable research suggests that it is the number of risk factors a child faces that increases the likelihood of being unprepared for school rather than individual factors alone. This reduces concerns about the contribution of individual indicators to school readiness and directs attention

to the cumulative effect of multiple risk factors on poor school readiness.^[1,2] In addition, while factors other than those presented here may contribute to poor school readiness, this research is limited to data available at the county level. Finally, it is important to note that, when counties are ranked by SRR2I value, risk is based on a comparison of Oklahoma counties relative to each other, which excludes direct comparisons to other states or the nation.

Reach data are also limited only to statewide programs with information available by county. Data may represent duplicate counts for families who move from one county to another over the course of a year. For example, children in Head Start may participate in more than one Head Start program throughout a given year, and thus would appear in aggregated counts provided by at least two programs. Data on home visitation programs is limited by confidentiality protections that mask data below a certain number. For example, the Oklahoma State Department of Health does not report numbers of children served by county if the total is less than 50. For counties where it is reported that no children were served by a home visitation program, it cannot be determined whether there were no referrals for services or whether children were not served due to full caseloads or staffing shortages.



To derive ratios of eligible children served by Head Start, Early Head Start, Pre-Kindergarten, Oklahoma Parents as Teachers and Reach Out and Read programs, the population of individual ages for each county were extrapolated using two datasets: U.S. Census Current Population Estimates, County Characteristics: Vintage 2013, and US Census 2010. In comparison, the 2014 report used individual age data from the US Census 2010 to derive counts of eligible children. Similarly, when data for Head Start and Early Head Start programs were not reported, either because the agency did not receive funding to operate in the 2013–2014 year or because the program did not respond to the survey, enrollment numbers were extrapolated using the *2013–2014 Head Start Program Information Report* and program and age participation rates from the *Oklahoma School Readiness Reach-by-Risk Report 2014*.

New for 2015 is the analysis of changes in risk and reach classifications between 2014 and 2015, including risk rank percentile changes. A cut-off point of 13 percentiles was selected as the threshold for meaningful change because it corresponds to changes in risk rank of approximately 10 positions. A word of caution is necessary about changes in rates/scores and their ambiguous impact on changes in ranks and groups: for example, a county close to the cut-off point for risk groups may move from one group to the other across years, but may have only experienced small changes in score or rank. Also, positive or negative changes in scores can result in positive, negative, or no changes in rank. This illustrates the relative performance rating method used to calculate scores and classify counties into risk groups.

4.2 REPORT HIGHLIGHTS

Risk

- Approximately 147,527 children under age 6 (nearly 3,000 more than in 2014) live in counties classified as High Risk or High-Medium Risk for poor school readiness. This represents an estimated 46% of all children under age 6 in Oklahoma, the same percentage as in 2014.
- Thirty-nine of Oklahoma’s 77 counties have overall rankings that classify them as High or High-Medium Risk, with 61 ranked as High Risk and 69 as High-Medium Risk on at least one indicator (two more than in 2014 in both cases).
- The number of indicators rated as high risk within the High Risk group ranges from two to eight, with a mean of four. In contrast, the number of indicators rated as high risk within the Low Risk group ranges from zero to two, with a mean of zero. These results are comparable to those found for the 2014 risk analysis.
- The 2014 and 2015 overall risk ranks were statistically compared to one another and no significant differences were found.

Reach

- Of the estimated 322,708 children under age 6 residing in Oklahoma, 82,473 more live in counties classified as High or High-Medium Reach than in 2014, and 76,265 fewer live in counties classified as Medium-Low and Low Reach for programs and services that support school readiness than in 2014.
- The 2014 and 2015 overall reach ranks were statistically compared to one another and no significant differences were found.
- Coefficients across years for all scores and rates showed a strong or very strong correlation, with all correlations being statistically significant.
- The addition of Reach Out and Read to the pool of programs used to calculate the Reach Index in 2015 did not significantly change the county ranks or early childhood education programs and services reach groupings.

Reach-by-Risk

- As in 2014, there was a positive and statistically significant relationship between reach and risk in 2015, with overall reach increasing by risk group.
- As in 2014, the highest overall reach was among High Risk counties, with 42% in the High Reach group (five percentage points lower than before) compared to 25% of counties statewide.
- The highest education reach in 2015 remained among High Risk counties, with 53% in the High Reach group compared to 25% of counties statewide.
- Overall, the education classification in 2015 was not significantly different from that of 2014, and as in the previous year, there was a positive and statistically significant correlation between reach and risk, with education reach increasing by risk group.
- The highest child care reach in 2015 was among High-Medium Risk counties, with 35% in the High Reach group, compared to 25% of counties statewide. In comparison, the highest child care reach in 2014 was among Medium-Low Risk counties, with only 32% in the High Reach Group.
- Child care reach classifications in 2015 were not significantly different from those in 2014, and as in 2014, comparing the six child care indicators to the risk classifications showed no significant relationship with child care reach, with reach being highly comparable across three of the four risk groups (High, High-Medium and Medium-Low).



5. APPENDICES

- Appendix 1: Overall 2015 risk rank, group and population under age 6 by county
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- Appendix 3: SRRi overall and domain scores, ranks and rank changes from 2014 by risk group
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Appendix 1. Overall 2015 risk rank, group and population under age 6 by county

	SRRI Rank	Quartile ¹	Population		SRRI Rank	Quartile ¹	Population
<i>Nation</i>			24,191,607				
<i>Oklahoma</i>			322,708	Latimer	66	1	766
Adair	2	4	1,863	LeFlore	10	4	3,827
Alfalfa	69	1	374	Lincoln	63	1	2,561
Atoka	27	3	1,061	Logan	70	1	3,404
Beaver	47	2	452	Love	31	3	811
Beckham	13	4	2,284	Major	56	2	663
Blaine	9	4	920	Marshall	25	3	1,303
Bryan	29	3	3,517	Mayes	52	2	3,242
Caddo	26	3	2,492	McClain	76	1	3,033
Canadian	74	1	11,086	McCurta in	8	4	2,823
Carter	32	3	4,021	McIntosh	44	2	1,249
Cherokee	16	4	3,800	Murray	58	2	1,058
Choctaw	18	4	1,241	Muskogee	12	4	5,929
Cimarron	51	2	199	Noble	60	1	860
Cleveland	77	1	20,262	Nowata	40	2	725
Coal	23	3	445	Okfuskee	7	4	1,065
Comanche	48	2	11,284	Oklahoma	30	3	70,415
Cotton	39	3	459	Okmulgee	19	4	2,975
Craig	14	4	972	Osage	45	2	3,278
Creek	55	2	5,239	Ottawa	36	3	2,695
Custer	21	3	2,547	Pawnee	49	2	1,216
Delaware	11	4	2,691	Payne	62	1	5,602
Dewey	68	1	371	Pittsburg	24	3	3,474
Ellis	59	1	308	Pontotoc	38	3	3,231
Garfield	46	2	5,729	Pottawatomie	43	2	5,771
Garvin	53	2	2,160	Pushmataha	6	4	786
Grady	67	1	4,213	Roger Mills	71	1	325
Grant	75	1	323	Rogers	72	1	6,324
Greer	42	2	339	Seminole	15	4	2,001
Harmon	1	4	281	Sequoyah	4	4	3,082
Harper	22	3	350	Stephens	64	1	3,479
Haskell	50	2	1,025	Texas	3	4	2,181
Hughes	28	3	930	Tillman	17	4	635
Jackson	37	3	2,394	Tulsa	41	2	55,341
Jefferson	34	3	519	Wagoner	73	1	6,065
Johnston	20	3	912	Washington	54	2	3,955
Kay	5	4	3,988	Washita	57	2	920
Kingfisher	65	1	1,310	Woods	61	1	670
Kiowa	35	3	681	Woodward	33	3	1,926

Source: US Census Current Population Estimates, County Characteristics: Vintage 2013; US Census 2010

¹Quartile rank: 4 = high risk, 3 = high-medium risk, 2=medium-low risk, 1 = low risk

Appendix 2. Risk indicators, data sources and descriptions

RISK FACTORS	DATA SOURCE	INDICATOR
Hispanic background		
1. Hispanic ethnicity	U.S. Census, American Community Survey, Sex by age, Hispanic or Latino, 2009-2013 five-year estimates.	Number of children under 5 years of age of Hispanic or Latino ethnicity.
2. English-language learners	Mulligan, G. M., Hastedt, S., & McCarroll, J. C. (2012). First-time kindergartners in 2010-2011: First findings from the kindergarten rounds of the Early Childhood Longitudinal Study, Kindergarten Class of 2010-11 (ECLS-K: 2011) (NCES 2012-049). U.S. Department of Education. Washington, DC: NCES. Academic year (AY) 2010-2011. Oklahoma State Department of Education (OSDE), Fall 2012.	Children in kindergarten who were English-language learners. Children in Oklahoma's public school pre-kindergarten and kindergarten who were English-language learners.
3. Low maternal education	U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2012, on CDC WONDER Online Database, November 2013. Low maternal education, for 2011 and 2012. Accessed at http://wonder.cdc.gov/natality-current.html Oklahoma State Department of Health (OSDH). Center for Health Statistics, Health Care Information, Vital Statistics, 2012 and 2013. Accessed at Oklahoma Statistics on Health Available for Everyone (OK2SHARE), http://www.health.ok.gov/ok2share	Number of live births to mothers who had not completed high school of all reported maternal educational levels. National data for states that used 2003 revised birth certificate. Number of live births to mothers with less than 12 years of education, by county of residence.
Family structure and economic distress		
4. Children in poverty	U.S. Census, American Community Survey, Age by ratio of income to poverty level in past 12 months, 2009-2013 five-year estimates.	Children under 6 years of age living under 100% of the federal poverty level.
5. Single-parent families	U.S. Census, American Community Survey, Own children under 18 years by family type and age, 2009-2013 five-year estimates.	Children under 6 years of age living in households headed by single parents.

Appendix 2. Risk indicators, data sources and descriptions (cont.)

RISK FACTORS	DATA SOURCE	INDICATOR
6. Young maternal age	<p>U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2012, on CDC WONDER Online Database, November 2013. Young maternal age, 2011 and 2012. Accessed at http://wonder.cdc.gov/natality-current.html</p> <p>Oklahoma State Department of Health. Center for Health Statistics, Health Care Information, Vital Statistics, 2012 and 2013. Accessed at Oklahoma Statistics on Health Available for Everyone (OK2SHARE), http://www.health.ok.gov/ok2share</p>	<p>Number of live births to mothers less than 20 years of age of all reported maternal ages.</p> <p>Number of live births to mothers between the ages of 10 and 19 of all reported ages, by county of residence.</p>
7. American Indian / Alaska Native Race	U.S. Census, American Community Survey, Sex by age, American Indian or Alaska Native, 2009-2013 five-year estimates.	Children under 5 years of age of American Indian or Alaska Native race.
Children in child welfare		
8. Abuse and neglect	<p>U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2015). <i>Child Maltreatment 2013</i>. Federal fiscal year 2013.</p> <p>Oklahoma Department of Human Services (DHS), state fiscal year 2014.</p>	<p>Number of substantiated cases of abuse and neglect among children under 6 years of age.</p> <p>Cases of abuse and neglect among children under 6 years of age confirmed by DHS.</p>
9. Foster care	<p>U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2012). <i>The AFCARS Report: Preliminary FY 2013 Estimates as of July 2014, No. 21</i>. Adoption and Foster Care Analysis and Reporting System (AFCARS), federal fiscal year 2013.</p> <p>Oklahoma Department of Human Services (DHS), state fiscal year 2014.</p> <p><i>(Note: National and state percentages for abuse/neglect and foster care calculated using American Community Survey (ACS) 2009-2013 five-year estimates, Age by ratio of income to poverty level in the past 12 months, total under 6 years.)</i></p>	<p>Children under 6 years of age who are in foster care as of September 30, 2013.</p> <p>Children under 6 years of age who are in DHS protective custody.</p>

Appendix 3. SRRI overall and domain scores, ranks¹ and rank changes² from 2014 by risk group color coding: dark orange = High Risk; light orange = High Medium Risk; light blue = Medium-Low Risk; and dark blue = Low Risk

County	Overall				Domains											
	Risk Index				Hispanic Background				Family Structure and Economic Distress				Children in Child Welfare			
	Rank ¹	Rank change ²	Risk Group change ³	score	Rank ¹	Rank change ²	Risk Group change ³	Score	Rank ¹	Rank change ²	Risk Group change ³	Score	Rank ¹	Rank change ²	Risk Group change ³	Score
Harmon	1	0	--	2.198	4	-2	--	1.631	1	+6	--	2.156	1	+3	--	3.133
Adair	2	+2	--	1.336	3	+3	--	1.646	2	+4	--	1.434	16	+39	+2	0.674
Texas	3	0	--	0.876	1	0	--	4.149	59	-2	-1	-0.527	75	-9	--	-1.228
Sequoyah	4	+32	+1	0.827	10	+19	+1	0.921	18	+10	+1	0.606	10	+23	+1	1.127
Kay	5	+9	--	0.722	28	-8	--	-0.023	15	-6	--	0.815	5	+51	+2	1.653
Pushmataha	6	0	--	0.617	63	-13	-1	-0.632	4	-2	--	1.222	8	0	--	1.278
Okfuskee	7	+20	+1	0.532	44	+2	--	-0.370	12	+17	+1	0.862	9	0	--	1.226
McCurtain	8	+10	--	0.510	30	+1	--	-0.113	7	+3	--	1.097	25	+15	+1	0.268
Blaine	9	+16	+1	0.508	29	+4	--	-0.092	42	+5	--	-0.129	2	+1	--	2.680
LeFlore	10	+10	+1	0.457	11	+3	--	0.855	23	-3	--	0.420	36	0	--	-0.064
Delaware	11	-2	--	0.456	19	+5	+1	0.369	3	-2	--	1.332	73	-21	-1	-1.167
Muskogee	12	+7	--	0.455	31	-3	--	-0.161	17	-1	--	0.742	14	+6	+1	0.802
Beckham	13	+11	+1	0.450	24	+1	--	0.064	37	+2	+1	-0.053	3	+3	--	2.033
Craig	14	+36	+2	0.444	45	-6	--	-0.372	27	+22	+1	0.269	4	+26	+1	2.019
Seminole	15	-5	--	0.395	34	+13	+1	-0.238	9	+2	--	0.930	24	-17	-1	0.276
Cherokee	16	-9	--	0.386	20	-7	-1	0.363	8	-4	--	0.939	57	-6	--	-0.688
Tillman	17	-15	--	0.363	5	-1	--	1.559	33	-21	-1	0.042	64	+13	--	-0.789
Choctaw	18	-10	--	0.351	60	-20	-1	-0.590	5	0	--	1.213	32	-21	-1	0.037
Okmulgee	19	+9	+1	0.336	58	+6	+1	-0.579	10	+4	--	0.920	18	+3	+1	0.543
Johnston	20	+14	--	0.335	64	-16	-1	-0.634	22	-4	-1	0.421	6	+25	+1	1.618
Custer	21	-6	-1	0.311	12	+3	--	0.706	36	-10	--	-0.022	20	-2	-1	0.386
Harper	22	+8	--	0.305	2	+1	--	2.230	49	+7	--	-0.315	76	-1	--	-1.343
Coal	23	0	--	0.282	42	+11	--	-0.303	14	+9	+1	0.825	28	-23	-1	0.074
Pittsburg	24	+9	--	0.274	41	+3	--	-0.298	29	+1	--	0.126	7	+3	--	1.428
Marshall	25	-12	-1	0.267	6	-1	--	1.321	54	-21	-1	-0.426	29	+18	+1	0.074
Caddo	26	-14	-1	0.261	23	-1	--	0.082	11	+2	--	0.893	61	-35	-2	-0.737
Atoka	27	+5	--	0.253	59	-1	--	-0.579	13	+2	--	0.859	23	+4	--	0.291
Hughes	28	-17	-1	0.227	51	+6	--	-0.480	6	-3	--	1.185	56	-43	-2	-0.629
Bryan	29	+13	+1	0.215	48	-16	-1	-0.433	28	+10	--	0.250	11	+11	+1	1.118
Oklahoma	30	-9	--	0.194	9	-2	--	1.138	46	0	--	-0.255	44	-20	-1	-0.325
Love	31	+6	--	0.171	8	+10	--	1.190	43	-19	-1	-0.140	59	+2	--	-0.734
Carter	32	-10	--	0.163	25	+1	--	0.024	24	-3	--	0.395	38	-19	-1	-0.093
Woodward	33	+2	--	0.143	18	-1	--	0.478	30	+22	+1	0.084	41	-24	-2	-0.242
Jefferson	34	+6	+1	0.140	37	-7	--	-0.261	19	+8	+1	0.542	35	+11	+1	-0.064
Kiowa	35	+14	+1	0.100	36	+7	+1	-0.260	20	+24	+1	0.468	39	-14	--	-0.097
Ottawa	36	-19	-1	0.075	27	-6	--	-0.021	16	-8	--	0.797	74	-15	--	-1.226
Jackson	37	-21	-1	-0.006	16	-7	--	0.492	51	+4	--	-0.348	37	-2	--	-0.067
Pontotoc	38	0	--	-0.014	50	-12	-1	-0.474	31	+9	+1	0.073	19	-4	--	0.503
Cotton	39	+15	+1	-0.019	53	+21	+1	-0.484	38	+5	+1	-0.062	15	+8	+1	0.762

¹Ranks range from 1 (highest risk) to 77 (lowest risk). ²Change in rank from 2014. Positive values reflect increase in risk rank; negative values reflect decline in risk rank. ³Change in risk group from 2014. Positive values reflect increase in risk group; negative values reflect decline in risk group.

Appendix 3. SRRI overall and domain scores, ranks¹ and changes² from 2014 by risk group (cont.)

County	Overall				Domains											
	Risk Index				Hispanic Background				Family Structure and Economic Distress				Children in Child Welfare			
	Rank ¹	Rank change ²	Risk Group change ³	score	Rank ¹	Rank change ²	Risk Group change ³	Score	Rank ¹	Rank change ²	Risk Group change ³	Score	Rank ¹	Rank change ²	Risk Group change ³	Score
Nowata	40	+3	--	-0.024	76	-13	--	-0.786	21	-2	-1	0.452	27	+10	--	0.169
Tulsa	41	-2	--	-0.026	14	-4	--	0.683	52	-2	--	-0.369	46	+4	--	-0.402
Greer	42	-37	-2	-0.030	22	-3	-1	0.179	61	-8	-1	-0.628	13	-12	--	0.854
Pottawatomie	43	-12	-1	-0.039	46	-1	--	-0.373	26	-1	--	0.328	42	-28	-2	-0.274
McIntosh	44	-18	-1	-0.112	49	+3	--	-0.445	40	-18	-1	-0.103	22	-10	-1	0.371
Osage	45	+7	--	-0.138	68	-1	--	-0.654	25	+6	--	0.332	43	-4	--	-0.304
Garfield	46	-1	--	-0.144	17	-1	--	0.487	56	-19	-1	-0.428	54	+10	+1	-0.523
Beaver	47	-18	-1	-0.185	7	+1	--	1.208	60	+8	--	-0.615	77	-4	--	-1.415
Comanche	48	-2	--	-0.196	5	0	--	-0.243	35	-3	--	-0.016	51	-17	-1	-0.482
Pawnee	49	-8	--	-0.196	72	-18	-1	-0.692	32	-15	-1	0.062	33	+15	+1	0.030
Haskell	50	+5	--	-0.205	26	+29	+1	0.017	44	-2	--	-0.247	49	-8	--	-0.456
Cimarron	51	-7	--	-0.208	13	-1	--	0.697	55	-19	-1	-0.427	72	-7	--	-1.127
Mayes	52	+4	--	-0.217	52	-3	--	-0.482	34	+7	+1	0.041	45	+9	--	-0.335
Garvin	53	-5	--	-0.277	32	-5	--	-0.170	39	+9	+1	-0.098	66.0	-22	-1	-0.797
Washington	54	-7	--	-0.302	54	-3	--	-0.490	41	-7	-1	-0.106	47	-18	-1	-0.414
Creek	55	+2	+1	-0.308	55	+4	+1	-0.500	45	+6	--	-0.251	40	-12	-1	-0.133
Major	56	+16	+1	-0.349	21	+13	--	0.187	71	+6	--	-0.900	34	+9	+1	-0.050
Washita	57	+5	+1	-0.369	48	-1	--	-0.284	63	-2	--	-0.642	31	+39	+2	0.049
Murray	58	-7	--	-0.398	43	-20	-1	-0.319	48	+6	--	-0.288	60.0	-7	-1	-0.736
Ellis	59	+10	--	-0.413	33	+38	+2	-0.220	53	+5	+1	-0.403	58	+14	+1	-0.722
Noble	60	+5	--	-0.414	77	-4	--	-0.812	69	-5	--	-0.838	12	+33	+2	1.033
Woods	61	-8	-1	-0.464	65	+11	--	-0.640	70	-1	--	-0.876	17	-15	--	0.624
Payne	62	+5	--	-0.467	67	-1	--	-0.648	47	+23	+1	-0.286	55	-6	--	-0.559
Lincoln	63	-3	--	-0.468	75	-6	--	-0.766	58	+4	+1	-0.505	30	-14	-1	0.053
Stephens	64	-5	--	-0.491	39	-3	--	-0.291	57	+6	+1	-0.488	65	-27	-2	-0.797
Kingfisher	65	-1	--	-0.561	15	-4	--	0.629	76	-1	--	-1.347	63.0	+8	--	-0.773
Latimer	66	-8	--	-0.562	56	0	--	-0.508	50	-15	-1	-0.342	68	-11	-1	-1.083
Grady	67	-6	--	-0.595	61	-1	--	-0.604	62	-3	--	-0.638	52	+6	+1	-0.497
Dewey	68	-2	--	-0.661	70	-28	-1	-0.655	65	-5	--	-0.780	48	+28	+1	-0.431
Alfalfa	69	+8	--	-0.676	74	+3	--	-0.749	73	+3	--	-1.149	21	+47	+2	0.381
Logan	70	+4	--	-0.691	62	+6	--	-0.615	75	-2	--	-1.222	26	+16	+1	0.259
Roger Mills	71	+4	--	-0.696	73	-1	--	-0.729	64	+1	--	-0.771	53	+21	+1	-0.497
Rogers	72	-2	--	-0.792	69	-4	--	-0.654	67	-1	--	-0.822	67	-5	--	-0.939
Wagoner	73	0	--	-0.821	66	+4	--	-0.641	66	+1	--	-0.805	69	-2	--	-1.122
Canadian	74	-6	--	-0.837	47	+14	+1	-0.405	77	-5	--	-1.349	50	-18	-1	-0.462
Grant	75	-12	--	-0.846	71	+4	--	-0.681	68	-23	-1	-0.831	70	-10	--	-1.123
McClain	76	-5	--	-0.847	40	+1	--	-0.292	72	-1	--	-1.122	71	-8	--	-1.127
Cleveland	77	-1	--	-0.871	57	+5	+1	-0.561	74	0	--	-1.161	62.0	+7	--	-0.756

¹Ranks range from 1 (highest risk) to 77 (lowest risk). ²Change in rank from 2014. Positive values reflect increase in risk rank; negative values reflect decline in risk rank. ³Change in risk group from 2014. Positive values reflect increase in risk group; negative values reflect decline in risk group.

Appendix 4. Risk indicator rates, ranks and changes from 2014 by county
color coding: dark orange = High Risk; light orange = High-Medium Risk; light blue = Medium-Low Risk; and dark blue = Low Risk. Some counties may have different rankings but the same percent due to rounding.

Rank change ¹	Hispanic Background														Family Structure/Economic Distress										Children in Child Welfare																			
	Hispanic				English language learners				Low maternal education				Poverty				Single parent				Young maternal age				American Indian/Alaska Native				Abuse and neglect				Foster care											
	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change	% change	Rank	Rank change	Risk Group change												
25.5	-3.1		16.0	-	14.8	-6.9		24.5	1.6		8.1	-0.8		31.5	2.9		8.1	-0.8		10.6	-0.8		10.6	-0.8		1.0	-		1.3	-		0.7	0.1											
17.0	+5		10.6	-	19.5	-2.0		27.1	0.2		31.5	0.6		31.5	0.6		10.6	-0.8		10.6	-0.8		10.6	-0.8		8.6	-		2.2	0.5		2.2	0.5											
13.9	+2	26	-5	-	23.2	-1.4	5	-1	-	43	-8.1	3	-	41	+2.4	9	44	-	32.0	4.7	36	-1	-	15.0	-3	18	-8	-	44	+2.3	1	-	-	-	-	-								
11.3	+6.8	37	+34	+2	-	-	-	-	22	+5.0	55	+12	+1	25.7	+8.0	51	+19	+1	4.7	2.1	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
5.4	+3	73	-3	-	-	-	-	-	19	-1.9	36	+5	+1	34	+8	22	4	-1	44.7	+6.2	5	+6	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
34.5	+3.1	3	+1	-	21	+1.2	8	-1	-	19	+2.3	37	+2	18	-2.1	67	-4	-	23.7	+2.9	53	+9	+1	13.8	+5	27	+11	-	0.6	+6	71	+2	-	0.8	-2	76	-12	-	-	-				
14.8	+4.8	23	+14	-	6.3	+8	21	+3	-	21	-4.7	29	-15	-1	25	-7	49	-5	36.4	+9.3	17	+25	-2	13.0	-3.9	36	24	-1	4.4	+1.5	58	+4	+1	5.1	+1.7	3	+5	-	-	-				
15.3	+3.4	22	+5	-	5.5	+1.3	25	+8	-	17	-2.4	46	-	-	32	+8.8	28	+7	34.9	+2.5	22	+9	-	13.1	+1	33	+10	+1	15	-8.7	23	+2.6	+1	5.9	+2.5	2	+5	-	-	-				
10.7	+3	39	-3	-	2.1	+5	46	+5	-	16	-6.6	51	-19	-	17	-2.4	46	-	31.4	+7.4	39	+11	+1	15.8	-3.0	10	-5	-	3.0	+4.2	4	+4	-	1.5	+1	63	-14	-1	0.7	-3.0	57	-40	-2	
16.0	-1.3	20	-3	-	4.8	+1.0	30	+6	-	21	-1.0	25	+8	-	32	+1.6	27	-	31.4	+7.4	39	+11	+1	15.8	-3.0	10	-5	-	3.0	+4.2	4	+4	-	1.5	+1	63	-14	-1	0.7	-3.0	57	-40	-2	
12.0	+2	35	-6	-	8.5	+1.1	18	+1	-	10	-2	77	-1	-	10	-7	76	-	19.6	-3.5	67	-16	-1	6.5	-1.3	74	-1	-	5.7	+0.4	48	+3	-	1.5	-4	60	-25	-2	1.1	-1.3	35	-1	-	
14.4	+8	33	-1	-	5.3	+1	27	+1	-	22	-2.2	19	-2	-	37	-9.2	15	-9	34.7	+4.9	25	-17	-1	12.7	-1.1	43	-10	-1	3.3	+3.3	3	-	-	1.8	+6	55	+2	-	2.6	+2	34	-12	-	
14.8	+3	24	-4	-	11	-3.0	16	+5	-	24	+1	54	-1	-	24	+1	54	-1	38.7	+3	16	-1	-	16.6	+2	6	+1.2	-	12	-4.0	31	9	-	2.6	+2	34	-12	-	1.8	+6	55	+2	-	
6.0	+8	70	-2	-	-	-	-	-	18	-7.2	40	-25	-2	43	+2.1	5	+7	-	47.6	-2.4	3	-1	-	17.0	-2.5	4	-	-	12	+2.7	30	+7	-	2.6	+1	33	-14	-1	1.2	-3.3	30	23	-1	
25.8	-2.0	11	-4	-	22	+14.5	7	+13	-	13	-8.8	66	-31	-2	45	-6.4	4	-1	21.1	-8.6	62	-25	-2	8.8	-4	65	+4	-	-	-	-	-	0.6	+1	77	-5	-	0.6	+1	77	-5	-		
11.9	+4	36	-5	-	4.4	-9	33	-7	+	10	-1.7	75	-2	-	15	-2	73	-3	23.6	-2.5	54	+6	-1	6.4	-5	75	-	-	5.1	+1.3	53	+6	+1	1.3	-6.6	64	+7	-	0.7	-4	53	+13	-1	
5.7	+1.5	72	+1	-	4.4	-4	32	-2	-	12	-2.7	70	-5	-	27	-2.1	41	-11	44.0	-9	7	-3	-	9.9	+1	57	+10	+1	5	-3	54	-1	-	1.8	+4	53	-1	-	0.9	-2.0	47	-23	-1	
15.0	+8	17	-1	-	4.4	-4	32	-2	-	12	-2.7	70	-5	-	27	-2.1	41	-11	44.0	-9	7	-3	-	9.9	+1	57	+10	+1	5	-3	54	-1	-	1.8	+4	53	-1	-	0.9	-2.0	47	-23	-1	
13.4	+5.0	28	+17	+1	-	-	-	-	15	+1.9	60	+10	-22	+1.3	61	+1	31.7	+6.1	37	+10	+1	16.6	+1.0	7	+17	+1	14.4	-6.3	67	-24	-1	4.3	+1.8	11	+9	+1	1.4	-1.5	27	-1	-			
5.5	-1.4	63	-14	-1	-	-5	-	-2	-	28	-7	16	+0	41	30	+8.2	33	+42	21.2	+9.2	60	+8	-	14.5	-7	21	+6	-	23	+1.2	10	-1	-	2.1	+5.4	1	+41	+2	1.7	-1.4	18	+4	-1	
6.6	+6	61	+3	-	1.4	-1	55	-2	-	18	-5	38	+14	+1	22	+7	56	+2	25.5	+6	52	4	-	13.0	-0.2	37	+5	+1	11	+1	34	-	-	2.1	+1	39	-10	-	1.1	-1.5	33	-1	-	
26.6	+8	9	-	-	16	+10.8	12	+17	+1	18	-5.1	43	-13	-1	29	-3.3	35	-14	34.7	3.7	23	-11	-1	10.7	-1.6	56	-6	-	10	-5	35	-5	-	3.1	+6	24	-6	-1	1.5	-1.9	23	-3	-	
6.8	-6	60	-3	-1	5.2	+3.3	28	+21	+1	35	+5.2	6	-1	-	39	-6.8	12	-5	35.1	-3.8	20	-11	-1	16.6	-8	5	+3	-	34	+4	2	-	1.1	-3	69	-14	-1	0.2	-3.8	74	27	-1		
3.0	-4.1	76	-16	-	1.6	-4.0	50	-27	-1	17	-2.3	45	+2	-	17	+3.7	68	+5	-	18.8	-9	70	5	-	12.1	-3.0	46	-38	-1	4.9	-4.7	56	-21	-1	2.4	+2.4	38	+38	+2	0.6	+1	61	+9	-
13.1	+5.5	30	+24	+1	5.3	+1.6	26	+12	-	16	+4.1	49	+22	+1	32	+5.0	26	+11	30.4	+7.6	43	+9	-	9.9	2.4	59	-42	-1	-3.4	-	-	-	1.2	-1	67	-11	-1	0.9	+9	45	+32	+1		
18.2	+1.5	19	-1	-	1.3	+7	14	-2	-	22	-1.4	20	+1	-	25	-9.6	48	-32	30.6	-2.2	42	-14	-1	11.2	-1.3	53	-8	-	1.4	-1.2	66	-2	-	2.0	+1.2	46	+23	+1	0.7	-6	54	+10	+1	
13.6	+1.7	27	+1	-	4.6	+8	31	+6	-	18	-6.4	44	-25	-2	28	+5.6	39	+17	28.7	+2.9	46	-	-	12.5	+1	44	+2	-	9.8	-3.4	40	-13	-1	1.3	-2	65	-20	-1	0.7	-1.7	56	-21	-1	
8.0	+2	50	-	-	2.6	+6	43	+4	-	14	-2.8	62	-4	-	22	+7	57	+2	22.3	-2	58	-3	-	9.9	-2.3	58	-7	-	8.7	-1	42	-3	-	1.9	+8	51	+10	+1	0.8	-9	49	+1	-	
6.6	-8	52	-6	-1	-	-	-	-	-	16	+4.4	55	+20	+1	15	-8.9	72	-20	21.5	-11.9	59	-35	-2	12.7	-8	42	-6	-1	0.8	-1.8	69	-6	-	1.0	-1	70	-10	-	0.3	-4.2	71	-11	-	
23.4	-2.3	13	-3	-	0.7	-7	60	-6	-1	21	+2.3	27	+23	+1	7.7	+0.1	77	-12	16.3	+6.0	75	-	-	18.5	-3.5	2	-1	-	3.0	+5	61	+4	-	3.9	+4.3	14	+13	-	1.8	-6.1	13	-12	-	
30.3	-7.1	5	-3	-	32	-15.3	2	-	-	29	-8.6	9	-7	-	63	-8.5	1	-	61.4	+7.1	1	+20	+1	20.0	-1.1	1	+1	-	5.4	+3.6	49	+19	+1	4.9	+1.4	4	+1	-	4.9	-6	1	+3	-	
6.9	-2.4	58	-19	-	0.8	-1.0	59	-9	-1	30	+12.8	8	+46	+2	25	+11.0	51	+21	17.3	+4.8	73	-16	-1	12.9	-3.1	38	-17	-	17	+6	18	-	-	2.0	-2	45	-19	-1	0.8	-7	50	+11	+1	
7.6	+3.3	55	+17	+1	-	-	-	-	19	-2.1	35	+3	-	42	-7.3	7	-3	-	38.4	+2.6	12	+5	-	15.1	-1.5	16	-	-	27	+0.1	5	-1	-	1.6	-1.6	59	-48	-3	0.8	-2.7	52	-33	-2	
30.3	-8	6	-1	-	6.6	-1.9	20	-4	-1	18	-4.8	39	-10	-	25	-3.7	52	-16	33.3	+6.2	33	+12	+1	11.6	-1.5	51	-	-	2.3	+1.2	63	+7	-	2.9	+9	26	+8	-	0.9	-1.2	44	-1	-	
13.0	+1.3	31	-1	-	-	-2.3	-	-16	-1	20	-2.9	31	-3	-	30	+3.9	32	+11	44.0	-5.7	8	+5	-	15.8	+1	11	+12	+1	6.2	-0.4	45	+2	-	1.9	+2	48	-8	-	1.5	-4	24	+24	+1	
8.4																																												

Appendix 4. Risk indicator rates, ranks and changes from 2014 by county (cont.)

Rankings ¹	Hispanic				Hispanic Background				Low maternal education				Poverty				Single parent				Young maternal age				American Indian/Alaska Native				Abuse and neglect				Children in Child Welfare												
	% change	Rank	Group change	1-77	% change	Rank	Group change	1-61	% change	Rank	Group change	1-77	% change	Rank	Group change	1-77	% change	Rank	Group change	1-77	% change	Rank	Group change	1-72	% change	Rank	Group change	1-77	% change	Rank	Group change	1-75													
Lettimer	8.6	-2.1	47	-13	-1	--	--	--	17.8	+5	41	+14	-	20.3	-2.0	65	-32	-	10.7	-1.0	54	+3	--	21.1	-2	12	--	1.3	-1	66	-15	-1	0.2	-1.2	75	-12									
Leflore	16.0	-1	21	-2	-1	8.4	+2	19	-2	--	35.9	+7.3	4	+3	--	34.7	+2.0	26	+3	--	14.0	-4.0	26	-19	-1	12.1	+1.3	28	+3	--	2.8	+1.0	30	+7	--	1.0	-1.2	39	--	+1					
Lincoln	4.4	+3	74	--	--	--	--	--	15.2	-1.9	56	--	--	24.5	+1.5	53	+1	--	12.8	+1.0	41	+14	--	10.0	+2.0	38	+4	+1	2.8	+4	28	+5	--	1.1	-2.6	32	-18	-1							
Logan	9.2	+2.0	42	+7	+1	3.7	-7	39	-7	+1	11.7	-1.4	72	-4	--	16.6	+4	70	-1	--	7.0	-7	73	+1	--	6.0	+0.2	46	+2	--	2.6	+1.0	35	+8	+1	1.6	-7	20	+18	-1					
Love	24.4	-4.7	12	+2	--	14.2	+4.5	13	+1	--	32.1	+12.0	7	+36	+2	25.9	-8	46	-6	--	14.1	-3.0	24	-14	-1	1.5	-7.1	65	-25	-1	1.7	+8	57	+9	+1	0.6	-1.1	64	-12	-1					
Major	19.9	+7.7	16	+10	+1	10.1	+3	17	-4	--	16.1	+3	50	+10	+1	22.0	+8.3	60	+14	--	6.3	-3.6	76	-8	--	5.3	+5.3	51	+22	+1	2.8	+8	27	+5	--	0.9	-8	41	+10	--					
Marshall	31.6	+2.5	4	+2	--	18.6	+1.4	10	--	25.6	-4.6	10	-6	--	21.7	-3.4	62	-15	-1	14.3	-2.6	22	-9	-1	5.4	-9	50	-4	--	2.7	+5	31	-4	--	1.2	-1.1	29	+36	+2						
Mayes	6.0	+8	69	--	--	1.0	+5	58	+1	+1	19.6	-3.6	33	-8	--	26.9	+1.3	44	+2	--	14.6	-1	19	+11	+1	12.3	-1.1	26	--	--	2.3	+1.3	41	+22	+1	0.8	-1.3	48	-6	--					
McClain	13.2	+1	29	-7	--	6.2	-9	22	-1	--	13.7	-1.4	64	-1	--	18.1	-2.8	66	-5	--	8.3	-1	68	+3	--	3.4	-1.5	60	-4	-1	0.9	-3	73	-14	--	0.4	-6	69	-2	--					
McCurtain	9.9	+7	41	-1	--	2.3	+4	44	+4	--	23.9	-4	14	-4	--	42.9	-9	6	+3	--	34.7	+7	24	-2	--	20.3	+4	13	--	--	3.1	+8	22	+3	--	1.3	-1	28	+34	+1					
McIntosh	6.2	-2.9	64	+13	--	1.5	+1.5	54	+8	+1	19.9	-4.0	32	-12	--	20.4	+21.1	64	-44	-2	12.1	-2.3	47	-16	-1	25.0	-1.6	7	-2	--	3.7	+9	17	-2	--	1.1	-2.8	34	-24	-1					
Murray	11.1	+3	38	-5	--	1.6	-2.3	51	-16	-1	22.4	-1.1	17	+5	+1	34.2	+3.2	20	+3	--	13.8	+1	29	-5	--	18.4	-3.0	17	-6	--	3.8	+7	15	-3	--	1.7	-9	14	+17	+1					
Muskogee	6.2	+7	65	-15	--	1.3	-0.1	56	-1	--	11.7	-2.3	73	-7	--	22.1	-2.0	59	-9	-1	20.7	-1.7	64	-8	-1	10.0	-6	36	-4	--	1.5	+6	61	-6	--	0.6	-1.8	59	-26	-2					
Nowata	2.1	-4.4	77	-15	--	--	--	--	--	--	16.5	-1.3	48	+5	--	24.8	-6.0	21	-15	-1	12.8	+0.1	71	-1	--	10.0	+1.5	37	+4	+1	4.4	+2.4	9	+22	+2	0.9	-1.4	42	-6	-1					
Okfuskee	7.7	-1	54	-3	--	--	--	--	22.7	+7	6	--	--	21.4	-3.6	26	-10	-1	30.7	+1.2	30	-1	--	34.1	-1.0	27	-7	--	9.8	-6	9	+6	--	9.8	-6	9	+6	--	15.9	-6	9	+6	--		
Oklahoma	27.1	+5	8	--	--	0.5	+1	61	--	--	17.1	+2	47	+10	--	31.6	-2.3	29	-12	-1	45.1	+9.6	4	+15	--	15.9	-6	19	--	--	3.7	+6	18	+42	+1	1.4	-2.4	36	-13	-1					
Okmulgee	5.8	-4	59	-1	--	1.2	-1.3	57	-12	+1	15.6	+2	53	-8	+1	29.6	+3.2	34	+7	+1	31.4	+2.8	40	-1	--	11.6	-0.3	50	+8	+1	24.0	+4.4	8	+6	--	2.1	+3	43	+5	-1	1.0	-1.1	27	+3	+1
Osage	9.2	-4	43	-5	-1	5.2	-1.1	29	-7	+1	24.0	-2.1	12	--	--	37.1	+2.2	34	--	--	36.9	-1.9	15	-5	--	14.6	-1.9	20	-3	-1	20.0	-6.3	14	-8	--	0.8	+0.3	75	-5	--	0.3	-1.8	72	-28	-1
Pawnee	6.1	-2.0	66	-20	-1	--	--	--	--	--	15.5	-4.3	54	-9	--	26.1	+6.1	45	-35	-2	27.9	-5.3	47	-21	-1	12.2	-1	45	+3	--	18.8	-2.6	15	+6	+1	3.1	+1.9	21	+32	+1	0.9	-1.4	46	-9	-1
Paigne	7.4	-3	56	-3	--	5.6	+1	24	+1	--	10.7	-2.1	74	5	--	35.2	+8.8	18	+24	+2	34.0	+7.1	28	+15	+1	7.3	+5	72	+4	--	5.8	+3.6	47	+20	+1	1.8	+3	54	-10	--	0.8	-1.2	51	-6	--
Pittsburg	7.9	-2	51	-4	--	2.0	+7	48	+8	--	21.4	+4	23	+17	+1	28.0	+2.6	37	+8	+1	31.5	+3.8	38	+3	+1	13.1	-1.1	34	-2	--	13.1	-3.3	24	-4	--	4.5	+1.3	6	+4	--	2.4	-1.3	6	+9	--
Ponotoc	8.5	-4	48	-6	--	4.2	+5	35	+4	+1	15.1	-6.1	57	-18	--	33.1	+2.1	24	--	--	36.0	+5.0	18	+16	+1	10.7	+2	55	+7	+1	8.9	-1.6	41	-8	-1	3.0	+7	25	-1	--	1.7	-2.4	15	-6	--
Pottawatomie	9.0	+3	44	--	--	1.6	-0.2	52	--	--	19.2	-1.2	34	+8	+1	28.3	+1.2	36	+2	--	32.1	-1.2	34	-11	--	13.4	+1	30	+9	+1	18.7	+6	16	-1	--	1.9	-7	50	-34	-2	1.2	-2.9	31	-23	-1
Pushmataha	6.0	-2	67	-4	--	1.5	+1.5	53	+9	+1	15.7	-7.0	52	-21	-1	54.6	+5	2	--	--	48.7	-4	2	+1	--	13.8	-4.8	28	-22	-1	9.9	+2.8	39	+5	+1	4.1	+8	12	-3	--	2.3	-2.2	7	-1	--
Roger Mills	3.6	-2.1	75	-9	--	2.1	+2.1	45	+17	+1	14.9	-5	59	+3	--	27.3	+2.4	42	+6	--	19.3	-1.7	69	+3	--	8.9	-3.2	64	-11	-1	5.0	+6	55	+2	--	2.1	+1.7	44	+29	+1	0.7	+3	55	+16	+1
Rogers	7.4	-0	57	-2	--	4.2	-3	34	-3	--	11.8	-2.0	71	-4	--	11.0	-3.1	75	-4	--	48.7	+9	71	-2	--	9.7	-6	62	+2	--	16.4	-3	20	-3	-1	3.2	+4	68	--	--	0.5	-1.0	65	-6	--
Seminole	8.8	+1.0	46	+6	--	--	--	--	--	--	19.3	+2.0	13	+23	+1	40.3	+5.5	11	+4	--	33.4	-6.2	30	-23	-1	15.2	-1.4	13	+1	--	23.4	+1.6	9	+1	--	2.5	-2.0	36	-33	-1	1.7	-2.2	17	-6	--
Stephens	7.8	+4.0	52	+32	+1	--	--	--	47.6	+20.5	1	+9	--	34.0	+5.8	21	+14	--	--	16.1	+2	8	+14	--	12.5	+3.1	25	+11	--	4.4	+2.0	8	+13	+1	1.9	+1	12	+37	+2						
Strephouse	12.8	+4	32	-8	--	1.9	-1.8	49	-9	+1	17.8	-1.4	42	+7	--	20.5	+2.9	63	+3	--	19.6	-1.0	68	-4	--	6.2	+8	44	+8	--	1.7	+3	56	-8	--	0.4	-2.3	68	-38	-2					
Texas	60.0	+14.4	1	--	--	47.2	-9.8	1	--	--	43.3	-4.9	2	-1	--	22.3	+6	58	-1	--	30.1	+6	44	-6	-1	11.4	-1.7	52	-12	--	0.4	+0.4	72	--	--	0.9	-3	74	-16	--	0.2	-5	73	-4	--
Tillman	37.4	+3.9	2	+1	--	26.0	+2.0	3	+2	--	20.1	-8.6	30	-24	-1	40.5	-5.9	10	-5	--	33.3	-17.6	31	-30	-1	11.7	-3.2	49	-20	-1	0.6	+1	70	+1	--	1.6	+1.6	58	+18	+1	0.5	+2	66	+9	--
Tulsa	20.3	-2	15	-2	--	1.6	-8	11	-2	--	21.5	-1.9	22	+1	--	27.5	+5	40	-1	--	33.9	+8	29	-2	--	9.0	-1.1	63	+3	--	4.8	-4	57	-3	--	1.9	+5	49	-2	--	0.9	-1.1	40	+6	--
Wagoner	9.0	+1	45	-4	--	2.6	-3	41	+3	--	12.2	+2	68	-4	--	17.3	+3	69	-9	--	22.6	-2	57	-4	--	8.0	+1	70	+2	--	1.0	-0.4	72	-7	--	0.4	-5	70	-2	--					
Washington	10.2	-5	40	-5	-1	5.8	-1.7	23	-5	-1	12.0	-2.8	69	-5	--	30.0	-2	31	-5	--	32.4	+2.4	32	+4	--	8.5	-2.6	66	-7	--	15.1	+2	22	+2	--	1.8	-1	52	-16	-1	1.0	-1.8	38	-10	--
Washita	14.3	+1.5	25	-2	--	4.1	+1.0	37	+4	+1	14.9	-4.2	58	-7	--	25.8	+9	47	+2	--	28.1	+7.5	45																						

Appendix 5. Number of indicators by risk level

		High risk	High-medium risk	Medium-low risk	Low risk
HIGH RISK (ranks 1 - 19)	Mean	4	2	1	1
	Harmon	8	0	1	0
	Adair	6	3	0	0
	Texas	3	0	3	3
	Sequoyah	5	3	1	0
	Kay	6	3	0	0
	Pushmataha	4	2	2	1
	Okfuskee	5	1	2	1
	McCurtain	4	3	2	0
	Blaine	2	4	3	0
	LeFlore	3	6	0	0
	Delaware	4	2	0	3
	Muskogee	5	3	1	0
	Beckham	3	4	2	0
	Craig	4	2	0	3
	Seminole	5	2	1	1
	Cherokee	4	2	2	1
	Tillman	3	2	2	2
	Choctaw	3	3	1	2
Okmulgee	4	2	1	2	
HIGH-MEDIUM RISK (ranks 20 - 39)	Mean	3	3	2	2
	Johnston	3	2	2	2
	Custer	2	5	2	0
	Harper	4	1	0	4
	Coal	3	3	1	2
	Pittsburg	2	5	2	0
	Marshall	3	3	1	2
	Caddo	2	5	1	1
	Atoka	2	5	0	2
	Hughes	4	1	2	2
	Bryan	2	5	2	0
	Oklahoma	2	3	2	2
	Love	3	2	2	2
	Carter	3	5	1	0
	Woodward	4	2	1	2
	Jefferson	2	4	2	1
	Kiowa	3	3	2	1
	Ottawa	4	2	1	2
	Jackson	1	4	3	1
	Pontotoc	2	3	4	0
Cotton	2	3	0	4	

Appendix 5. Number of indicators by risk level (cont.)

		High risk	High-medium risk	Medium-low risk	Low risk
MEDIUM-LOW RISK (ranks 40-58)	Mean	1	2	3	2
	Nowata	2	1	4	2
	Tulsa	2	2	4	1
	Greer	4	1	0	4
	Pottawatomie	1	5	3	0
	McIntosh	2	2	2	3
	Osage	1	2	5	1
	Garfield	2	1	5	1
	Beaver	2	2	1	4
	Comanche	2	1	5	1
	Pawnee	1	1	5	2
	Haskell	2	1	4	2
	Cimarron	3	0	0	6
	Mayes	1	2	5	1
	Garvin	0	3	5	1
	Washington	0	5	2	2
	Creek	0	5	3	1
	Major	2	1	4	2
	Washita	1	2	4	2
	Murray	0	3	3	3
LOW RISK (ranks 59 - 77)	Mean	0	1	3	4
	Ellis	0	3	3	3
	Noble	2	1	1	5
	Woods	1	1	3	4
	Payne	1	2	4	2
	Lincoln	0	3	3	3
	Stephens	0	2	4	3
	Kingfisher	2	0	0	7
	Latimer	1	0	3	5
	Grady	0	0	8	1
	Dewey	0	1	4	4
	Alfalfa	1	2	2	4
	Logan	0	3	2	4
	Roger Mills	0	0	5	4
	Rogers	0	2	1	6
	Wagoner	0	1	3	5
	Canadian	1	2	1	5
	Grant	0	0	2	7
	McClain	0	2	0	7
	Cleveland	0	2	3	4

Appendix 6. Correlation coefficients among risk indicator rates

	Hispanic	English-language learners	Low maternal education	Poverty	Single parent	Young maternal age	American Indian/Alaska Native	Abuse and neglect	Foster care
Hispanic	1.00								
English-language learners	0.88*	1.00							
Low maternal education	0.33*	0.45*	1.00						
Poverty	0.00	0.10	0.34*	1.00					
Single parent	0.07	0.07	0.26*	0.73*	1.00				
Young maternal age	-0.05	-0.14	0.48*	0.44*	0.43*	1.00			
American Indian/Alaska Native	-0.44*	-0.29*	0.28*	0.31*	0.16	0.36*	1.00		
Abuse and neglect	-0.20	-0.26*	0.10	0.25*	0.25*	0.38*	0.16	1.00	
Foster care	-0.12	-0.16	0.02	0.37*	0.42	0.31*	0.00	0.78*	1.00

**An asterisk next to an estimate indicates correlation coefficient is statistically different from zero at $p \leq 0.05$.*



Appendix 7. Correlation coefficients¹ between 2014 and 2015 overall SRRRI, domain and indicator ranks

Overall index	
SRRRI	0.87
Domain	
Hispanic Background	0.90
Family Structure/Economic Distress	0.91
Children in Child Welfare	0.67
Indicator	
Hispanic	0.91
ELL	0.92
Low maternal education	0.80
Poverty	0.84
Single parent	0.81
Young maternal age	0.86
American Indian	0.92
Abuse and neglect	0.68
Foster care	0.55
Migrant	n/a

¹ All correlation coefficients significantly different from zero at $p \leq .01$.



Appendix 8. Reach indicators, data sources and descriptions

REACH PROGRAMS AND SERVICES	DATA SOURCE	INDICATOR
Education		
Head Start*	<p>Oklahoma Head Start programs, 2013-2014.</p> <p>Eligible population source: U.S. Census 2010 and U.S. Census Current Population Estimates, 2013 for total population ages 3 to 4; U.S. Census, American Community Survey, Age by ratio of income to poverty level in past 12 months, 2009-2013 five-year estimates.</p> <p><i>(Note: Eligible population for Head Start and Early Head Start determined by multiplying population data by estimated rate of children under age 6 at less than 100 percent of federal poverty level.)</i></p>	Percentage of 3- and 4-year-olds served in Head Start.
Early Head Start*	<p>Oklahoma Early Head Start programs, 2013-2014.</p> <p>Eligible population source: U.S. Census 2010 and U.S. Census Current Population Estimates, 2013 for total population ages 0 to 2; U.S. Census, American Community Survey, Age by ratio of income to poverty level in past 12 months, 2009-2013 five-year estimates.</p> <p><i>(See above note regarding calculation of eligible population.)</i></p>	Percentage of infants to 2-year-olds served in Early Head Start.
OK Pre-K*	<p>Oklahoma State Department of Education, fall enrollment, October 2013.</p> <p>Eligible population source: U.S. Census 2010 and US Census Current Population Estimates, 2013 for total population age 4.</p>	Percentage of 4-year-olds served in OK universal pre-kindergarten.
OK Pre-K*	<p>Oklahoma State Department of Education, fall enrollment, October 2013.</p> <p>Eligible population source: U.S. Census 2010 and US Census Current Population Estimates, 2013 for total population age 3.</p>	<p>Percentage of 3-year-olds served in a dedicated classroom or in a 4-year-old pre-kindergarten classroom.</p> <p><i>(Note: Of 73 counties with 3-year-olds in pre-kindergarten, 20 had five or fewer children served.)</i></p>
OK Pre-K*	<p>Oklahoma State Department of Education, fall enrollment, October 2013.</p> <p>Eligible population source: U.S. Census 2010 and US Census Current Population Estimates, 2013 for total population ages 3 and 4.</p>	Percentage of 3- and 4-year-olds served in OK universal pre-kindergarten, full-day enrollment.
OK Early Childhood Program (OECF)	Community Action Project (CAP) Tulsa, 2013-2014.	Number of children from infancy to age 3 served by OECF programs.
Educare	Oklahoma Educare programs, 2013-2014	Number of children from infancy to age 5 served by Educare programs.
Child Care		
Licensed care*	Oklahoma Child Care Services, SFY 2014.	Percentage of all licensed child care providers that are centers.

*An asterisk next to a program/service indicates inclusion ratio calculations to measure reach.

Appendix 8. Reach indicators, data sources and descriptions (cont.)

REACH PROGRAMS AND SERVICES	DATA SOURCE	INDICATOR
Licensed care *	Oklahoma Child Care Services, SFY 2014. Eligible population source: U.S. Census, American Community Survey, Children under age 6 with working parents, 2009-2013.	Capacity of all licensed providers as percent of children under age 6 with all parents in household in labor force. (<i>Overall capacity</i>)
Licensed care*	Oklahoma Child Care Services, SFY 2014. Eligible population source: U.S. Census, American Community Survey, Children under age 6 with working parents, 2009-2013.	Capacity of Two and Three Star providers as percent of children under age 6 with all parents in household in labor force. (<i>Quality capacity</i>)
Subsidized care*	Oklahoma Child Care Services, SFY 2014.	Percentage of all licensed child care providers that contract with DHS.
Subsidized care*	Oklahoma Child Care Services, SFY 2014. <i>(Note: Percentages greater than 100 percent due to data collection method. Enrollment is by county of residence; capacity is by county of provider.)</i>	Children with subsidy benefits as percent of DHS contractor capacity. (<i>Subsidy to capacity</i>)
Subsidized care*	Oklahoma Child Care Services, SFY 2014.	Percentage of children with child care subsidy benefits enrolled at Two and Three Star providers. (<i>Quality subsidized enrollment</i>)
Other Support Programs		
Oklahoma Parents as Teachers (OPAT)*	Oklahoma State Department of Education, 2013-2014. Eligible population source: U.S. Census 2010 and US Census Current Population Estimates, 2013 for total population ages 0 to 2; U.S. Census, American Community Survey, Age by ratio of income to poverty level in past 12 months, 2009-2013 five-year estimates. <i>(Note: Eligible population for OPAT determined by multiplying population data by estimated rate of children under age 6 at less than 185 percent of federal poverty level.)</i>	Percentage of children from infancy to age 2 served by OPAT.
Reach Out and Read (ROR)*	Reach Out and Read, Oklahoma Chapter, FY 2014. Eligible population source: U.S. Census 2010 and U.S. Census Current Population Estimates, 2013 for total population ages 0 to 5.	Percentage of children from infancy to age 5 served by ROR.
Children First	Oklahoma State Department of Health, SFY 2014. <i>(Note: For Children First, Start Right and SoonerStart/Early Intervention, children aged just above the cutoff may be served as they age out of the program.)</i>	Number of families of children from infancy up to age 2 served by Children First.
Start Right	Oklahoma State Department of Health, SFY 2014.	Number of families from infancy up to age 5 served by Start Right.
SoonerStart/Early Intervention	Oklahoma State Department of Health, SFY 2014.	Number of children from infancy up to age 3 served by SoonerStart/Early Intervention.

*An asterisk next to a program/service indicates inclusion ratio calculations to measure reach.

Appendix 9. Correlation coefficients¹ between 2014 and 2015 ranks for reach indices and indicators

Index	
Overall Reach	0.88
Education Reach	0.90
Child Care Reach	0.90
Indicator	
Head Start	0.81
Early Head Start	0.97
Head Start and Early Head Start combined	0.76
Pre-K 3-year-olds	0.60
Pre-K 4-year-olds	0.78
Pre-K 3- and 4-year-olds	0.84
Pre-K full-day attendance	0.86
Licensed child care centers	0.96
Overall child care capacity	0.90
Quality child care capacity	0.82
DHS child care subsidy contractors	0.84
Subsidy to capacity (density)	0.54
Quality subsidized enrollment	0.61
Oklahoma Parents as Teachers	0.67
Reach Out and Read	n/a

¹ All correlation coefficients significantly different from zero at $p \leq .01$.



Appendix 10. Counties by reach and risk¹

Counties by Overall Reach and Risk				
	Low Reach	Medium-Low Reach	High-Medium Reach	High Reach
High Risk	Harmon	Adair	Okfuskee	Sequoyah
	Texas	Kay	Delaware	Pushmataha
	Beckham	Blaine	Muskogee	McCurtain
	Tillman		Craig	LeFlore
				Seminole
				Cherokee
				Choctaw
				Okmulgee
High-Medium Risk	Harper	Custer	Johnston	Coal
	Jefferson	Woodward	Marshall	Pittsburg
	Cotton	Kiowa	Caddo	Hughes
			Atoka	Bryan
			Oklahoma	Pontotoc
			Love	
			Carter	
			Ottawa	
Medium-Low Risk	Beaver	Nowata	Tulsa	Greer
	Cimarron	Osage	McIntosh	Pottawatomie
	Washita	Garfield	Comanche	Haskell
		Major	Pawnee	Washington
		Murray	Mayes	Creek
			Garvin	
Low Risk	Ellis	Noble	Payne	Stephens
	Woods	Lincoln		
	Dewey	Kingfisher		
	Alfalfa	Latimer		
	Roger Mills	Grady		
	Logan	Rogers		
	Wagoner	Canadian		
	Grant	McClain		
	Cleveland			

¹ Counties are ordered by risk rank from highest to lowest for each reach group.

Appendix 10. Counties by reach and risk (cont.)

Counties by Education Reach and Risk				
	Low Reach	Medium-Low Reach	High-Medium Reach	High Reach
High Risk	Texas	Harmon	Muskogee	Adair
	Beckham	Kay		Sequoyah
		Blaine		Pushmataha
		Delaware		Okfuskee
		Craig		McCurtain
		Okmulgee		LeFlore
				Seminole
				Cherokee
				Tillman
				Choctaw
High-Medium Risk	Harper	Custer	Marshall	Johnston
	Oklahoma	Woodward	Caddo	Coal
	Cotton	Ottawa	Hughes	Pittsburg
			Love	Atoka
			Carter	Bryan
			Jefferson	
			Kiowa	
			Jackson	
			Pontotoc	
Medium-Low Risk	Tulsa	Osage	Nowata	Greer
	Garfield	Beaver	Pottawatomie	Pawnee
	Comanche	Major	McIntosh	Haskell
	Washington		Cimarron	Creek
	Washita		Mayes	
			Garvin	
			Murray	
Low Risk	Woods	Noble	Ellis	
	Lincoln	Payne	Kingfisher	
	Grady	Stephens	Alfalfa	
	Dewey	Latimer		
	Logan	Roger Mills		
	Rogers	Grant		
	Wagoner	McClain		
	Canadian			
	Cleveland			

¹ Counties are ordered by risk rank from highest to lowest for each reach group.

Appendix 10. Counties by reach and risk (cont.)

Counties by Child Care Reach and Risk				
	Low Reach	Medium-Low Reach	High-Medium Reach	High Reach
High Risk	Harmon	Kay	Sequoyah	McCurtain
	Adair	Okfuskee	Pushmataha	LeFlore
	Texas	Blaine	Muskogee	Delaware
	Tillman	Beckham	Seminole	Craig
			Cherokee	Choctaw
				Okmulgee
High-Medium Risk	Harper	Custer	Johnston	Pittsburg
	Jefferson	Marshall	Coal	Caddo
	Cotton	Atoka	Carter	Hughes
		Love	Jackson	Bryan
		Woodward		Oklahoma
		Kiowa		Ottawa
				Pontotoc
Medium-Low Risk	Beaver	Nowata	McIntosh	Tulsa
	Pawnee	Osage	Garfield	Greer
	Cimarron	Mayer	Haskell	Pottawatomie
	Washita	Garvin	Creek	Comanche
	Murray		Major	Washington
Low Risk	Ellis	Noble	Payne	Stephens
	Woods	Kingfisher	Lincoln	
	Dewey	Latimer	Rogers	
	Alfalfa	Grady	Canadian	
	Roger Mills	Logan	McClain	
	Wagoner		Cleveland	
	Grant			

¹ Counties are ordered by risk rank from highest to lowest for each reach group.

Appendix 10. Counties by reach and risk (cont.)

Counties by Oklahoma Parents as Teachers (OPAT) ² Reach and Risk				
	Low Reach	Medium-Low Reach	High-Medium Reach	High Reach
High Risk	Kay	Sequoyah	Adair	McCurtain
	LeFlore		Blaine	
	Muskogee		Cherokee	
High-Medium Risk	Oklahoma	Carter	Pittsburg	
			Pontotoc	
Medium-Low Risk	Tulsa	Garfield	Pottawatomie	Osage
	Mayer	Garvin	Creek	Haskell
				Washington
				Murray
Low Risk		Payne		Logan
		Cleveland		

¹ Counties are ordered by risk rank from highest to lowest for each reach group. ² Only counties served by OPAT programs are listed.



Appendix 10. Counties by reach and risk (cont.)

Counties by Reach Out and Read (ROR) Reach and Risk ²				
	Low Reach	Medium-Low Reach	High-Medium Reach	High Reach
High Risk	Tillman	Sequoyah	Adair	McCurtain
			LeFlore	Cherokee
			Muskogee	Okmulgee
			Choctaw	
High-Medium Risk	Custer	Ottawa	Oklahoma	Atoka
	Caddo			
Medium-Low Risk		Osage	Tulsa	Pawnee
		Garfield		
		Comanche		
		Mayes		
Low Risk	Wagoner			
	Cleveland			

¹ Counties are ordered by risk rank from highest to lowest for each reach group. ² Only counties served by ROR programs are listed.



Appendix 11. Reach indices scores, ranks¹ and changes² from 2014 by risk group and county
 Color coding for data tables in Appendices 11 through 14: Reach: dark orange = Low Reach; light orange = Medium-Low Reach; light blue = High-Medium Reach; and dark blue = High Reach
 Risk (*left foremost column*): dark orange = High Risk; light orange = High-Medium Risk; light blue = Medium-Low Risk; and dark blue = Low Risk

	County	Overall Reach			Education Reach			Child Care Reach			
		R	C	score	R	C	score	R	C	score	
HIGH RISK (ranks 1-19)	Harmon	68	+1	-0.557	41	-11	-0.032	71	+1	-1.028	
	Adair	41	+20	0.031	6	+2	0.832	70	+3	-0.865	
	Texas	74	+2	-0.775	74	+1	-1.068	67	+1	-0.637	
	Sequoyah	9	+3	0.503	4	+6	0.960	36	+3	0.183	
	Kay	52	+2	-0.142	56	+4	-0.191	49	-1	-0.078	
	Pushmataha	3	+8	0.758	1	+1	1.767	27	+14	0.320	
	Okfuskee	36	-2	0.047	19	+24	0.312	47	-17	-0.007	
	McCurtain	4	+9	0.739	12	+19	0.419	15	+8	0.644	
	Blaine	46	-10	-0.058	45	-26	-0.103	53	-4	-0.166	
	Leflore	13	+13	0.465	18	+15	0.346	19	+16	0.476	
	Delaware	31	+8	0.136	43	+15	-0.050	17	+4	0.487	
	Muskogee	20	-6	0.308	32	-23	0.136	23	+4	0.385	
	Beckham	61	-4	-0.322	69	-5	-0.707	43	-7	0.043	
	Craig	21	-6	0.283	51	+3	-0.155	4	-3	0.894	
	Seminole	16	0	0.404	3	+1	1.069	37	+7	0.136	
	Cherokee	2	+17	0.833	15	+5	0.412	38	-7	0.123	
	Tillman	70	-12	-0.676	14	+4	0.413	75	-9	-1.702	
	Choctaw	5	-1	0.678	5	+	0.868	7	+6	0.772	
	HIGH-MEDIUM RISK (ranks 20-39)	Okmulgee	12	+15	0.473	40	+10	-0.020	5	+10	0.839
		Johnston	22	+1	0.233	11	+14	0.429	28	-6	0.298
Custer		57	-1	-0.231	55	-3	-0.184	56	-3	-0.196	
Harper		69	+1	-0.654	73	-2	-1.051	61	-11	-0.389	
Coal		18	-15	0.349	7	-1	0.679	25	-16	0.340	
Pittsburg		10	0	0.491	17	+11	0.348	16	+4	0.632	
Marshall		38	-5	0.043	24	-7	0.269	44	-1	0.022	
Caddo		26	-25	0.223	30	-23	0.172	18	-7	0.485	
Atoka		29	+18	0.171	13	+13	0.418	52	+5	-0.163	
Hughes		8	+9	0.504	28	+14	0.197	1	+5	1.080	
Bryan		15	-9	0.425	16	+	0.379	9	-7	0.755	
Oklahoma		34	+10	0.077	72	+1	-0.989	8	+2	0.760	
Love		37	+3	0.045	27	-4	0.199	40	+6	0.082	
Carter		24	+5	0.230	29	-2	0.175	29	+11	0.283	
Woodward		49	-29	-0.102	49	-12	-0.146	41	-13	0.053	
Jefferson		72	-6	-0.711	38	+6	0.027	73	-4	-1.413	
Kiowa		45	-43	-0.043	22	-7	0.289	55	-50	-0.183	
Ottawa		23	+2	0.231	52	-6	-0.158	13	+1	0.659	
Jackson		25	+6	0.227	20	-8	0.304	22	+20	0.389	
Pontotoc		14	-7	0.434	33	-4	0.115	11	-7	0.726	
Cotton	64	-2	-0.330	60	-15	-0.300	60	+2	-0.314		

¹R = 2015 ranking; higher rank equals higher reach. ²C = Change in rank from 2014; positive values reflect increase in reach; negative values reflect decline in reach.

Appendix 11. Reach indices scores, ranks¹ and changes² from 2014 by risk group and county (cont.)

	County	Overall Reach			Education Reach			Child Care Reach		
		R	C	score	R	C	score	R	C	score
MEDIUM-LOW RISK (ranks 40-58)	Nowata	50	+5	-0.113	39	+16	0.012	50	-3	-0.104
	Tulsa	27	+10	0.221	66	-1	-0.488	12	+4	0.698
	Greer	1	+4	0.992	2	-1	1.654	2	+22	0.922
	Pottawatomie	17	-8	0.379	37	+3	0.067	14	-6	0.655
	McIntosh	30	+5	0.140	26	+23	0.249	31	-6	0.246
	Osage	40	-10	0.031	58	-5	-0.276	51	+4	-0.134
	Garfield	47	+12	-0.062	67	0	-0.563	34	+3	0.201
	Beaver	73	+2	-0.758	57	+4	-0.270	72	+3	-1.266
	Comanche	32	+9	0.124	65	+3	-0.475	10	-3	0.727
	Pawnee	28	+15	0.204	9	+12	0.524	59	-5	-0.300
	Haskell	6	+12	0.517	10	+1	0.493	26	+3	0.325
	Cimarron	66	-13	-0.346	31	-28	0.156	68	+6	-0.728
	Mayer	35	+11	0.065	36	-2	0.068	45	+6	0.013
	Garvin	39	+9	0.035	25	-3	0.257	54	+6	-0.174
	Washington	11	+10	0.477	59	+7	-0.276	6	-3	0.796
	Creek	7	+1	0.507	8	+5	0.668	21	-4	0.429
	Major	44	-20	-0.036	50	-14	-0.152	35	-17	0.200
	Washita	75	-4	-1.003	61	-2	-0.417	74	-7	-1.674
	Murray	42	0	0.011	21	+3	0.303	69	+2	-0.789
	LOW RISK (ranks 59-70)	Ellis	76	-2	-1.186	35	-3	0.069	77	0
Noble		55	-6	-0.204	47	+1	-0.108	57	+4	-0.200
Woods		67	+1	-0.540	68	-6	-0.651	63	0	-0.477
Payne		33	-1	0.121	48	-13	-0.122	24	+10	0.380
Lincoln		51	+1	-0.129	64	-1	-0.446	32	+6	0.244
Stephens		19	+3	0.323	44	+3	-0.068	3	+9	0.908
Kingfisher		48	-10	-0.092	23	-9	0.283	58	-2	-0.283
Latimer		53	+12	-0.171	53	-15	-0.181	48	+17	-0.068
Grady		56	-6	-0.209	62	-11	-0.420	42	+10	0.050
Dewey		77	0	-1.284	71	+3	-0.983	76	0	-1.812
Alfalfa		62	+1	-0.324	34	+7	0.073	66	-2	-0.612
Logan		59	-14	-0.278	76	-4	-1.292	46	-14	0.010
Roger Mills		65	-14	-0.342	46	-7	-0.105	64	-6	-0.502
Rogers		54	+6	-0.198	63	+6	-0.435	39	-6	0.085
Wagoner		71	+2	-0.683	75	+2	-1.077	62	-3	-0.434
Canadian		58	+9	-0.272	70	0	-0.834	30	+15	0.257
Grant		63	+9	-0.326	42	+15	-0.032	65	+5	-0.529
McClain		43	-15	-0.034	54	+2	-0.182	33	-7	0.228
Cleveland		60	+4	-0.298	77	-1	-1.405	20	-1	0.460

¹R = 2015 ranking; higher rank equals higher reach. ²C = Change in rank from 2014; positive values reflect increase in reach; negative values reflect decline in reach.

Appendix 12. Program reach: Early childhood education (R denotes rank)
 See color coding in Appendix 11. Some counties may have different rankings but the same percent due to rounding.

	Head Start (HS)		Early Head Start (EHS)		HS/EHS Combined		Pre-K: 3-year-old		Pre-K: 4-year-old		Pre-K: 3 & 4 Combined		Pre-K: Full day			
	Rank range ¹		1 - 54		1 - 42		1 - 77		1 - 74		1 - 61		1 - 77		1 - 51	
	%	R	%	R	%	R	%	R	%	R	%	R	%	R	%	R
Oklahoma	55.1		6.1		26.1		3.5		76.0		39.4		77.9			
Group	75.3		8.2		36.8		8.4		90.9		49.5		92.8			
Harmon	42.1	40	14.4	12	27.8	52	1.6	65	90.0	26	40.0	64	97.8	13		
Adair	100.0	1	4.4	37	46.2	21	17.8	5	99.3	4	57.2	7	100.0	1		
Texas	36.8	42	--	42	14.4	69	2.8	41	79.0	47	41.7	58	26.6	49		
Sequoyah	97.1	4	--	42	39.9	30	26.8	2	96.7	9	62.2	2	100.0	1		
Kay	29.3	46	8.0	27	16.4	68	3.8	34	90.3	23	45.5	45	94.9	19		
Pushmataha	96.6	5	20.2	7	51.5	11	40.8	1	100.0	1	70.1	1	100.0	1		
Okfuskee	100.0	1	--	42	44.3	23	2.4	51	100.0	1	61.9	3	100.0	1		
McCurtain	69.8	17	3.6	38	30.8	41	11.4	10	100.0	1	54.9	11	99.1	10		
Blaine	99.1	2	13.6	15	47.3	20	3.1	37	85.9	30	42.6	56	47.3	45		
LeFlore	100.0	1	--	42	47.8	16	7.7	18	92.8	16	50.4	25	98.1	12		
Delaware	59.1	26	9.9	24	30.4	43	2.7	44	82.2	40	44.1	50	99.8	4		
Muskogee	57.5	28	11.1	20	30.0	44	4.1	31	95.7	10	48.1	35	93.4	20		
Beckham	43.5	39	2.1	40	19.1	65	2.7	46	77.6	48	38.2	68	60.9	40		
Craig	20.6	51	--	42	8.4	75	9.2	14	92.4	17	51.1	24	100.0	1		
Seminole	100.0	1	24.0	4	54.4	7	14.7	7	98.9	5	56.2	9	99.4	8		
Cherokee	100.0	1	16.3	11	54.6	6	3.9	32	84.1	34	43.7	51	100.0	1		
Tillman	100.0	1	--	42	53.6	9	5.8	24	100.0	1	53.9	15	100.0	1		
Choctaw	100.0	1	8.4	26	51.1	13	21.1	4	90.2	24	54.7	12	100.0	1		
Okmulgee	58.1	27	12.1	18	31.3	39	2.0	55	83.6	36	44.1	49	99.8	3		
Group	50.0		1.5		21.0		3.3		73.6		38.0		75.1			
Johnston	100.0	1	--	42	47.6	18	11.2	11	90.1	25	46.0	43	100.0	1		
Custer	57.4	29	4.4	36	24.9	58	4.1	30	99.7	3	49.5	30	63.8	35		
Harper	15.9	53	--	42	7.0	76	1.6	63	82.2	41	44.4	48	44.1	47		
Coal	100.0	1	--	42	44.5	22	14.9	6	100.0	1	53.8	16	100.0	1		
Pittsburg	100.0	1	--	42	41.7	28	7.8	16	91.6	20	51.9	21	100.0	1		
Marshall	100.0	1	--	42	47.4	19	11.8	9	100.0	1	52.0	20	63.7	36		
Caddo	100.0	1	11.1	21	52.8	10	1.0	70	83.9	35	42.9	55	93.1	21		
Atoka	71.7	15	--	42	30.5	42	24.3	3	76.3	49	49.5	31	100.0	1		
Hughes	100.0	1	--	42	47.6	17	10.9	12	74.9	51	44.4	47	99.3	9		
Bryan	93.7	7	--	42	36.5	35	7.1	20	98.2	6	52.6	18	100.0	1		
Oklahoma	33.8	43	1.1	41	14.0	70	2.0	56	64.8	55	32.9	72	61.5	38		
Love	97.5	3	--	42	41.8	27	3.2	36	91.8	19	43.1	54	100.0	1		
Carter	100.0	1	--	42	42.3	26	6.4	21	82.2	39	43.5	52	99.8	2		
Woodward	24.2	49	5.2	34	12.8	72	2.8	42	100.0	2	52.1	19	97.0	16		
Jefferson	86.7	9	--	42	37.5	33	10.3	13	87.7	29	51.6	22	72.2	29		
Kiowa	76.8	12	--	42	28.5	49	7.2	19	100.0	1	54.2	13	100.0	1		
Ottawa	71.1	16	--	42	27.8	53	1.8	60	82.7	38	42.1	57	100.0	1		
Jackson	76.8	11	13.3	16	37.7	31	2.6	47	94.4	13	48.2	34	100.0	1		
Pontotoc	73.1	14	--	42	28.9	46	2.3	52	100.0	1	51.4	23	99.5	7		
Cotton	19.8	52	--	42	8.4	74	1.1	68	100.0	1	49.6	29	98.8	11		

¹Tied counties, including those without observations, reduced the number of rankings to less than 77 for some indicators.

Appendix 12. Program reach: Early childhood education (cont.)

See color coding in Appendix 11. Some counties may have different rankings but the same percent due to rounding.

	Rank range ¹	Head Start (HS)		Early Head Start (EHS)		HS/EHS Combined		Pre-K: 3-year-olds		Pre-K: 4-year-olds		Pre-K: 3 & 4 Combined		Pre-K: Full day	
		1 - 54		1 - 42		1 - 77		1 - 74		1 - 61		1 - 77		1 - 51	
		%	R	%	R	%	R	%	R	%	R	%	R	%	R
MEDIUM-LOW RISK (ranks 40 - 58)	Group	51.4		8.8		26.0		2.5		78.2		39.9		87.0	
	Nowata	23.0	50	18.9	8	20.7	63	2.2	53	94.4	12	45.9	44	100.0	1
	Tulsa	40.4	41	6.4	31	20.0	64	2.1	54	73.3	53	37.5	69	88.6	25
	Greer	100.0	1	78.2	1	90.1	1	1.7	61	100.0	1	58.4	5	100.0	1
	Pottawatomie	75.6	13	18.7	10	41.1	29	1.9	59	90.8	22	46.8	41	71.4	31
	McIntosh	100.0	1	--	42	53.9	8	4.6	26	91.1	21	48.0	36	100.0	1
	Osage	96.1	6	13.6	14	48.3	15	1.4	66	47.8	59	23.7	75	97.8	14
	Garfield	28.0	47	--	42	11.4	73	3.9	33	75.9	50	38.8	67	92.5	22
	Beaver	61.6	24	--	42	25.3	57	--	74	100.0	1	49.3	32	72.7	28
	Comanche	52.2	32	10.1	23	26.1	56	2.5	49	79.8	46	39.8	65	61.4	39
	Pawnee	83.2	10	36.2	2	55.1	4	1.0	69	81.7	42	43.5	53	100.0	1
	Haskell	100.0	1	--	42	55.6	2	14.3	8	88.2	28	50.2	27	100.0	1
	Cimarron	100.0	1	--	42	37.6	32	--	74	94.1	14	47.0	39	100.0	1
	Mayes	45.7	37	21.9	6	31.6	37	0.7	73	88.6	27	41.3	59	96.7	17
	Garvin	65.4	20	5.0	35	29.1	45	6.0	23	100.0	1	53.6	17	99.5	6
	Washington	47.9	35	5.5	33	22.7	61	1.9	58	80.2	44	41.1	61	97.7	15
	Creek	88.4	8	26.2	3	51.2	12	3.5	35	96.7	8	49.0	33	99.5	5
	Major	46.5	36	--	42	18.2	66	9.2	15	100.0	1	55.4	10	67.5	32
	Washita	65.1	21	--	42	27.6	54	4.3	28	85.9	31	45.4	46	61.7	37
	Murray	100.0	1	--	42	42.9	25	4.4	27	95.3	11	50.3	26	100.0	1
Group	49.2		9.5		25.9		2.3		67.3		34.4		54.4		
LOW RISK (ranks 59-77)	Ellis	67.2	19	--	42	28.0	51	2.0	57	100.0	1	54.1	14	100.0	1
	Noble	100.0	1	14.1	13	55.3	3	--	74	85.7	32	46.7	42	55.8	44
	Woods	68.7	18	--	42	26.5	55	5.5	25	100.0	1	56.5	8	5.3	51
	Payne	29.9	45	18.8	9	23.2	60	2.7	43	83.4	37	41.1	60	95.3	18
	Lincoln	63.5	22	12.0	19	33.2	36	2.5	48	74.7	52	39.4	66	59.9	42
	Stephens	60.0	25	7.4	30	28.4	50	2.9	40	93.5	15	47.4	37	83.1	26
	Kingfisher	43.6	38	23.1	5	31.3	40	4.3	29	100.0	1	57.8	6	89.9	24
	Latimer	100.0	1	--	42	55.0	5	6.1	22	63.4	56	34.6	71	91.2	23
	Grady	63.3	23	7.8	28	31.3	38	1.2	67	81.1	43	40.4	62	65.6	34
	Dewey	3.7	54	--	42	1.6	77	2.9	39	80.2	45	40.1	63	60.4	41
	Alfalfa	100.0	1	--	42	36.7	34	7.7	17	85.3	33	50.0	28	78.9	27
	Logan	50.8	34	12.9	17	28.7	47	0.7	71	39.1	60	20.6	76	36.0	48
	Roger Mills	50.9	33	--	42	22.3	62	0.0	74	100.0	1	58.6	4	100.0	1
	Rogers	100.0	1	11.1	22	50.2	14	1.6	64	62.2	57	30.8	73	57.4	43
	Wagoner	25.3	48	5.7	32	13.6	71	0.7	72	36.2	61	18.2	77	100.0	1
	Canadian	55.8	31	2.6	39	24.7	59	2.5	50	71.8	54	35.9	70	45.5	46
	Grant	100.0	1	--	42	43.8	24	1.6	62	97.7	7	47.1	38	67.3	33
	McClain	55.9	30	9.5	25	28.7	48	2.7	45	92.2	18	47.0	40	72.0	30
	Cleveland	30.8	44	7.5	29	17.0	67	2.9	38	57.1	58	29.7	74	13.4	50

¹ Tied counties, including those without observations, reduced the number of rankings to less than 77 for some indicators.

Appendix 13. Program reach: Child care (R denotes rank)

See color coding in Appendix 11. Some counties may have different rankings but the same percent due to rounding.

Rank range ^{1,2}	Licensed centers		Overall capacity		Quality (2 & 3 Star) capacity		DHS contractors		Subsidy to capacity		Quality (2 & 3 Star) subsidy enrollment ²	
	1 - 64		1 - 76		1 - 73		1 - 61		1 - 72		1 - 54	
	%	R	%	R	%	R	%	R	%	R	%	R
Oklahoma	41.0		75.6		49.1		66.4		42.9		95.4	
Group	46.2		61.2		36.4		63.2		46.0		94.0	
HIGH RISK (ranks 1 - 19)												
Harmon	16.7	60	57.3	49	22.9	59	50.0	51	34.6	48	0.0	54
Adair	41.2	31	40.6	71	16.5	65	41.2	55	28.0	58	56.8	51
Texas	22.7	57	28.1	75	9.7	70	72.7	9	34.8	47	88.5	42
Sequoyah	58.6	12	55.8	52	32.4	41	58.6	39	44.5	26	96.6	21
Kay	24.2	55	57.9	47	32.2	42	68.2	21	42.7	30	89.7	40
Pushmataha	81.8	2	68.4	24	18.5	64	54.6	47	55.0	13	72.2	50
Okfuskee	50.0	20	76.8	12	52.6	14	50.0	51	34.8	47	40.6	52
McCurtain	67.7	6	63.4	33	38.4	30	55.9	45	70.6	3	98.8	9
Blaine	40.0	35	50.5	58	15.7	67	40.0	56	67.0	5	100.0	1
LeFlore	49.1	21	64.1	31	30.0	48	69.1	19	65.2	6	97.0	18
Delaware	61.3	10	61.1	39	47.4	22	74.2	7	34.0	49	100.0	1
Muskogee	40.2	34	68.3	25	51.4	15	70.1	16	41.1	32	93.6	32
Beckham	41.0	32	81.0	8	36.1	32	51.3	50	37.6	41	77.4	48
Craig	46.2	27	90.8	5	82.2	1	76.9	4	23.8	65	100.0	1
Seminole	44.0	28	58.1	46	30.3	47	56.0	44	55.0	12	99.1	7
Cherokee	49.1	22	64.0	32	39.8	27	62.3	30	27.6	59	98.2	11
Tillman	30.0	49	37.7	74	0.0	73	20.0	60	28.6	57	0.0	54
Choctaw	66.7	7	74.0	17	39.1	29	54.2	48	74.9	1	99.3	6
Okmulgee	62.1	9	59.8	42	43.9	24	86.2	1	61.3	8	97.3	16
Group	42.1		79.8		53.6		69.8		48.8		95.2	
HIGH-MEDIUM RISK (ranks 20 - 39)												
Johnston	58.3	13	66.7	27	20.0	63	41.7	54	73.9	2	100.0	1
Custer	27.3	51	63.2	34	31.5	44	61.8	31	26.9	62	95.8	25
Harper	33.3	46	42.1	67	30.7	46	66.7	23	15.9	69	100.0	1
Coal	66.7	7	92.0	3	34.8	34	33.3	57	40.2	33	100.0	1
Pittsburg	40.9	33	82.8	7	48.7	20	72.7	9	49.1	21	95.8	24
Marshall	57.1	15	54.4	54	29.3	51	42.9	53	49.6	19	100.0	1
Caddo	58.3	13	78.6	9	42.6	25	58.3	40	43.5	28	95.9	23
Atoka	33.3	46	40.9	70	16.3	66	58.3	40	63.5	7	98.0	12
Hughes	90.0	1	75.2	16	68.9	2	70.0	17	38.2	37	96.4	22
Bryan	70.0	5	70.1	21	56.6	10	67.5	22	43.9	27	97.1	17
Oklahoma	39.0	39	86.6	6	58.7	7	72.8	8	50.5	17	95.6	26
Love	60.0	11	52.9	56	33.0	39	60.0	35	32.1	53	100.0	1
Carter	54.3	18	56.6	50	32.5	40	65.7	24	58.8	10	80.9	46
Woodward	36.7	42	65.4	29	39.8	26	60.0	35	36.0	44	93.7	31
Jefferson	75.0	3	38.8	72	8.4	72	25.0	59	0.0	72	0.0	54
Kiowa	26.7	53	74.0	18	29.0	53	60.0	35	20.0	66	100.0	1
Ottawa	54.6	17	71.8	20	63.3	3	72.7	9	34.0	50	99.4	5
Jackson	36.7	42	68.2	26	56.9	9	66.7	23	49.1	20	83.7	45
Pontotoc	72.0	4	60.8	41	49.6	18	72.0	11	48.2	24	100.0	1
Cotton	33.3	46	48.7	60	27.0	56	55.6	46	41.5	31	84.1	44

¹ Tied counties, including those without observations, reduced the number of rankings to less than 77 for some indicators. ² Jefferson County had no reported children with child care subsidies.

Appendix 13. Program reach: Child care (cont.)

See color coding in Appendix 11. Some counties may have different rankings but the same percent due to rounding.

	Rank range ^{1,2}	Licensed centers		Overall capacity		Quality (2 & 3 Star) capacity		DHS contractors		Subsidy to capacity		Quality (2 & 3 Star) subsidy enrollment ²	
		1 - 64		1 - 76		1 - 73		1 - 61		1 - 72		1 - 54	
		%	R	%	R	%	R	%	R	%	R	%	R
Group		41.1		80.0		53.2		69.6		39.8		94.7	
Nowata		36.4	43	43.0	66	33.7	36	63.6	28	45.3	25	92.5	35
Tulsa		39.9	36	92.0	4	62.5	5	70.2	15	37.6	40	95.2	27
Greer		57.1	15	78.4	10	62.8	4	57.1	43	68.5	4	100.0	1
Pottawatomie		58.0	14	58.3	44	46.0	23	82.0	3	49.6	18	99.8	3
McIntosh		52.6	19	73.5	19	28.5	55	68.4	20	29.9	56	100.0	1
Osage		29.0	50	65.0	30	33.9	35	65.2	25	26.7	63	90.7	38
Garfield		34.6	45	57.5	48	37.7	31	70.9	13	48.6	22	97.6	15
Beaver		9.1	63	43.8	65	8.8	71	63.6	28	18.5	67	20.0	53
Comanche		46.8	26	76.5	13	54.0	13	76.3	5	51.4	16	93.9	29
Pawnee		26.7	53	46.9	63	29.4	50	60.0	35	39.8	36	91.4	36
Haskell		47.1	25	61.4	38	29.1	52	70.6	14	57.2	11	91.3	37
Cimarron		50.0	20	100.0	1	0.0	73	50.0	51	0.0	72	0.0	54
Mayes		38.2	41	53.0	55	29.0	54	64.7	26	48.3	23	93.1	33
Garvin		25.0	54	51.2	57	32.1	43	61.1	33	51.9	15	80.7	47
Washington		56.7	16	100.0	1	57.8	8	71.7	12	26.9	61	88.0	43
Creek		54.6	17	62.9	35	49.2	19	72.7	9	36.2	43	93.9	30
Major		42.9	30	47.0	62	39.3	28	85.7	2	31.8	54	100.0	1
Washita		36.4	43	41.4	69	0.0	73	27.3	58	13.6	71	0.0	54
Murray		19.1	59	60.9	40	12.1	68	33.3	57	30.9	55	89.5	41
Group		36.1		71.7		44.0		59.6		37.2		97.6	
Ellis		20.0	58	20.4	76	0.0	73	0.0	61	0.0	72	0.0	54
Noble		31.8	47	77.2	11	29.6	49	45.5	52	25.8	64	100.0	1
Woods		12.0	62	62.7	36	26.5	57	52.0	49	40.1	34	76.7	49
Payne		39.3	38	75.7	15	59.2	6	58.9	37	35.5	46	99.9	2
Lincoln		23.1	56	66.0	28	49.9	17	74.4	6	40.0	35	97.7	14
Stephens		65.5	8	69.5	22	54.1	12	72.4	10	59.6	9	99.6	4
Kingfisher		26.9	52	55.2	53	30.8	45	57.7	41	33.6	51	92.6	34
Latimer		38.5	40	49.9	59	22.5	61	69.2	18	43.1	29	95.2	28
Grady		48.9	23	61.5	37	33.7	37	59.6	36	35.9	45	90.6	39
Dewey		0.0	64	44.8	64	0.0	73	55.6	46	0.0	72	0.0	54
Alfalfa		20.0	58	58.3	43	21.1	62	40.0	56	28.6	57	100.0	1
Logan		34.9	44	47.8	61	33.2	38	62.8	29	52.4	14	96.8	20
Roger Mills		33.3	46	55.9	51	24.7	58	50.0	51	14.8	70	100.0	1
Rogers		47.6	24	58.2	45	36.0	33	58.7	38	38.0	39	99.0	8
Wagoner		23.1	56	38.3	73	22.6	60	64.6	27	36.5	42	97.0	19
Canadian		31.3	48	76.1	14	55.8	11	60.8	34	32.4	52	98.5	10
Grant		14.3	61	41.8	68	12.0	69	85.7	2	17.0	68	100.0	1
McClain		43.6	29	69.4	23	51.2	16	61.5	32	27.1	60	100.0	1
Cleveland		39.9	37	93.7	2	48.4	21	57.4	42	38.1	38	97.7	13

¹ Tied counties, including those without observations, reduced the number of rankings to less than 77 for some indicators. ² Cimarron, Dewey and Ellis counties had no reported children with child care subsidies.

Appendix 14. Program reach: Home visitation and other support programs (R denotes rank)
See color coding in Appendix 11. Some counties may have different rankings but the same percent due to rounding.

Rank range ^{1,2}	OK Parents as Teachers (OPAT)		Reach Out and Read (ROR)		Children First	Start Right	Sooner Start	
	%	R	%	R				
Oklahoma	3.4		7.2		1,808	1,545	61,159	
Group	3.4		11.1		280	325	8,745	
HIGH RISK (ranks 1 - 19)	Harmon	--	26	--	23	<50	--	--
	Adair	7.8	13	6.4	10	--	--	332
	Texas	--	26	--	23	--	--	419
	Sequoyah	5.7	15	3.3	17	21	--	519
	Kay	2.4	24	--	23	23	98	879
	Pushmataha	--	26	--	23	6	--	51
	Okfuskee	--	26	--	23	<5	<5	149
	McCurtain	11.9	6	17.7	3	40	51	766
	Blaine	8.3	9	--	23	<50	--	--
	LeFlore	3.8	21	13.2	7	39	--	405
	Delaware	--	26	--	--	<50	--	310
	Muskogee	2.2	25	12.1	8	27	--	2,200
	Beckham	--	26	--	23	--	<50	--
	Craig	--	26	--	23	<50	--	914
	Seminole	--	26	--	23	14	37	410
	Cherokee	8.5	8	59.5	1	30	64	900
	Tillman	--	26	2.2	19	<5	9	--
	Choctaw	--	26	6.1	11	<50	--	<50
	Okmulgee	--	26	17.5	4	20	53	467
Group	2.7		9.7		636	591	19,733	
HIGH-MEDIUM RISK (ranks 20 - 39)	Johnston	--	26	--	23	<5	--	51
	Custer	--	26	--	23	<50	--	849
	Harper	--	26	--	23	--	--	<50
	Coal	--	26	--	23	<50	--	--
	Pittsburg	8.8	7	--	23	30	--	807
	Marshall	--	26	--	23	24	--	33
	Caddo	--	26	0.3	20	<50	--	--
	Atoka	--	26	16.5	5	<50	--	--
	Hughes	--	26	--	23	<5	<5	239
	Bryan	--	26	--	23	72	--	1,092
	Oklahoma	3.0	23	13.9	6	315	515	13,051
	Love	--	26	--	23	8	--	57
	Carter	6.6	14	--	23	38	--	1,401
	Woodward	--	26	--	23	--	--	438
	Jefferson	--	26	--	23	<5	--	<50
	Kiowa	--	26	--	23	<50	<50	--
	Ottawa	--	26	6.1	13	44	--	332
	Jackson	--	26	--	23	21	18	594
	Pontotoc	8.1	10	--	23	15	43	732
Cotton	--	26	--	23	<50	--	--	

¹Number of rankings reflect number of counties served. ² Reach ratios could not be calculated for Children First, Start Right and SoonerStart.

Appendix 14. Program reach: Home visitation and other support programs (cont.)
 See color coding in Appendix 11. Some counties may have different rankings but the same percent due to rounding.

Rank range ¹	OK Parents as Teachers (OPAT)		Reach Out and Read (ROR)		Children First	Start Right	Sooner Start
	1-25		1-22		#families	# caregivers	#children
	%	R	%	R			
Group	4.4		7.6		526	500	20,268
MEDIUM-LOW RISK (ranks 40 - 58)							
Nowata	--	26	--	23	--	<50	--
Tulsa	3.0	22	11.7	9	300	364	11480
Greer	--	26	--	23	<50	<50	--
Pottawatomie	7.9	12	--	23	27	13	1305
McIntosh	--	26	--	23	20	--	185
Osage	14.9	5	4.2	16	<5	5	--
Garfield	4.8	18	6.1	12	44	56	1384
Beaver	--	26	--	23	--	--	<50
Comanche	--	26	4.4	14	40	--	2410
Pawnee	--	26	22.5	2	--	--	246
Haskell	16.0	4	--	23	--	--	132
Cimarron	--	26	--	23	--	--	<50
Mayes	4.0	20	4.4	15	<5	--	591
Garvin	5.6	16	--	23	<50	<50	--
Washington	18.5	2	--	23	19	31	1295
Creek	7.9	11	--	23	41	--	1128
Major	--	26	--	23	<5	<5	64
Washita	--	26	--	23	--	--	--
Murray	21.3	1	--	23	<50	--	--
Group	2.7		0.7		366	129	12,413
LOW RISK (ranks 59-77)							
Ellis	--	26	--	23	--	--	<50
Noble	--	26	--	23	<5	--	183
Woods	--	26	--	23	<5	47	154
Payne	4.1	19	--	23	37	--	1661
Lincoln	--	26	--	23	17	--	494
Stephens	--	26	--	23	<50	--	--
Kingfisher	--	26	--	23	21	--	233
Latimer	--	26	--	23	<50	--	--
Grady	--	26	--	23	<50	<5	1111
Dewey	--	26	--	23	--	--	<50
Alfalfa	--	26	--	23	--	<50	--
Logan	18.5	3	--	23	52	--	763
Roger Mills	--	26	--	23	--	--	--
Rogers	--	26	--	23	54	--	1377
Wagoner	--	26	0.1	21	<5	<5	110
Canadian	--	26	--	23	29	--	1811
Grant	--	26	--	23	<5	--	<50
McClain	--	26	--	23	5	22	<5
Cleveland	4.9	17	2.5	18	97	50	4468

¹Number of rankings reflect number of counties served. ² Reach ratios could not be calculated for Children First, Start Right and SoonerStart.

Notes:

Section 1 Measuring school readiness risk and reach

a. Eighteen (18) variables were originally selected for analysis and subjected to factor analysis, which is a dimension-reduction technique used to reduce variables into a smaller set of uncorrelated variables and to identify variables with high correlations in each set. Four resulting components emerged that consisted of 12 of the 18 initial variables. These four components, and the six individual variables that did not “load” onto any component, were further subjected to multiple regression analysis using third-grade reading proficiency rates as the dependent variable. Although kindergarten reading assessment scores would be a more valid and reliable measure of school readiness, data for this indicator were not available. Three of the four components and one individual variable (child of migrant parent) were significantly associated with reading proficiency. The individual indicators that comprised the three components and the individual indicator were selected for inclusion in the SRRI.

b. Standard scores (more commonly referred to as z-scores) are derived as follows for each indicator: 1) the average rate from the distribution of rates for each indicator (not state average) is subtracted from the rate for an individual county; and 2) this difference is divided by the standard deviation for the distribution. For example, assume that the rate of Hispanic children under age 5 for one county is .227, the average rate for all 77 counties is .128, and the standard deviation is .095. In this case, the z-score would be calculated as This county’s z-score for rate of Hispanic children is 1.04, indicating that it is 1.04 standard deviations above the mean rate for this indicator.

c. The following 13 indicators were used for the Reach Index: 1) enrollment rates for Head Start, Early Head Start, pre-K 4-year-olds, pre-K 3-year-olds, pre-K full-day, Oklahoma Parents as Teachers, and Reach Out and Read; and 2) numbers of licensed providers, capacity of licensed providers, capacity of Two and Three Star licensed providers, numbers of licensed

providers that contract with DHS to provide subsidized care, enrollment rates for young children with subsidized care, and enrollment rates for children with subsidized care attending Two and Three Star facilities. Standard scores used in the SRRI were calculated for all counties, including those that did not have a program (i.e. OPAT, Early Head Start, or ROR) to account for the gap in these counties. For the purposes of reporting rank and quartile classifications by county as listed in the Appendices, z-scores calculated for OPAT, Early Head Start, and ROR excluded counties without these programs.

d. The method for calculating reach ratios for these programs was modified to account for increases in populations of young children across time that resulted in many counties with reach ratios above 100%, e.g., reported enrollments exceeded the estimated population of eligible children. While this is still the case for a few counties, using the most recent data available reduces the number of counties with ratios greater than 100% and provides more accurate estimates of children served than relying on a single point in time (e.g., Census 2010 data). Ages in the 2013 Current Population Estimates are reported by groups, starting with 0-4 years and 5-9 years, while individual ages are reported in the 2010 Census. Extrapolation was done by first computing the percentage of total children ages 0-9 comprised of individual ages using 2010 Census data. Next, this percentage was multiplied by the total number of children ages 0-9 from the 2013 Current Population Estimates. For example, if children under 1 year of age comprised 10% of all children ages 0-9 in a county in 2010, and a total of 322 children ages 0-9 were reported for this county in 2013, then the estimated number of children under 1 year in 2013 would be 32. Ages derived from Census data that were used as denominators for certain reach and risk ratios for the 2014 and 2015 reports were highly correlated at $r = .994$ or above. The number of children eligible for Head Start, Early Head Start and Oklahoma Parents as Teachers was estimated by multiplying the extrapolated number of children of individual ages by the estimated percent of children under age 6 at less than 100% and 185% of the Federal Poverty Level as reported in ACS 2009-2013 estimates. This resulted in some counties with percentages of children ages 3 and 4 served by Head Start greater than 100%. Percentages were adjusted down to 100% by modifying the estimated total number of eligible 3- and 4-year-olds residing in affected counties to reflect the number of children for each age reported as enrolled in Head Start programs.

e. A total of six agencies serving 26 counties did not report 2013–2014 data. For three of them, funding was no longer available. The remaining three agencies did not respond to the survey.

Notes:

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a. Significance $p=0.606$.

b. Significance $p<0.05$.

c. Significance $p=0.123$.

d. Significance $p<0.05$.

e. Indicators related to enrollment data for the following programs were included in the education Index calculation: Head Start, Early Head Start, pre-K 3-year-olds, pre-K 4-year-olds, and pre-K full-day attendance.

f. Significance $P<0.05$.

g. Significance $P<0.05$

h. To derive ratios of eligible children served by Head Start, Early Head Start, Pre-Kindergarten, Oklahoma Parents as Teachers, and Reach Out and Read programs, the population of individual ages for each county were extrapolated using two datasets: U.S. Census Current Population Estimates, County Characteristics: Vintage 2013; and US Census 2010. In comparison, the 2014 report used individual age data from the US Census 2010 to derive counts of eligible children. The method for calculating reach ratios for these programs was modified to account for increases in populations of young children across time that resulted in many counties with reach ratios above 100%, e.g., reported enrollments exceeded the estimated population of eligible children. While this is still the case for some counties, using the most recent data available reduces the number of counties with

ratios greater than 100% and provides more accurate estimates of children served than relying on a single point in time (e.g., Census 2010 data).

Ages in the 2013 Current Population Estimates are reported by groups, starting with 0–4 years and 5–9 years, while individual ages are reported in the 2010 Census. Extrapolation was done by first computing the percentage of total children ages 0–9 comprised of individual ages using 2010 Census data. Next, this percentage was multiplied by the total number of children ages 0–9 from the 2013 Current Population Estimates. For example, if children under 1 year comprised 10% of all children ages 0–9 in a county in 2010, and a total of 322 children ages 0–9 were reported for this county in 2013, then the estimated number of children under 1 year in 2013 is 32. Ages derived from Census data that were used as denominators for certain reach and risk ratios for the 2014 and 2015 reports were highly correlated at $r = .994$ or above.

The number of children eligible for Head Start, Early Head Start and Oklahoma Parents as Teachers was estimated by multiplying the extrapolated number of children of individual ages by the estimated percent of children under age 6 at less than 100% and 185% of the Federal Poverty Level as reported in ACS 2009–2013 estimates. This resulted in some counties with percentages of children ages 3 and 4 served by Head Start greater than 100%. Percentages were adjusted down to 100% by modifying the estimated total number of eligible 3- and 4-year-olds residing in affected counties to reflect the number of children for each age reported as enrolled in Head Start programs.

i. To derive the percentage of 3- and 4-year-olds served, extrapolated age data (as described in note h above) were used. This resulted in some counties with percentages of 4-year-olds served greater than 100%. Percentages were adjusted down to 100% by modifying the estimated total number of 4-year-olds residing in affected counties to reflect the number of 4 year olds reported as enrolled in Pre-Kindergarten programs.

j. Significance $P<0.05$

k. Significance $P<0.05$.

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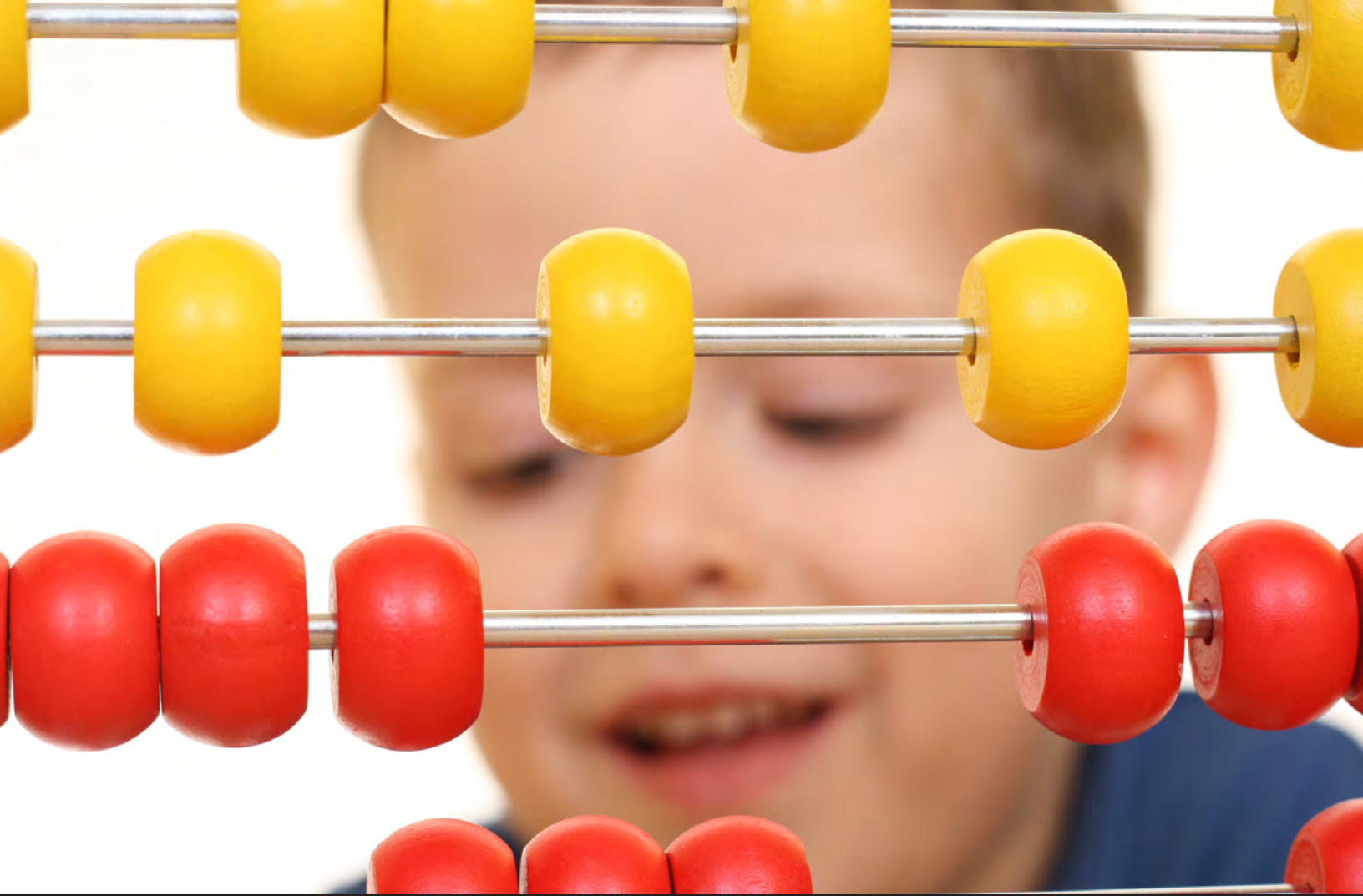
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Section 4 Limitations and conclusions

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