



Factors Associated with Mental, Behavioral, and Developmental Disorders Among Children Aged 2–8 Years

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Background

- Mental, behavioral, and developmental disorders (MBDDs) can affect life-long health and well-being.
- Sociodemographic factors and environmental influences in early childhood have been demonstrated to have significant impact on development, mental health, and overall health throughout the lifespan
- Nurturing, enriched environments help children reach their full potential.



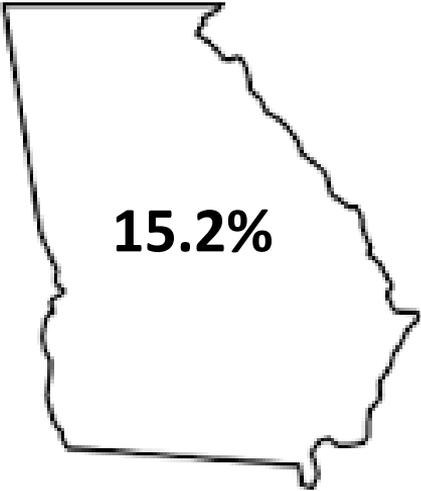
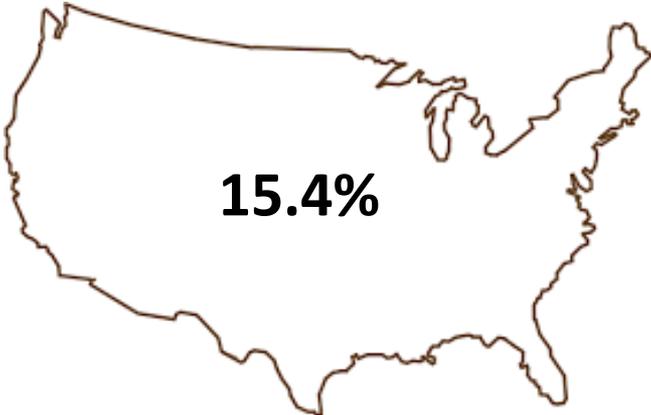
Objective

- To identify specific factors associated with mental, behavioral, and developmental disorders (MBDDs) among US children aged 2-8 years
 - Sociodemographic, family, community, and healthcare factors
 - MBDDs included:
 - ADHD
 - Anxiety
 - Autism spectrum disorder
 - Behavioral or conduct problems
 - Developmental delay
 - Depression
 - Intellectual disability
 - Learning disability
 - Speech or language problems
 - Tourette Syndrome

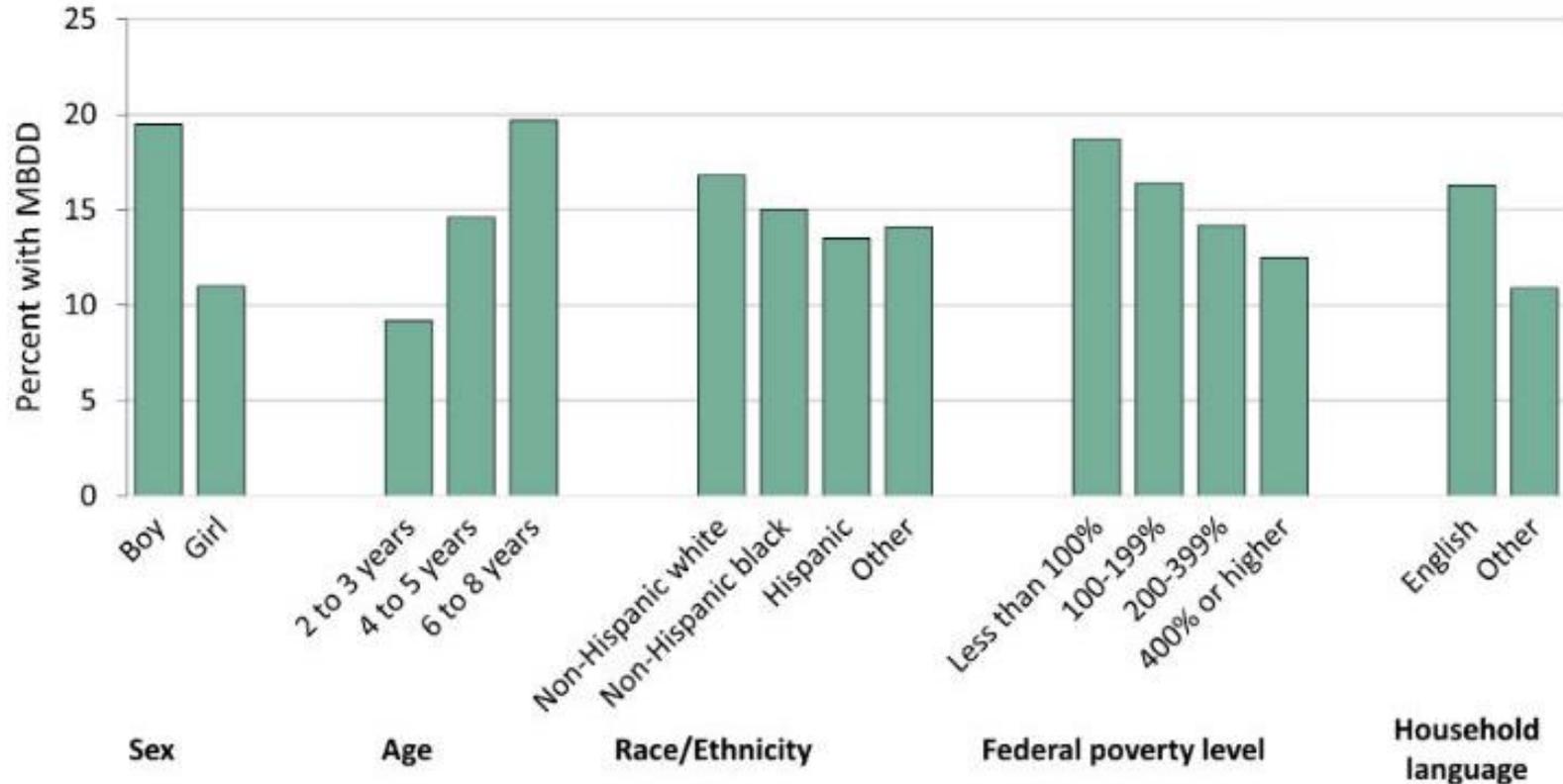
Methods

- National Survey of Children's Health, 2011-2012
- Children aged 2-8 years (n = 34,535)
- Parent report of provider-diagnosed MBDD
- Studied sociodemographic, family, community and healthcare factors associated with increased risk for MBDDs among children

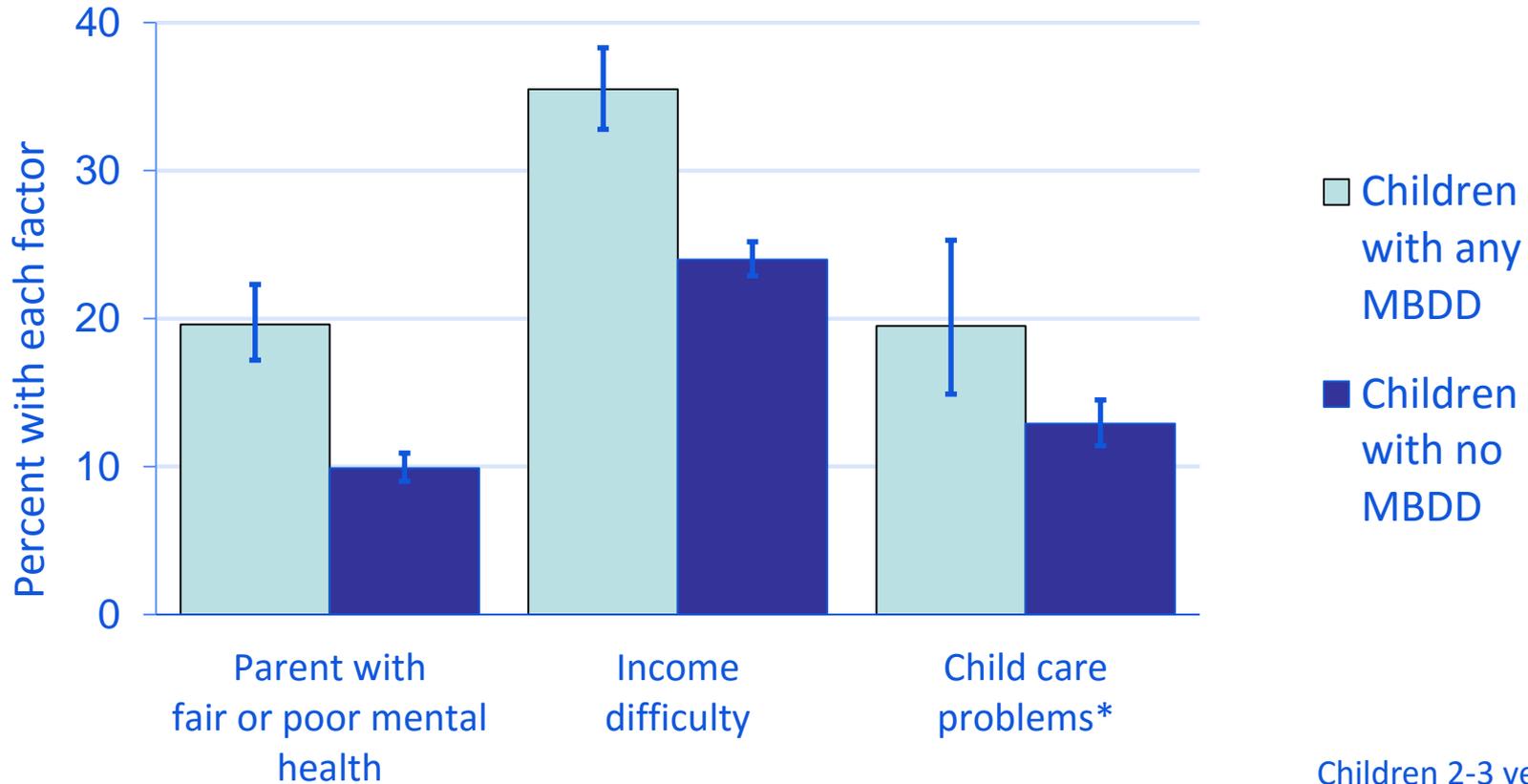
Parent Report of Mental, Behavioral, and Developmental Disorders (MBDD) in Children 2-8 Years Old



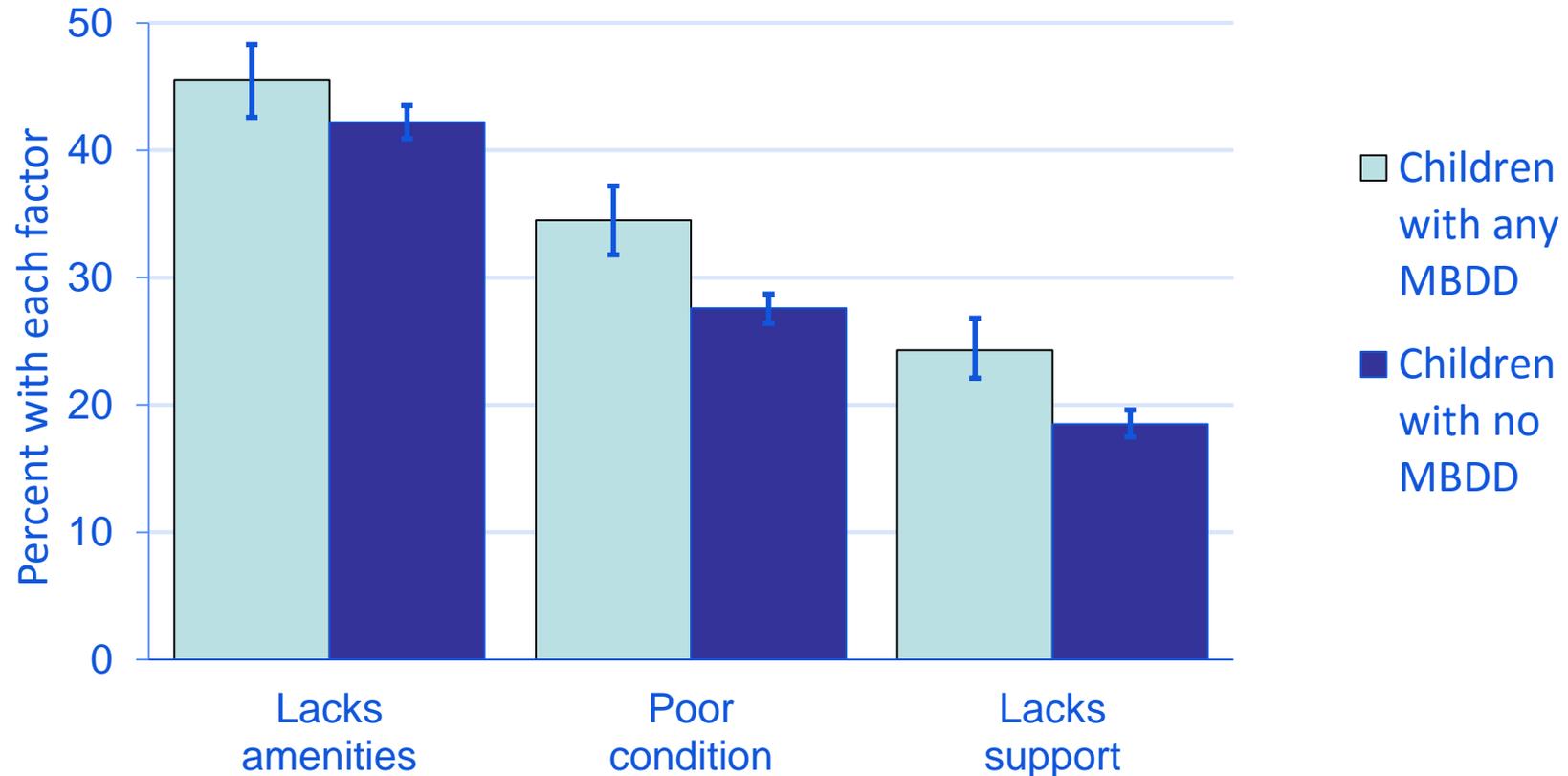
Prevalence of MBDDs by Parent Report among U.S. Children 2-8 years old, by Demographic Characteristics



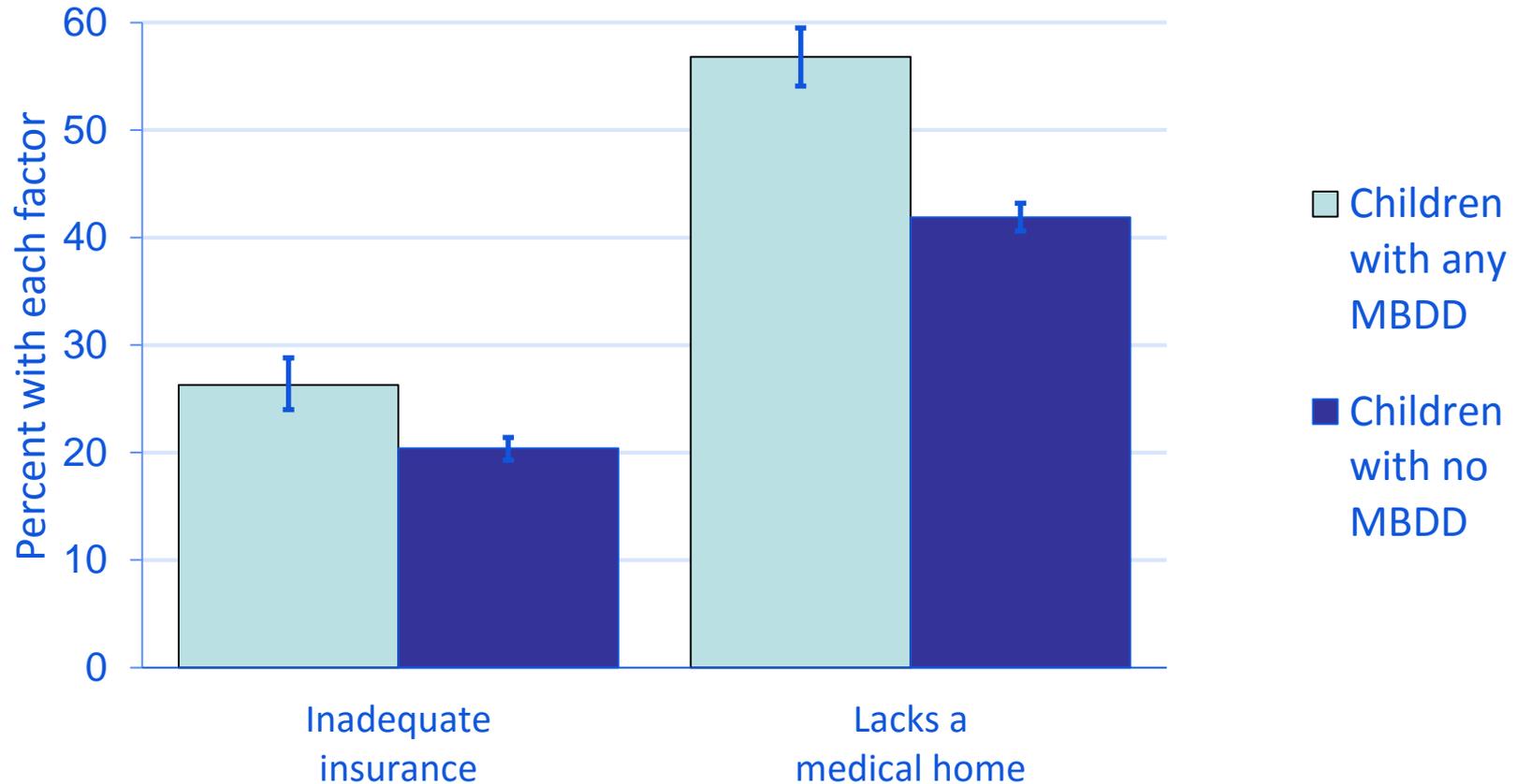
Family Factors Associated with Parent Reported MBDDs among U.S. Children 2-8 years old



Neighborhood Factors Associated with Parent Reported MBDDs among U.S. Children 2-8 years old



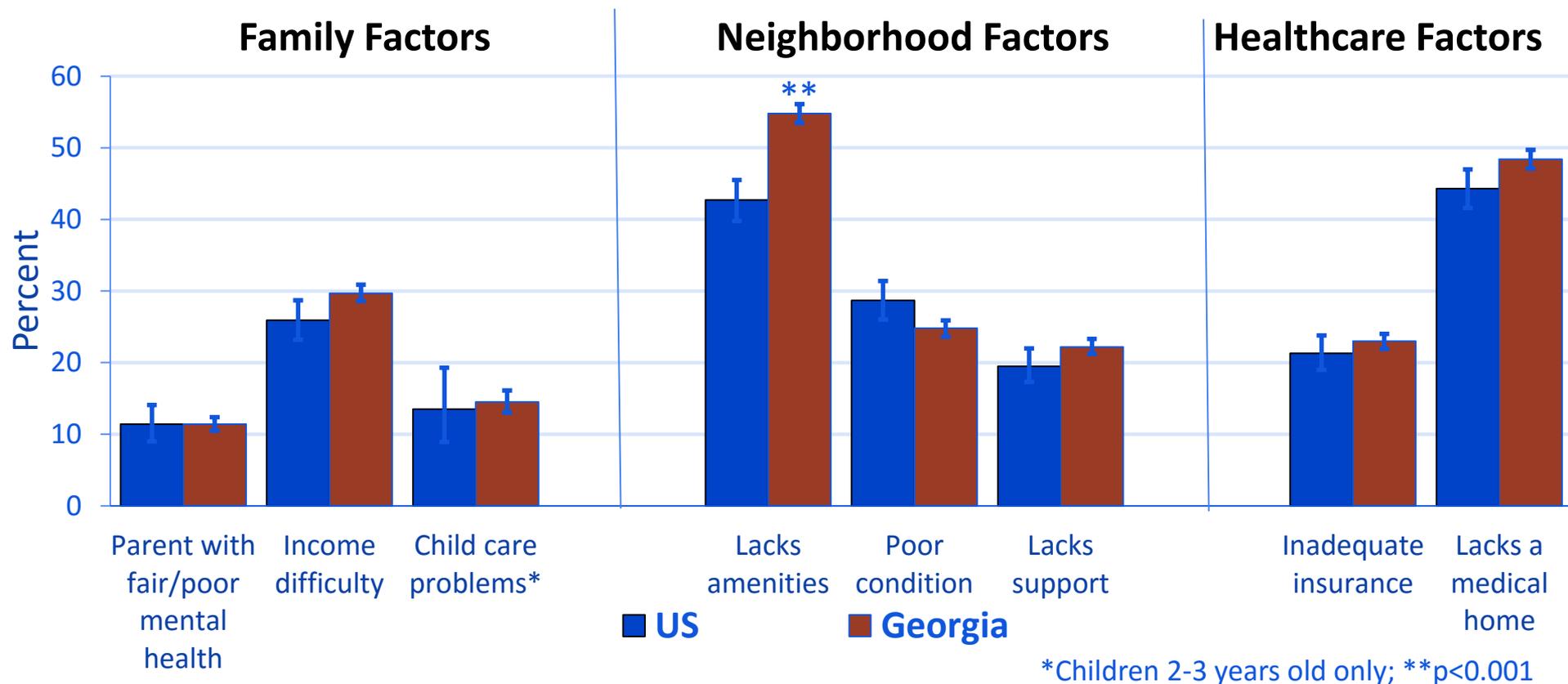
Healthcare Factors Associated with Parent Reported MBDDs among U.S. Children 2-8 years old



Findings

- Family, neighborhood, and community factors were associated with MBDDs in young children in the US
- The factors most strongly associated with MBDDs were:
 - fair or poor parental mental health
 - difficulty getting by on the family's income
 - child care problems (among parents of children aged 2–3 years)
 - lacking a medical home.
- Efforts to prevent the onset of MBDDs, and improve outcomes of children with these disorders, may benefit from collaborative activities that target these factors

Prevalence of Family, Neighborhood, and Healthcare Factors in Georgia Compared to the US



Characterizing by Rural Status

Objective: Describe how the same family, neighborhood, and healthcare factors are associated with MBDDs among children ages 2-8 years in different types of communities



Methods

- National Survey of Children's Health, 2011-2012
- Children aged 2-8 years (n = 34,535)
- Parent report of provider-diagnosed MBDD
- Describe how specific factors were associated with increased risk for MBDDs among children in rural compared to urban communities

Rural Status

- Rurality (small, large, and isolated) defined by Rural Urban Commuting Area (RUCA) codes
 - Census tract–based classification system
 - Daily commuting information



Differences by Rural Status

- Children in all rural areas more often
 - Lived in a neighborhood in poor condition
 - Lived in a neighborhood that lacked amenities

- Children in small rural and large rural areas compared with children in urban areas more often
 - Lived in families with financial difficulties



Strengths of Isolated Rural Communities



- Children in isolated areas less often
 - Lived in an unsafe neighborhood (also small rural)
 - Lived in a neighborhood lacking social support
 - Lacked a medical home
 - Had a parent with fair or poor mental health

Children with MBDDs

- In urban and the majority of rural subtypes more often than children without an MBDD
 - Lacked a medical home
 - Urban, small and isolated rural
 - Had a parent with poor mental health
 - Urban, small/large/isolated rural (all)
 - Lived in families with financial difficulties
 - Urban, small and large rural
 - Lived in a neighborhood lacking physical and social resources
 - Urban, small and large rural



Differences by Rural Status and MBDD



- Higher prevalence of children with at least one MBDD in small rural areas (18.6%) than in urban areas (15.2%)
- Children in rural areas with an MBDD more often than urban children with these same conditions
 - Had a parent with fair or poor mental health
 - Lived in families with financial difficulties
 - Lived in a neighborhood with limited amenities
 - Lived in a neighborhood in poor condition

*After adjusting for race/ethnicity and poverty, the only factor that was no longer associated with rurality was financial difficulties

Study Limitations

- Parent report of MBDD diagnoses not confirmed
- Unable to assess causal associations
- Neighborhood definitions may vary
- Rural urban coding based on 2000/2004 data
- Changes in residence cannot be accounted for
- Independent contributions of rurality and poverty may be difficult to determine
- Nonresponse bias may affect outcomes



Take-Home Messages

- Children with MBDDs and their families face personal, financial, and neighborhood challenges more often than those without these disorders.
- Children in rural areas with MBDDs
 - face certain family and community challenges more often than children in urban areas with the same disorders.
 - may need additional support.
- All children with MBDDs could benefit from better access to mental and behavioral health care, programs that support parents and caregivers, and opportunities to learn, play, and socialize.

**Bitsko RH, Holbrook JR, Robinson LR, et al. Health care, family, and community factors associated with mental, behavioral, and developmental disorders in early childhood—United States, 2011–2012. MMWR Morb Mortal Wkly Rep 2016;65:221–6
<https://www.cdc.gov/mmwr/volumes/65/wr/mm6509a1.htm>**

Robinson LR, Holbrook JR, Bitsko RH, et al. Differences in Health Care, Family, and Community Factors Associated with Mental, Behavioral, and Developmental Disorders Among Children Aged 2–8 Years in Rural and Urban Areas — United States, 2011–2012. MMWR Surveill Summ 2017;66(No. SS-8):1–11. <https://www.cdc.gov/mmwr/volumes/66/ss/ss6608a1.htm>

Questions or Comments?

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