Epidemiological Study of Developmental Progress in Vulnerable Oklahoma Families

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**Background:**

Developmental and behavioral difficulties (DBDs) are estimated to cost society nearly 250 billion dollars per year. 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.

Early detection of childhood developmental disorders and child abuse potential offer many benefits to the community.

It is estimated that 16 percent of children have a developmental and/or behavioral disorder [1]. However, only 30 percent are

identified before school entrance [2]. Children who are detected after school entrance miss the opportunity to participate in early interventions services.

To improve the early identification of children with developmental disability, the American Academy of Pediatrics (AAP) recommends that all infants and

young children be screened for developmental delays [3]. They recommend performing developmental surveillance at every wellchild

visit and using

formal, standardized screening tools at select age intervals (9, 18, and 24 or 30 months) and if developmental concerns are raised by the parent or

provider during surveillance. In addition to the use of a general developmental screening tool, an autismspecific

tool should be administered to all children

at the 18 or 24 months.

*Mental disorders among children are described as* *“serious deviations from expected cognitive, social, and emotional development” (US Department of Health and Human Services Health Resources and Services Administration, Maternal and Child Health Bureau. Mental health: A report of the Surgeon General. Rockville, MD: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, and National Institutes of Health, National Institute of Mental Health; 1999*). *These disorders are an important public health issue in the United States because of their prevalence, early onset, and impact on the child, family, and community, with an estimated total annual cost of $247 billion. A total of 13%–20% of children living in the United States experience a mental disorder in a given year, and surveillance during 1994–2011 has shown the prevalence of these conditions to be increasing.*

Research and experience suggest that there are two groups of young children who are most vulnerable to developmental and emotional difficulties related early school failure. The first group, and by far the largest, is composed of infants and toddlers (and preschoolers) whose earliest experiences fail to provide them with even the minimum levels of nurturing parenting care and stimulation. The second group is made up of infants and toddlers (and preschoolers) with health or developmentally related delays and or emotional and behavioral disorders even in the face of nurturing parenting and stimulation. Many of these parents report that from the beginning, they knew there was something wrong with their children, and often, no one would listen. Disproportionately, both groups of young children are found in low-income, often extremely low-income, families.

Most importantly, many parents of vulnerable babies and toddlers are themselves in highly stressed economic and psychological circumstances—facing risks above and beyond poverty and low educational levels that include domestic violence, maternal depression and/or addiction, and homelessness, singly, or in combination. And these parents have themselves often had long histories of trauma and/or the experience of poor parenting—information not often acknowledged in either research or interventions. Although these facts have enormous implications for structuring effective interventions, they are mostly ignored in our current service and policy frameworks, virtually assuring that the consequences will spill over into the next generation

Babies and toddlers who, in the aggregate, face the most severe threats to their healthy development are disproportionately in families with some combination of demographic, family, and environmental risk factors. A few basic facts about these families provides the context for their children’s vulnerability. The current poverty level for a family of three is about $16,000. Of the 11 million infants and toddlers, some 43 percent live in low-income families—in families with incomes at or less than 200 percent of the poverty level, and 21 percent are in families with incomes at or below the poverty level. Nine percent of all infants and toddlers live in dire poverty, in families with incomes that are half or less of the poverty level. About 26 percent of all infants and toddlers in low-income families (1.2 million) live with parents who have less than a high school education. Disproportionately, these children are also living in families of color. (For more information about young children in low-income families, see NCCP’s Basic Facts About Low-Income Children: Birth to Age Three at .)

Early intervention confers enormous benefits to children, families and society by ameliorating existing problems and, in many cases, preventing them altogether. Intervening with young children in need increases the likelihood of school success, high school graduation and employment rates, reduces teen pregnancy and criminality, and generates vast cost-savings to tax-payers (Barnett, 2000; Kube & Palmer, 2009; Lynch, 2010). Early intervention benefits are only conferred if professionals identify (and refer) children, not only those with existing delays and disabilities, but also those who are likely to acquire them due to psychosocial risk factors (e.g., children whose parents have limited education, mental health problems including depression or anxiety, minimal social support, more than 3 children in the home, minimal income, housing or food instability, less than responsive parenting styles, etc.) (Sameroff, Seifer, Barocas, Zax & Greenspan, 1987; Glascoe & Leew, 2010).

It is important to predict who will and will not benefit from a specific intervention method early in the intervention process (Prior, 2004). Treatment is costly, both emotionally in the number of hours/week invested and financially. The CDC (2012) estimates the annual costs to be $40,000-$60,000; whereas, the costs over the lifetime of a child with autism has been estimated to be $1.4 million to $2.3 million, depending on the level of cognitive disability (“New Research Finds”, 2012).

See Heckman (2011) p. 34 on targeting disadvantaged children

**Methods:**

This research is part of an evaluation of Oklahoma home-visiting programs. Participants were recruited based on eligibility for Medicaid and or . Using a longitudinal survey, vulnerable families in four Oklahoma counties answer questions about their youngest child regarding developmental delays using the following screening instruments:

* Modified Checklist for Autism in Toddlers (MCHAT)
* Autism Spectrum Rating Scales (ASRS)
* Communication and Symbolic Behavior Scales (CSBS)
* Brief Child Abuse Potential Inventory (BCAP)
* select sexual behavior questions from the Child Behavior Checklist (CBCL)
* Ages and Stages 3 Questionairre (ASQ-3)

**Results:**

With 1204 initial surveys completed, 17% of the eligible participants (n=240) were classified “at risk” on the MCHAT compared to 7% nationally. The ASRS (n=180) had 26% in the “very elevated risk” category. Scores in this risk level are in the 98th percentile nationally. The CSBS identified 18% “at risk” (n=658) with males having a higher percentage than females (57% vs 43%). Scores in this risk category are in the 10th percentile nationally (s=1.25).

The BCAP child abuse scale indicated that 29% fell into the “at risk” category (n=568).

The CBCL questions had responses ranging from 0% to 4% with no significant difference from the national norms.

The ASQ-3 has 5 subsections for multiple ages. The “at risk” percentages from the survey are as follows:

* Communication: 22%
* Gross Motor Skills: 11%
* Fine Motor Skills: 20%
* Problem Solving: 12%
* Personal-Social: 13%

The ASQ-3 cut-off scores are 2 standard deviations below the national mean with more extreme scores having a potential for developmental disorders and further assessment is recommended. The cut-offs imply that 2.5% of the population will score in the at-risk category.

**Conclusions:**

The results from our survey have shown that for all developmental markers, our participants score in the at-risk categories at a higher rate than the national norms.

For example, if detected soon enough, early intervention programs for children with developmental concerns provides better opportunities for future success. Similarly, prevention services, like home-based parenting programs, can help families better recognize and mitigate potential child maltreatment threats.