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# EVALUATING THE IMPACT OF HOME VISITING ON THE DEVELOPMENTAL PROGRESS OF OUR MOST VULNERABLE CHILDREN

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# OBJECTIVE

- Need for Early Identification of Developmental Disabilities and Behavioral Difficulties
- Explain Possible System Role for Home Visiting Programs
- Describe Home Visiting Infrastructure in Oklahoma
- Review basics of study design
- Evaluate rate differences among HV clients and non-HV comparisons
- Conclusions
- Future work in this area

# INTRODUCTION

- Developmental and Behavioral Difficulties (DBDs) are costly
  - Estimated \$250 billion per year
- DBDs predominantly persist among two groups of vulnerable children
  - Those susceptible to child abuse and neglect due to insufficient care or nurturance
  - Those, who despite adequate care, suffer developmental and/or behavioral delays or disorders from a very early age
  - ~13% of 9-24 month olds have a developmental concern that qualifies for EI
- When unnoticed and untreated, the price of DBDs and the number of ensuing negative impacts increases

# THE PROMISE OF HOME VISITING

- Early interventions for children with DBDs have proven effective at remediation and prevention
  - BUT early identification resources/infrastructure are limited.
- This present study examines DBD risk among a sample of highly vulnerable Oklahoma children and attempts to build the case for wise use of resources aimed at targeted therapeutic efforts.

# OKLAHOMA NATIONAL LEADER IN HOME VISITING AND EARLY CHILDHOOD SERVICE SYSTEMS

- Multiple nationally recognized home visitation programs
- Statewide Pre-K program
- Home visitation coalition
- Interagency council

# Continuum of Home Visitation Services in Oklahoma

|                      | Plan to increase with MIECHV Funds   |  |   | Plan to fund if/when MIECHV funds are available   |  |
|----------------------|--|--|---|---|--|
|                      | Children First   | OCAP – Start Right   | Oklahoma Parents as Teachers                                      | Early Head Start Home-Based   | Safe Care  |
| Model:               | Nurse-Family Partnership   | Healthy Families America and Parents as Teachers   | Parents as Teachers   | Early head Start Home-based   | Safe Care (OU Health Sciences Center Pilot Project)  |
| Home Visiting Staff: | Nurses   | Training as Required by Model  | Training as Required by Model                                     | Training as Required by Model   | Training as Required by Model  |
| Enrollment Criteria: | <p>The new mother must:</p> <ul style="list-style-type: none"> <li>• be less than 29 weeks <u>pregnant</u>;</li> <li>• be expecting her <u>first</u> child;</li> <li>• meet the same <u>income</u> eligibility criteria as WIC and Medicaid</li> </ul> | <p>The community-based services program:</p> <ul style="list-style-type: none"> <li>• enrolls expectant parents <u>after</u> the 29<sup>th</sup> week of the first pregnancy or</li> <li>• at any time during pregnancy for <u>subsequent</u> births;</li> <li>• enrolls families with a <u>child</u> 1 year or younger;</li> <li>• allows participation up to the child's <u>6<sup>th</sup></u> birthday</li> </ul> | <p>Families with a child from birth up to as old as 36 months</p> | <p>Families who are pregnant or have at least one child who is 2 years-old or younger.</p> <p>Families living in poverty.</p> | <p>Families must:</p> <ul style="list-style-type: none"> <li>• have at least one child 5 years old or younger;</li> <li>• not have a current Child Welfare investigation with DHS;</li> <li>• have risk factors like substance abuse, domestic violence, or mental health issues.</li> </ul> |
| Frequency of Visits: | Every other week   | Weekly, then less frequently as needed   | Monthly or twice a month as needed                                | Weekly  | Weekly   |

# **MIECHV PROGRAM**

## **Maternal, Infant and Early Childhood Home Visiting**

**Family Support and Prevention Service  
Community and Family Health Service  
Oklahoma State Department of Health**

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# Maternal, Infant, Early Childhood Home Visiting Grant (MIECHV)

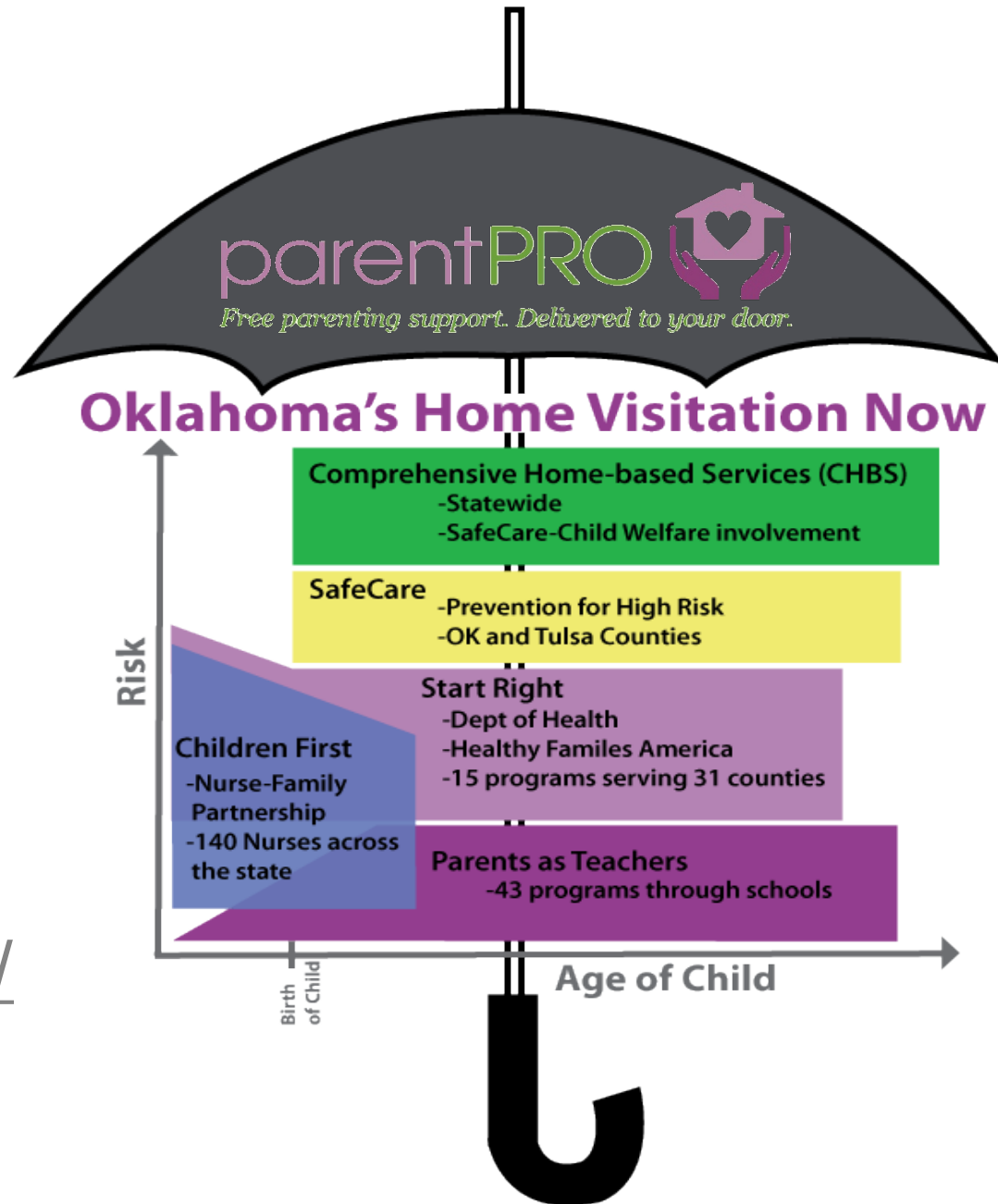
- **Intent:**

Grants will result in a **coordinated system** of early childhood **home visiting** in every state that has the capacity and commitment to provide infrastructure and supports to assure high-quality, evidence-based practice.



Community Connectors  
Community Coalitions  
Marketing Campaigns  
Central Intake  
Toll-free Phone Number  
QR Codes  
Website

<http://parentpro.org/>



# MATERNAL INFANT EARLY CHILDHOOD HOME VISITATION GRANT PROGRAMS

- 2 local EBHV evaluation teams
  - Internal : Oklahoma State Dept. of Health (OSDH)
  - External : OUHSC, Center on Child Abuse and Neglect
- Fed expectations for internal evaluation
  - Report MIECHV benchmarks and constructs
- Fed expectation for external evaluation
  - “a continuous program of research and evaluation activities in order to increase knowledge about the implementation and effectiveness of home visiting programs, using random assignment designs to the maximum extent feasible.”

# MIECHV EVALUATION AIMS

1. Evaluate coordination between home visitation programs and other support services.

## **[SYSTEMS COORDINATION]**

4. Evaluate overall need for child and family services within each community

## **[SERVICE NEED]**

# COMMUNITY SURVEY COMPARISON SAMPLE

## Recruitment

- Caregivers of young children from four Oklahoma counties (2 urban, 2 rural)
- Must meet qualification requirements for Home-Based Parenting Programs
  - Qualification determined by Medicaid and WIC eligibility

## Participation

- 1,490 study participants completed an online REDCap survey with an onsite data collector
- Participants answered screen questions about the following areas of concern:
  - General Developmental and Emotional Delays
    - Ages and Stages Questionnaire® (ASQ3)- a parent-completed, child monitoring system

# CLIENT SAMPLE

- Four HV models managed by the State Dept of Health were considered
  - Nurse-Family Partnership®
  - Health Families America®
  - Parents As Teachers®
  - SafeCare®
- 3329 clients enrolled in 2012-2015 and completed 1+ ASQ

# OUTCOMES AND PROPENSITY MATCHING

- Outcomes
  - ASQ Risk Status up till last administration in 2015
  - Service referrals
    - from HV providers in the client sample
    - from health, EI, or school professional in comparison sample
  - Early Intervention Utilization
    - Self-reported and recorded by HV providers for clients
    - Self-reported and self-recorded for comparison sample
- Propensity Matching of Samples
  - Logistic regression propensity model used to produce design weights for comparison sample
  - Model considered...
    - Caregiver's gender, age, number of children, marital status, income, race/ethnicity, education
    - Child's gender, birth order, prematurity status, age at last ASQ

# RESULTS

|            | El Referral | No Referral |            | El User  | No El      |
|------------|-------------|-------------|------------|----------|------------|
| HV Clients | 209 (6%)    | 3120 (94%)  | HV Clients | 148 (4%) | 3181 (96%) |
| Comparison | 61 (4%)     | 1429 (96%)  | Comparison | 19 (1%)  | 1471 (99%) |

P-values < 0.0001

# RESULTS

- ASQ-3 Cutoff Scores set at 2 SD below mean.
- This cutpoint often represents 12-17% of a normative sample .
- Our comparison sample had percentages well above this range while the client sample fell well below.

|            | ASQ Risk+ | ASQ3 Risk - |
|------------|-----------|-------------|
| HV Clients | 220 (7%)  | 3109 (93%)  |
| Comparison | 454 (30%) | 1036 (64%)  |

P-value < 0.0001



# DISCUSSION

## ■ Conclusions

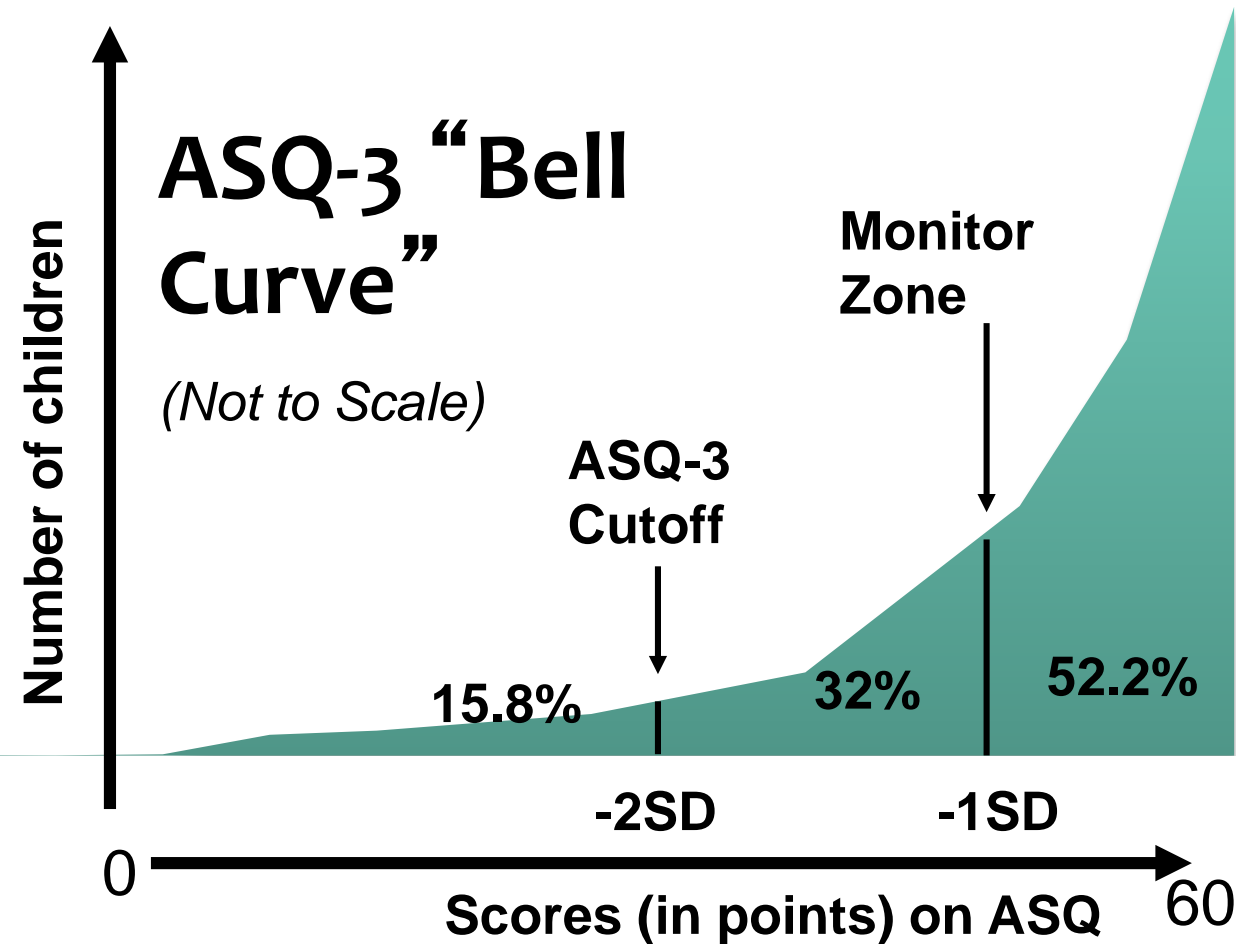
- HV programs may be better at referring and connecting children with DBDs to early intervention services
- Still, plenty of room for improvement
  - Only 7% of families screened “At Risk” in client sample compared to 30% of a comparison sample.
  - Why?!  $p(T^+) = p(T^+ | D^+) * p(D^+) + p(T^+ | D^-) * p(D^-)$ ; Solve for when sensitivity and specificity equal 0.86:  $p(D^+) = 0.10$

## ■ Limitations

- Measurement across client and comparison samples probably not commensurate (instrumentation bias exists)
- Self-report bias in referral completion

# FUTURE WORK

- Early Intervention data sharing agreement in the works
- ASQ as a BRIEF measure of development
  - Insensitive to change argument???
  - PEW performance indicator: Child development gains
- Extensions to Early Care and Education (ECE)



# FUNDING

- 2011-2017: *Maternal, Infant and Early Childhood Home Visiting (MIECHV) Competitive Grant Program*, Independent Evaluator subcontract. Grant funded by the Health Resources and Services Administration (HRSA). D89MC23154.
- 2008-2013: *Evidence-Based Child Maltreatment Prevention for High Risk Families: Expanding to Latino Communities, Enhancing Family Violence Prevention, and Sustaining Prevention Programs*. Cooperative Agreement funded by the Children's Bureau of the Administration of Children, Youth, and Families, USDHHS. 90CA1764.
- 2002-2013: *Prevention of Child Maltreatment in High Risk Urban and Rural Families*. Grant funded by the Oklahoma Department of Human Services.
- 2010-2013: *Prevention of Child Maltreatment in High Risk Latino Families with Young Children*. Grant funded by the Potts Family Foundation.

# OKLAHOMA PREVENTION OF CHILD MALTREATMENT RESEARCH TEAM ACKNOWLEDGEMENTS

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Center on Child Abuse and Neglect, Developmental and Behavioral Pediatrics

**Community Agencies:** NorthCare Center, Latino Community Development Center, Parent Child Center, Eastern Oklahoma Youth Services, Family and Children's Services, and others

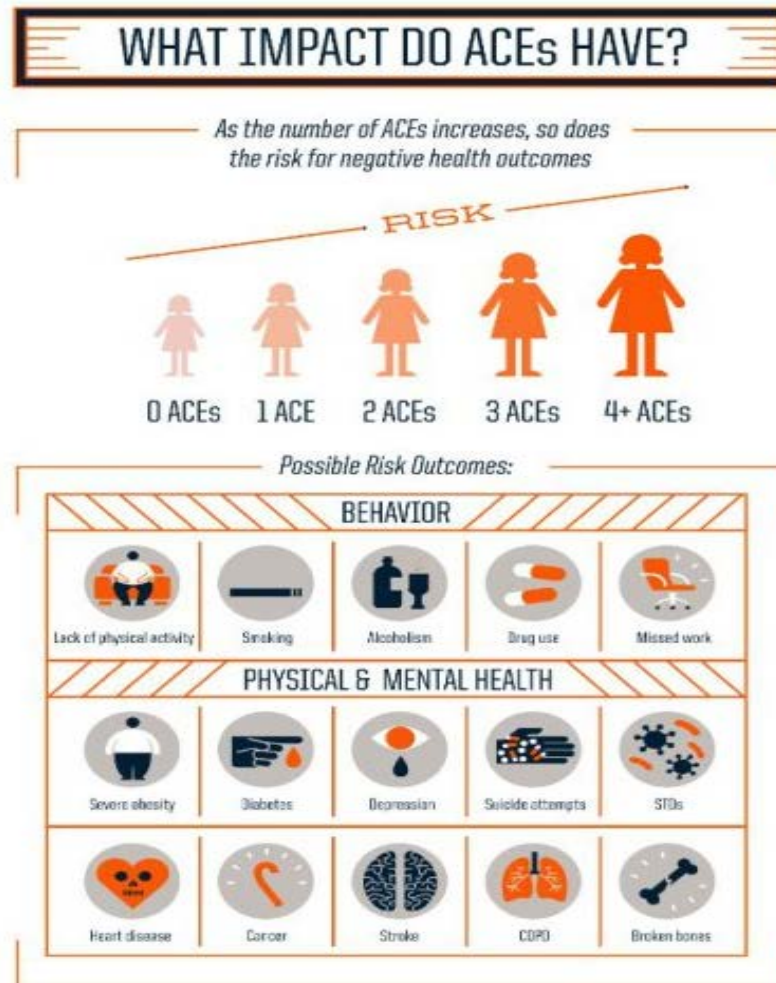
**State Agencies:** Oklahoma Department of Human Services, Department of Health, Department of Mental Health and Substance Abuse, Ok Health Care Authority,

**Others:** Legislative staff, Ok Institute of Child Advocacy,

## REFERENCES

1. Barnett, W. S. (2000). The Economics of Early Intervention. In S. J. Meisels & J. P. Shonkoff (eds.), *Handbook of Early Childhood Intervention*. 2nd Edition (pp. 589-612). Cambridge: Cambridge University Press.
2. Boyle et al. Trends in the Prevalence of Developmental Disabilities in US Children, 1997–2008. *Pediatrics*. 2011
3. Centers for Disease Control and Prevention. *Morbidity and Mortality Weekly Report* 2013;62 (Supple 2); 1-2
4. The National Academies. *Preventing Mental, Emotional, and Behavioral Disorders Among Young People*. Report Brief. 2009.
5. Rosenberg et al. Prevalence of Developmental Delays and Participation in Early Intervention Services for Young Children. *Pediatrics*. 2008

# ADVERSE CHILDHOOD EXPERIENCES



# THE ACE IMPACT IN OKLAHOMA

- In a recent national study, Oklahomans were among those at greatest risk for ACEs (Sacks et al., 2014)
  - At least 10% of Oklahoma children experience 4+ ACEs
  - Oklahoma was the only state that fell in the highest prevalence quartile for eight of the most commonly assessed ACEs.
- Perhaps not coincidentally, Oklahoma ranks among the worst in the nation on health conditions associated with high levels of ACEs
  - These conditions are now targeted by a conservative Oklahoma legislature for major health policy reforms (Cosgrove, 2015)

# ACES HIGHER AMONG IMPOVERISHED FAMILIES

A study of “at-risk” families in Oklahoma  
 (families eligible for some form of government assistance with at least one child age 0-36 months)  
 (Bard, et.al. 2015)

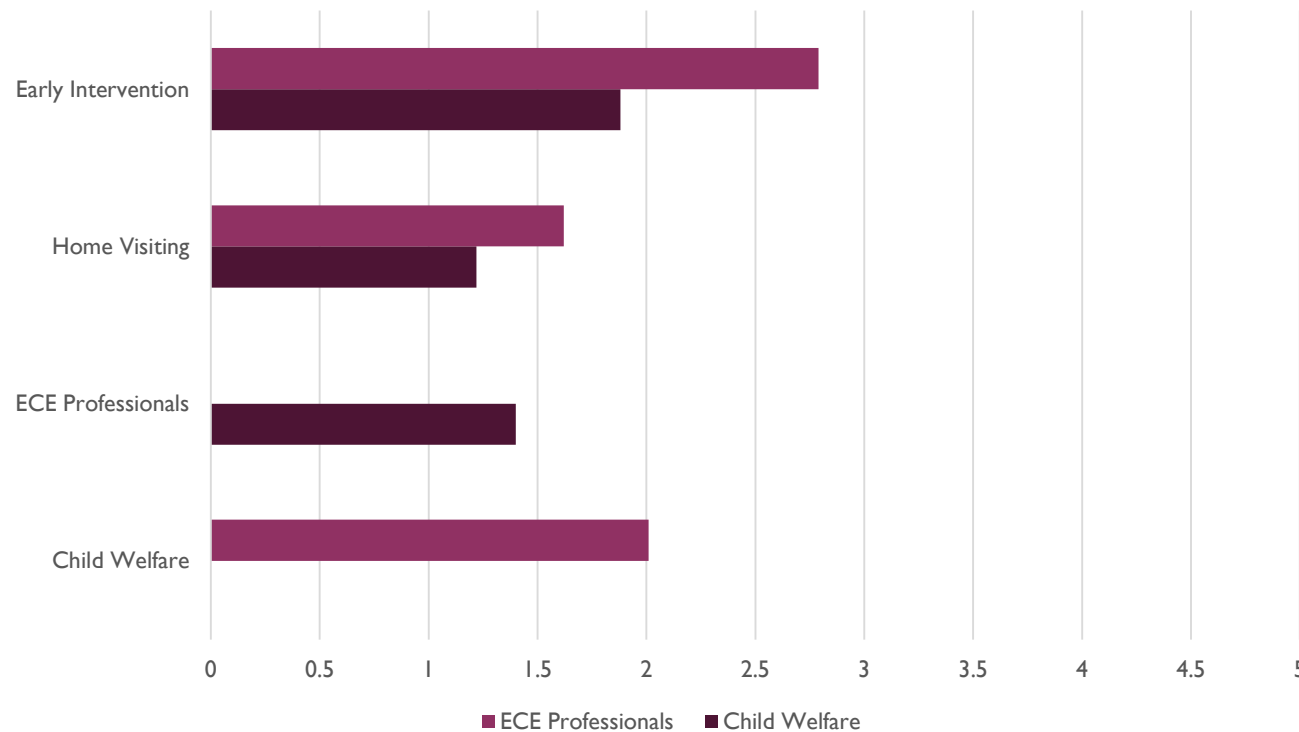
| ACE Score | CDC-Kaiser (N = 17,337) | MIECHV At-Risk Parents Baseline (N=1,229) |
|-----------|-------------------------|---|
| 0         | 36.1%                   | 28.7%                                     |
| 1         | 26.0%                   | 10.0%                                     |
| 2         | 15.9%                   | 15.7%                                     |
| 3         | 9.5%                    | 24.2%                                     |
| 4+        | 12.5%                   | 21.3%                                     |

**22% CDC-K vs 45.5% “at-risk” Okies**  
**Experience 3+ ACEs!!!**



# APPROACH AND DATA COLLECTION: QUANTITATIVE FROM PROFESSIONALS

## LEVELS OF COLLABORATION



ECE and Child Welfare Professionals were given a survey rating their perception of collaboration with stakeholders.

Both groups of respondents reported very low levels of collaboration

Response Scale Anchors:  
0 = No Interaction  
5 = Collaboration