**Developmental Delays in Vulnerable Children**

**Abstract**

**Objective:** Developmental and behavioral difficulties (DBDs) are estimated to cost society nearly 250 billion dollars per year. **Method:** Utilizing a longitudinal REDCap survey given in the hom, this study is collecting data from vulnerable families in four Oklahoma counties (Oklahoma, Tulsa, Muskogee, and Comanche). This in-home survey was given to 1204 vulnerable families. The survey included several screening questions regaring general developmentla and emotional delays, autism spectrum disorders, child sexual behavior problems, and child abuse potential.

**Introduction**

Developmental and behavioral difficulties (DBDs) are estimated to cost society nearly 250 billion dollars per year. These costs include, but are not limited to healthcare, special education services, juvenile just services, and decreased productivity. Children with DBD’s often grown up to have issues with substance abuse and criminal behavior, suicidal tendencies, or other risk-taking behaviors (CDC 2013). It is also common for these children to have more chronic health problems as they age into adulthood. With prevalence of DBDs on the rise, the economic gradient is steepening. DBDs predominantly persist among two groups of vulnerable children: 1) those susceptible to child abuse or neglect due to insufficient care or nurturance; and 2) those, who despite adequate care, suffer developmental and/or behavioral delays or disorders from a very early age. Both groups of children are disproportionately represented among low SES families. When gone unnoticed and untreated, the price of DBDs and the number of ensuing negative impacts increases. Fortunately, early interventions have proven effective at remediating and preventing many DBDs, but current resources for early DBD identification are extremely limited. The present study examines prevalence of DBDs among a sample of highly vulnerable children in Oklahoma, and attempts build the case for wise use of existing and future resources aimed at targeted therapeutic efforts.

**Methods**

**Study Design**

This evaluation is a part of a bigger research study that is evaluating home-visiting program in accordance with the Maternal Infant Early Childhood Home-Visitation (MIECHV) evaluation. Using a mixed-method (quantitative/qualitative) approach, the study is employing a community survey to **vulnerable** families in four Oklahoma counties (Oklahoma, Tulsa, Muskogee, and Comanche). These families are participating in a longitudinal survey that is given in their home using REDCap data capture software on laptop computers.

While this evaluation is addressing five subaims related to the MIECHV evaluation goals. This paper looks specifically at the epidemiology of disadvantaged early childhood populations with regards to developmental delays (psychometric evaluation of screening instruments for Autism), child sexual behavior problems, and child abuse and neglect potential.

All enrolled participants participate in an in-home survey that administers multiple psychometric evaluations, including multiple autism screeners and selected child sexual behavior questions. Participants are followed for the duration of the project with scheduled annual longitudinal interview to follow the initial baseline assessment.

**Selection of Subjects**

In cooperation with the Oklahoma Health Care Authority and the Oklahoma State Department of Health, a random sample of participants from Medicaid and Women Infant and Children (WIC) records were selected for longitudinal follow-up throughout project duration. The sampling procedure involved stratification of participants by criteria germane to each of the three OSDH recognized EBHV programs (the Nurse-Family Partnership model provided by OK’s Children First program, the Healthy Families America model provided by the OSDH Office of Child Abuse Prevention (OCAP) Start Right program, and the Oklahoma Parents As Teachers programed offered by the ODE) . Specifically, within each county, we sample the following Medicaid-enrolled strata: 1) first-time mothers who are either pregnant or have given birth within the last 6 months; 2) women with a first child between 6 and 12 months of age and women who are either expecting or have given birth to a 2nd or subsequent child who is less than 12 months of age; and 3) families with a child between the ages of 12 and 36 months of age.

Recruitment pools are constructed by evaluation team staff based on periodic queries of eligible participants from Medicaid and WIC data. Mailed study advertisements have been sent to all participants selected for recruitment. Respondents can enroll immediately after receiving the study advertisement by actively calling an assigned data collector or by waiting for the advertised recruitment call from data collection staff. The population inferences are intended to describe those on Medicaid or WIC who qualify for at least one of the three identified MIECHV EBHV programs. Although, it is acknowledged that Medicaid and WIC standing do not fully capture all possible EBHV consumers, it is believed that this is reasonable high-risk catchment population that is likely to reveal significant areas of needed improvement. Recruited individuals are excluded from this data collection effort when conditions prevent the primary caregiver from providing valid self-report data (e.g., severe psychosis, severe mental retardation, etc.).

**Results**

The ASQ-3 “at-risk” cut-scores are intended to reflect the bottom 2.5% of the population. Sample percentages in this study were as follows: 22% for Communication, 11% for Gross Motor skills, 20% for Fine Motor Skills, 12% for Problem Solving, and 13% for Personal-Social problems. When screening for ASD, 17% of the eligible participants (n=240) were classified “at risk” on the MCHAT (compared to 7% nationally), 26% on the ASRS (n=180) qualified for the “very elevated risk” category (98th percentile nationally), and 18% on the CSBS were “at risk” (n=658; 90th percentile nationally). The CBCL questions had responses ranging from 0% to 4% with no significant difference from the national norms. The BCAP child abuse scale indicated that 29% fell into the “at risk” category (n=568).

**Conclusion**

The results show that the proportion at-risk for nearly all developmental markers far exceed normative expectations. These findings suggest that targeted screening and subsequent referrals for this population would be highly cost-effective use of existing early identification resources. Two years of intervention prior to kindergarten produces substantial economic, academic, and social benefits and saves society between $30,000 and $100,000 per child (Glascoe 2000)

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Meisels and Shonkoff in Suggested

Reading for additional information).

Glascoe (2000)

Approximately 15% to 18% of children

in the United States have

developmental or behavioral disabilities.

An additional 7% to 10%

experience substantive school failure

and drop out before completing high

school. Overall, one in four children

has serious psychosocial problems.

To ensure that these children are

detected early and their difficulties

addressed, the American Academy

of Pediatrics’ Committee on Children

with Disabilities recommends

that pediatricians use validated

screening tools at each health supervision

visit.

Development is also a “moving

target.” Developmental disabilities

develop just as normal development

does.

**The Value and Availability of**

**Early Intervention**

Early intervention is effective

because development is malleable

and readily affected by the environment.

In large part, early intervention

works by systematically removing

external risk factors. Early

intervention programs place children

in developmentally enriching settings,

train parents in responsiveness

and effectiveness, and provide continuous

positive redirection and

focused building of skills.

Even so, good

developmental/behavioral tools have

sensitivity to psychosocial problems

of 70% to 80% and specificity to

normal development of 70% to 80%.

Although 20% to 30% of children

will be over-referred, false-positive

identifications often are children

whose intellectual, language, or academic

skills are below average.

These children may not qualify for

special education, but they still need

unique care from clinicians (eg, their

parents will benefit from suggestions

for developmental promotion and

children will benefit from Head

Start or other developmental stimulation

programs, summer school,

tutoring, and vigilant clinical monitoring

to detect emerging disabilities)

The most effective tools for use in

primary care are those that rely on

information from parents.

The question has been raised

whether information from parents

can be trusted. What about parents

who are less educated, live in isolated

rural areas, have little parenting

experience, or appear highly

anxious or depressed? Research

shows that almost all parents, if presented

with well-constructed questions,

can give accurate information

about their child, regardless of differences

in socioeconomic status,

geographic location, or parental

well-being

Glascoe

Early Detection of Developmental and Behavioral Problems

Pediatrics in Review vol 21 No 8 August 2000

Francis Page Glascoe

Kevin P. Marks

Detecting children with developmental-behavioral problems: the value of collaborating with parents

Psychological Test and Assessment Modeling, Volume 53, 2011(2) 258-279

Ten Principles to Guide Policy, Practice, and Advocacy

1) Start with the parents, but connect with the whole family—not just the mother and the

young child—and don’t forget the fathers, wherever they are.

2) Work in partnership with community leaders (promoters, mentors, resource moms, and

others).

3) Target important moments and transitions in families’ lives (such as pregnancy, birth,

entrance into early childhood programs, probation/incarceration).

4) Connect with families as early as possible (starting during prenatal care is best).

5) Connect with families across as many settings as possible (such as churches, other faithbased

organizations, informal child care providers, and resource and referral agencies).

6) Use multiple entry points for access to family-focused screening, assessment, prevention,

and more intensive treatment (such as community health clinics, family court, juvenile

justice system, substance abuse programs, and shelters).

7) Make sure that parenting programs are responsive to the special needs of more vulnerable

families.

8) Nurture the staff. Make sure there are supports for child care staff that are depressed,

stressed, and burnt out (such as access to early childhood mental health consultation).

9) Find ways to use existing funding more efficiently, and then seek new funding for

specific purposes.11

10) Train the next generation of professionals with real families as their teachers, especially

families who have overcome burdens. For example, assign medical and other graduate

students for a year to a family with a new baby to understand the context of stressed

families’ daily lives, their celebrations, and hardships.

Jane Knitzer

Jill Lefkowitz

Pathways to early school Success

Issue brief no. 1

Helping the most vulnerable infants, toddlers, and their families

January 2006

Mental Health Surveillance Among Children—United States 2005-2011

Morbidity andMortality Weekly Report

May 17, 2013

Supplement Vol. 62 no.2

CDC 2013

Adverse childhood experiences (ACEs) are potentially traumatic events that can have negative, lasting effects on health and well-being.¹ These experiences range from physical, emotional, or sexual abuse to parental divorce or the incarceration of a parent or guardian.

Economic hardship is the most common adverse childhood experience (ACE) reported

nationally and in almost all states, followed by divorce or separation of a parent or guardian. Only in Iowa, Michigan, and Vermont is divorce or separation more common than economic hardship; in the District of Columbia, having been the victim of or witness to violence has the second-highest prevalence, after economic hardship.

Abuse of alcohol or drugs, exposure to neighborhood violence, and the occurrence of

mental illness are among the most commonly-reported adverse childhood experiences in every state.

Just under half (46 percent) of children in the U.S. have experienced at least one ACE. In

16 states, a slight majority of children have experienced at least one ACE. In Connecticut, Maryland, and New Jersey, 60 percent or more of children have never experienced an ACE.

States vary in the pattern of specific ACEs. Connecticut and New Jersey have some of the

lowest prevalence rates nationally for all ACEs, while Oklahoma has consistently high prevalence.

MEASUREMENT OF ADVERSE CHILDHOOD EXPERIENCES

We measured the prevalence of eight adverse childhood experiences (ACEs), consisting of whether the child ever:

1. Lived with a parent or guardian who got divorced or separated;

2. Lived with a parent or guardian who died;

3. Lived with a parent or guardian who served time in jail or prison;

4. Lived with anyone who was mentally ill or suicidal, or severely depressed for more than a couple of weeks;

5. Lived with anyone who had a problem with alcohol or drugs;

6. Witnessed a parent, guardian, or other adult in the household behaving violently toward another (e.g., slapping, hitting, kicking, punching, or beating each other up);

7. Was ever the victim of violence or witnessed any violence in his or her neighborhood; and

8. Experienced economic hardship “somewhat often” or “very often” (i.e., the family found it hard to cover costs of food and housing).

In Montana and Oklahoma, 17 percent of children have experienced three or more ACEs.

Nationally, a slight majority of children have not experienced any ACEs, but in 16 states more than half of children have experienced at least one ACE.

Prevalence at this threshold is lowest in New Jersey and New York, at around three percent, and highest in Oklahoma, Montana, and West Virginia, at 10 to 12 percent (data not shown in Table).

Brief Adverse Childhood Experiences:

National and State-Level Prevalence

Vaness Sacks

DavidMurphey

Kristen Moore

Childtrends.org

July 2014 publication 2014-28

ACE (2014)

Detecting and Managing Developmental and Behavioral Problems in Infants and Young Children

The potential Role of the DSM-PC

Dennis Drotar

Infants and Young children

Vol. 17, no. 2 pp.114-124

Drotar 2004