



Housing Instability Impacts Food Security and Well-being in Young Children

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Background

- The Children's Sentinel Nutrition Assessment Program (C-SNAP) conducts original research to inform policy decisions that protect and promote children's health and well-being
- Since 1998, more than 32,000 surveys have been completed on children ages 0-3
- Our multi-site network of pediatricians and public health professionals continuously monitors the impact of public policy changes on the nutrition, health and food security of low-income babies and toddlers in the United States

Study Objective

To explore the impact of moderate and severe housing instability on food insecurity and health of young children



Study Design

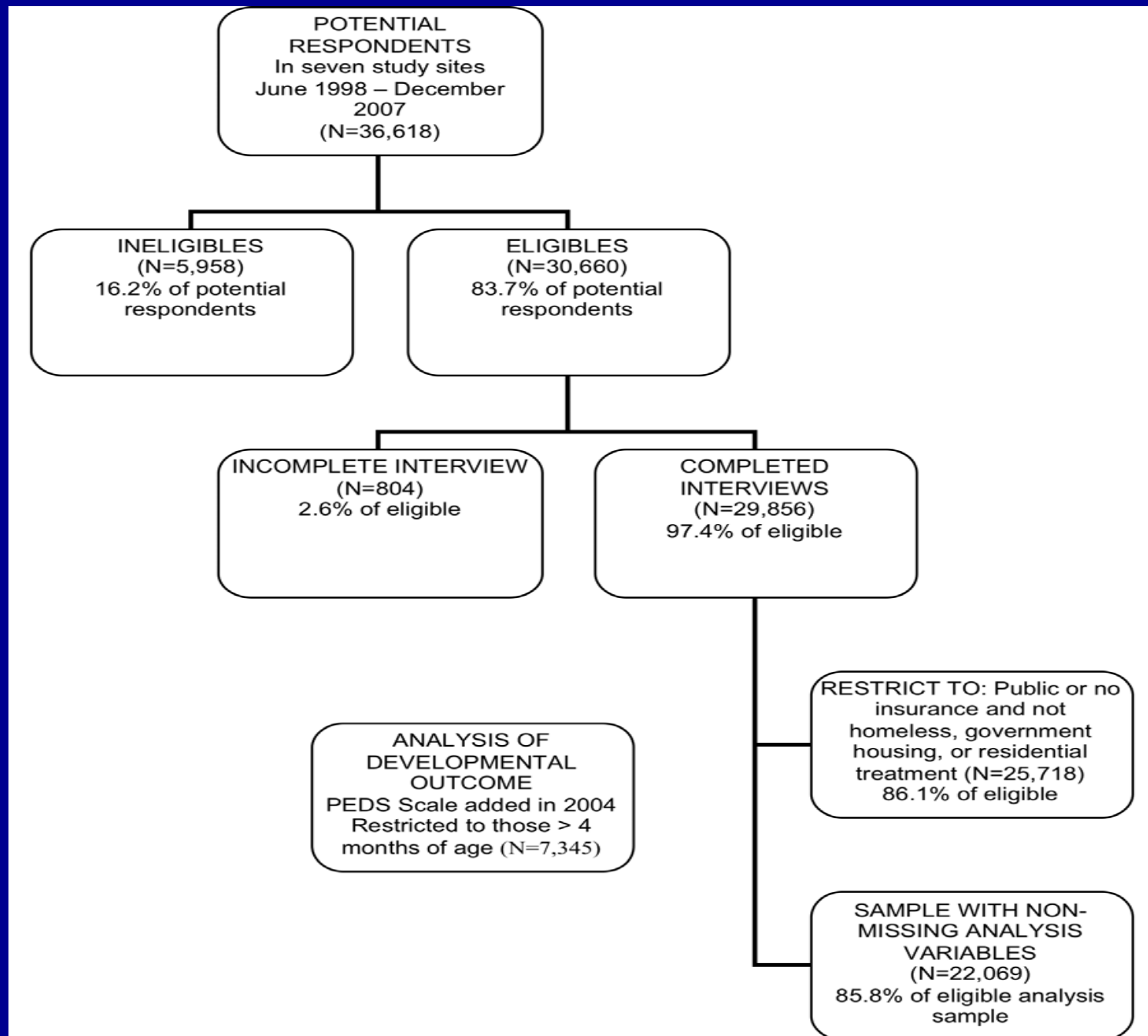
- Repeated cross-sectional sampling of caregivers of children less than three years of age accessing pediatric care at hospital-based clinic and emergency department sites in Baltimore, Boston, Little Rock, Los Angeles, Minneapolis, Philadelphia, Washington DC.



Methods

- Caregivers of children < 3 years were surveyed by trained interviewers in English, Spanish and Somali (Minneapolis only)
- Participants were asked questions on housing, household characteristics, demographics, and children's health
- Food security, and child developmental risk were assessed using the U.S. Food Security Scale (FSS) and the Parents' Evaluation of Developmental Status (PEDS)
- Weight data were collected on children following conventional standardized measurement techniques

Sample Selection



Homelessness

the tip of the iceberg

- Homelessness has long been associated with poor health outcomes including food insecurity in children
- Housing instability is a more subtle measure of housing stress and has been linked to poor health care utilization in both children and adults
- Housing and food insecurity have been shown to have an interactive effect on children's growth

Department of Health and Human Services Definition of Housing Instability

- High housing costs
- Poor housing quality
- Unstable Neighborhoods
- Overcrowding
- Homelessness



<http://aspe.hhs.gov/hsp/isp/ancillary/housing.html>

Multiple Moves Risk

- Depression and mental illness
- Emotional and physical neglect
- Emotional and physical abuse
- School performance
- Emotional and behavioral problems
- Substance abuse
- Sexual promiscuity
- Juvenile delinquency
- Domestic violence

Dong et al Arch Ped Ad Med 2005; 159:1104-1110

Crowding Risk

- Mental health*
- Impaired social relationships*
- Acute lower respiratory infections*
- Child pneumonia*
- Blood pressure*
- Child/parent conflict*
- Ability to handle stress*
- Exposure to infectious disease*
- Sleep and rest*
- Health care access**

*Lubell et al, http://www.nhc.org/pdf/chp_int_litrvw_hsglth0707.pdf

** Ma et al, *J Amb Ped* 2008;8:50-7

Housing Instability

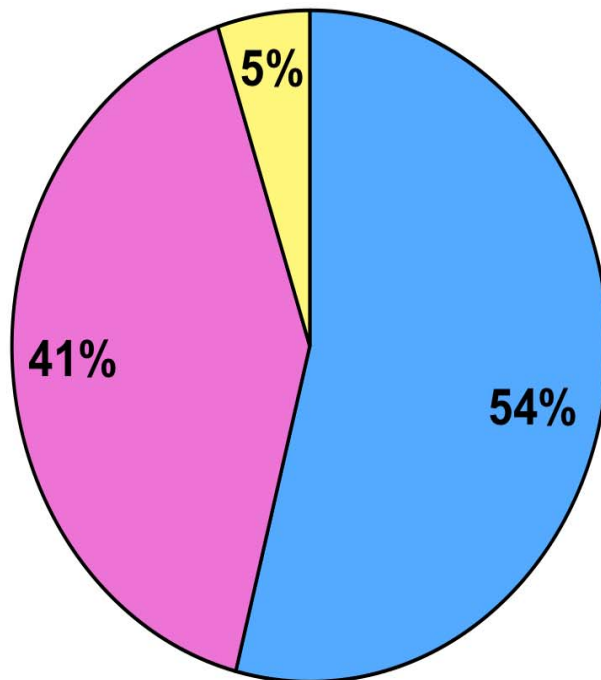
- Frequent Moves: 2 or more moves in last year
- Crowding: >2 people/bedroom
- Doubling Up: Are you temporarily living with other people... because of economic difficulties?

Three-Level Scale

- Stable housing
 - <2 moves in last year
 - no crowding or doubling up
- Moderate housing instability
 - <2 moves in last year
 - Crowded and/or doubled up
- Severe housing instability
 - 2 or more moves in last year
 - Either with/without crowding/doubling up

C-SNAP 1998-2007: Percent of Households with Stable Housing,
Crowding / Doubling Up, and ≥ 2 moves
N = 22,069

Percent of Households By Housing Stability



- Stable Housing
- Moderate Housing Instability
- Severe Housing Instability

Site Characteristics

Site**	Stable Housing n=11,904	Moderate Housing Instability n=9,113	Severe Housing Instability n=1,052
Baltimore (n =2978)	64%	33%	3%
Boston (5784)	62	34	4
Little Rock (4097)	66	27	7
Los Angeles (1526)	35	61	4
Minneapolis (5282)	39	56	5
Philadelphia (1791)	59	36	6
Wash DC (611)	22	76	2

** p<0.001

Caregiver Characteristics

Variable N= 22,069	Stable Housing n=11,904	Moderate Housing Instability n=9,113	Severe Housing Instability n=1,052
Age** (yrs, Mean \pm SD)	26.4 \pm 6.7	25.5 \pm 6.2	25.0 \pm 6.8
Race/ethnicity**			
Asian (n=305)	46%	52%	3%
African Am. (11,857)	61	35	4
Latino (6,642)	37	58	5
Native American (208)	45	46	10
White (3,058)	63	29	8
Birthplace**			
US Born (14,330)	62%	33%	5%
Immigrant (7,739)	40	57	3
Education**			
Some High School (%)	43%	52%	5%
High School	57	38	4
Post High School	65	31	4

** p<0.001

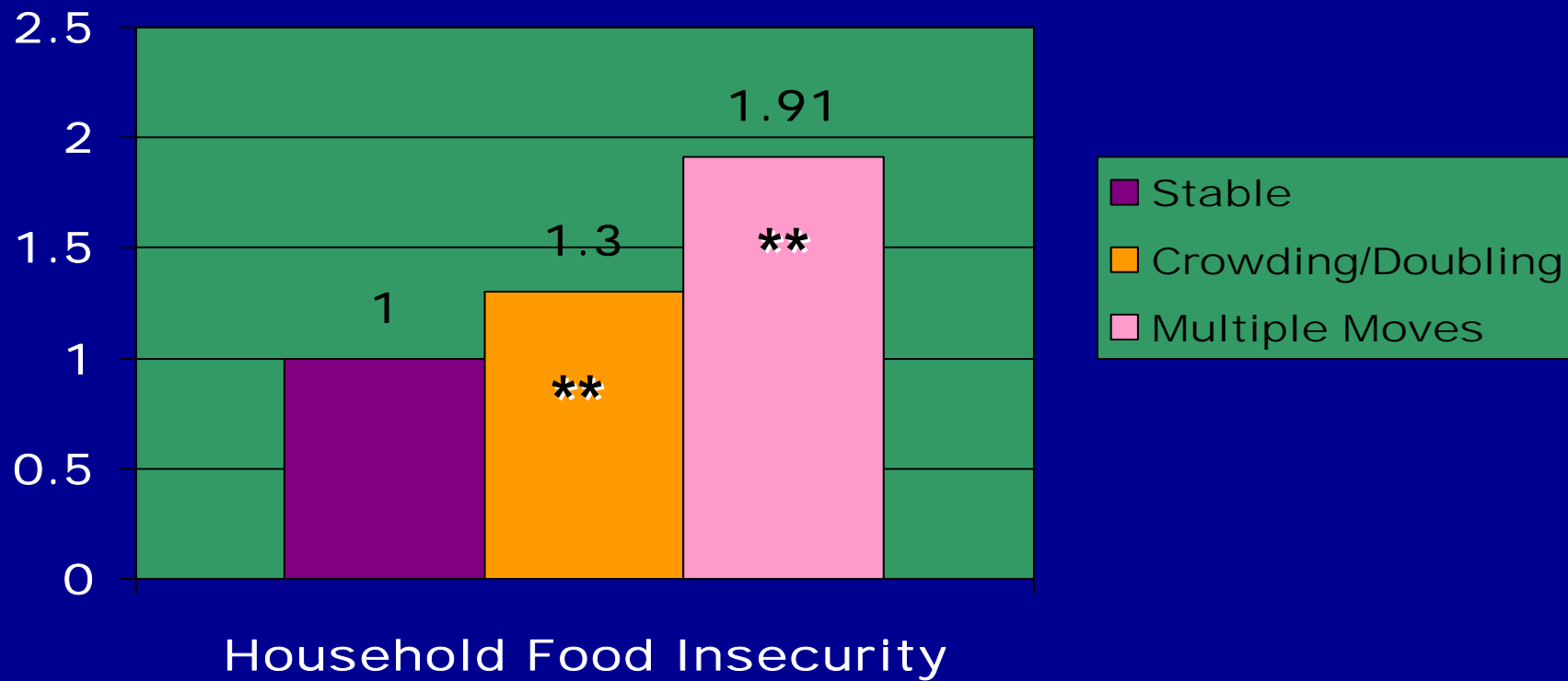
Child Characteristics

Variable	Stable Housing n=11,904	Moderate Housing Instability n=9,113	Severe Housing Instability n=1,052
Child Age (Mean months \pm SD) **	12.8 \pm 9.9	10.6 \pm 9.4	16.3 \pm 8.9
Child Breastfed **	49%	58%	51%
Low Birthweight *	14%	13%	15%
# of children in home (Mean \pm SD)**	2 \pm 1.2	3 \pm 1.6	2 \pm 1.5

* p<0.05

** p<0.001

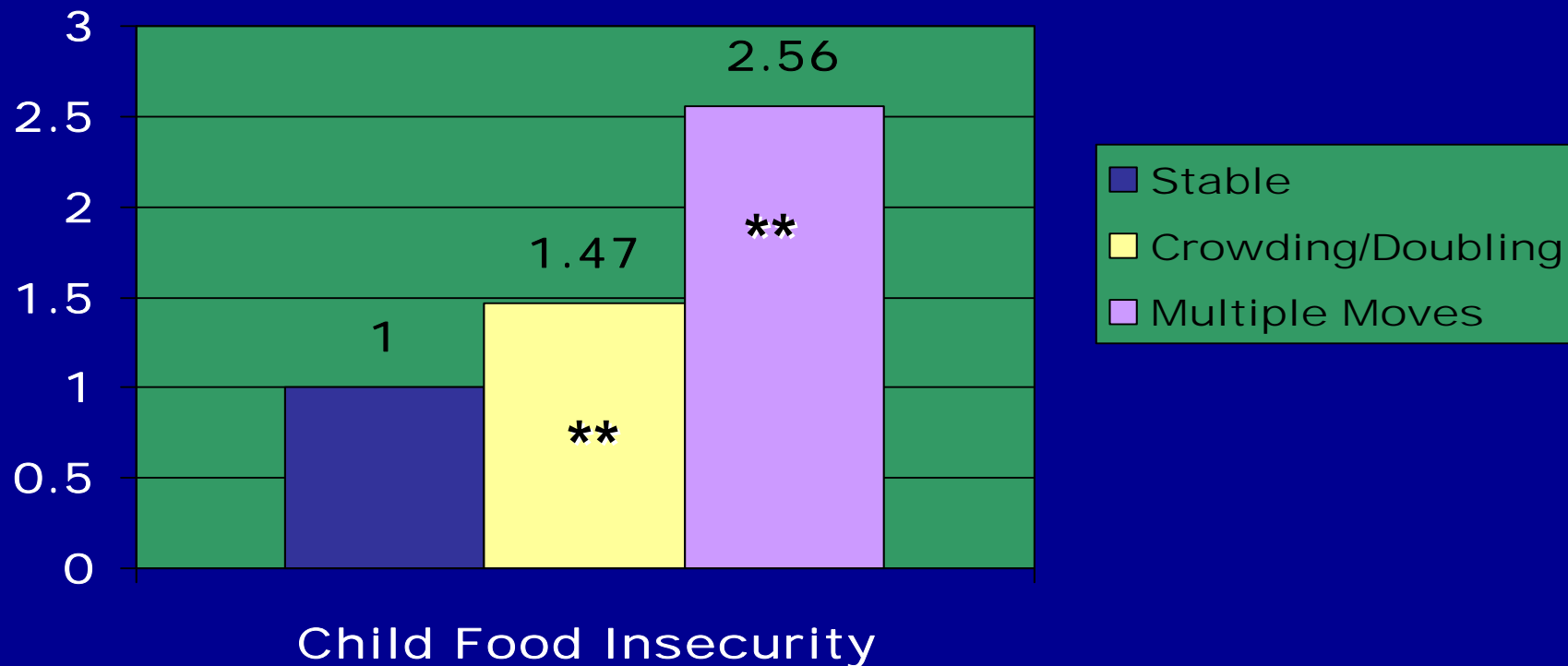
C-SNAP 1998-2007: Adjusted Odds Ratio Household Food Insecurity



**p<0.001 compared with stable housing

Multivariate analyses are adjusted for site, race/ethnicity, United States born mothers vs immigrant, marital status, education, child's age, number of children in the home, household employment, breastfeeding and low birth weight. Stable housing is the referent group

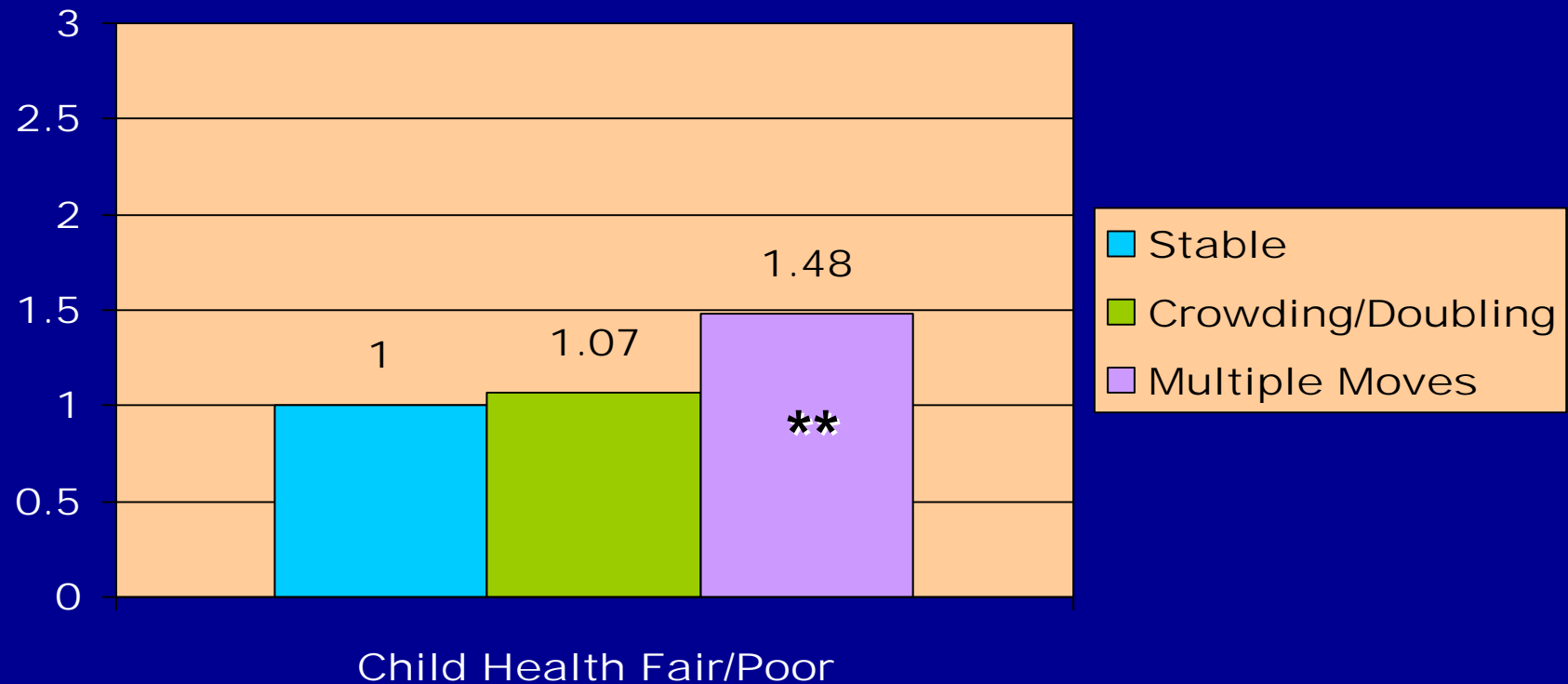
C-SNAP 1998-2007: Adjusted Odds Ratio Child Food Insecurity



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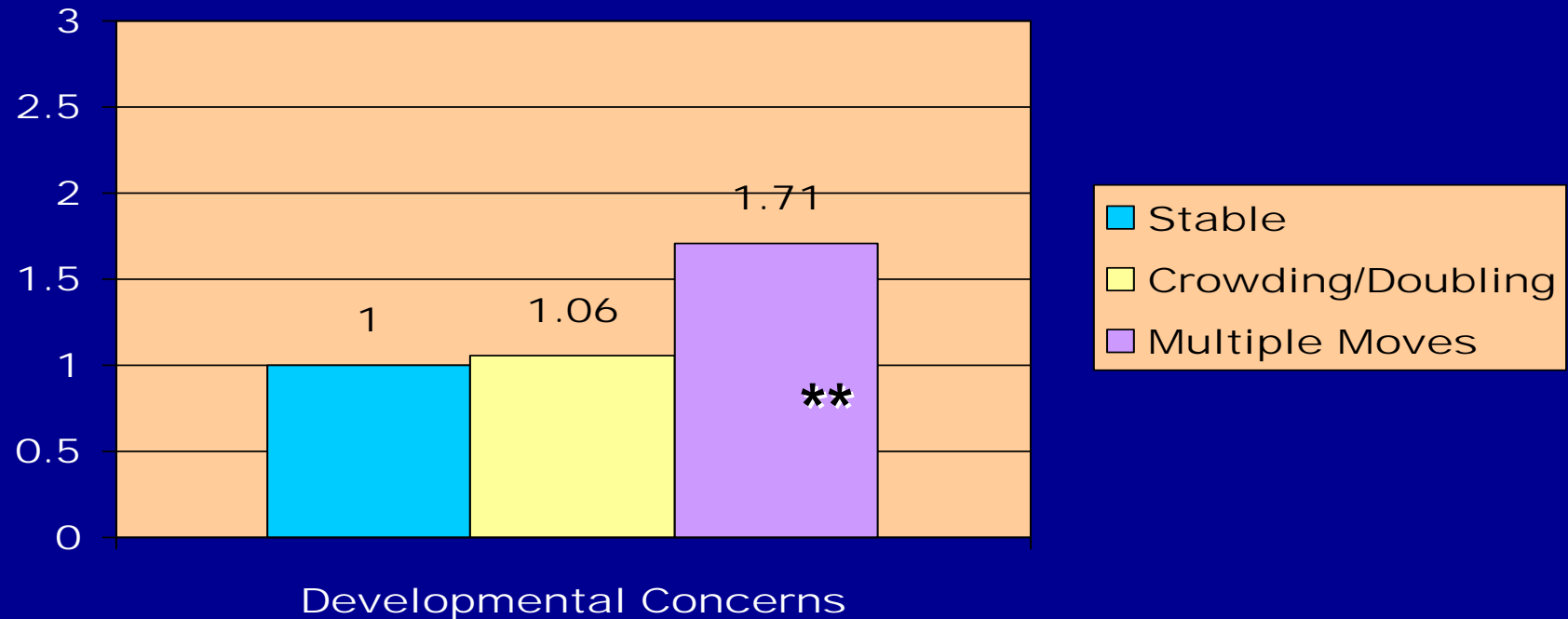
C-SNAP 1998-2007: Adjusted Odds Ratio Caregiver Perception of Child Health (Fair or Poor)



****p<0.001 compared with stable housing**

Multivariate analyses are adjusted for site, race/ethnicity, United States born mothers vs immigrant, marital status, education, child's age, number of children in the home, household employment, breastfeeding and low birth weight. Stable housing is the referent group

C-SNAP 1998-2007: Adjusted Odds Ratio Caregiver Developmental Concerns

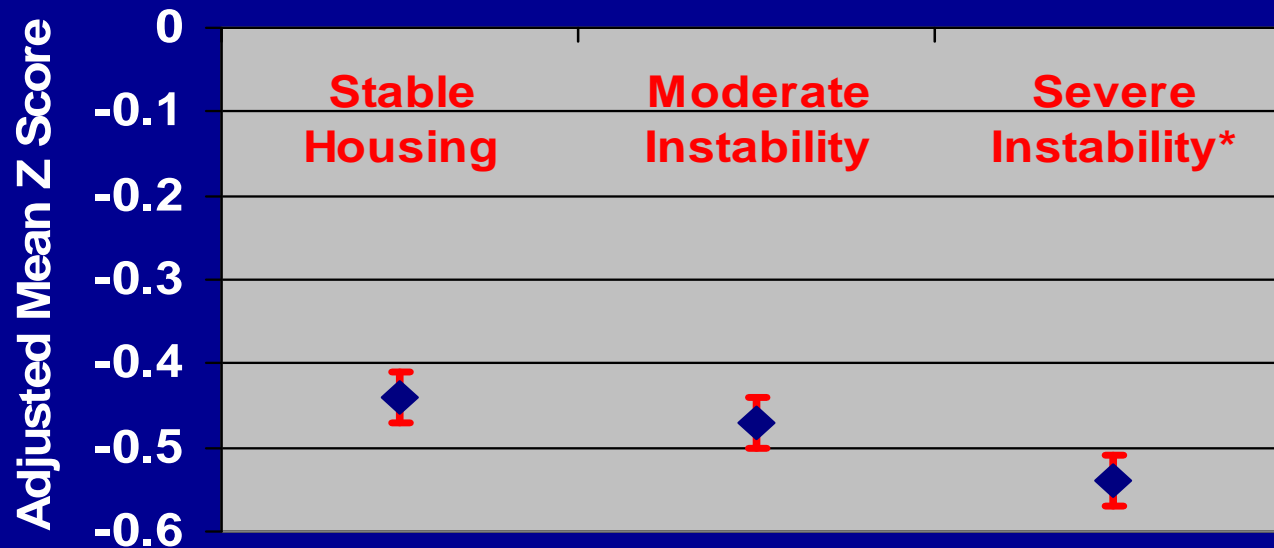


****p<0.001 compared with stable housing**

Multivariate analyses are adjusted for site, race/ethnicity, United States born mothers vs immigrant, marital status, education, child's age, number of children in the home, household employment, breastfeeding and low birth weight. Stable housing is the referent group

Weight for age Z-scores by Housing Stability

Adjusted Mean Weight-for-Age Z Scores by Housing Stability



* $p < 0.05$

Multivariate analyses are adjusted for site, race/ethnicity, United States born mothers vs immigrant, marital status, education, child's age, number of children in the home, household employment, breastfeeding and low birth weight. Stable housing is the referent group

Conclusion

- Housing instability is associated with multiple measures of poor health in very young children, as seen in
 - Increased food insecurity
 - perception of fair/poor child health
 - developmental concerns
 - Lower weight-for-age z scores
- Multiple moves within the past year indicates higher risk than crowding or doubling up.

Implications

- In addition to being concerned about families who are homeless, health care providers and policy makers need to be concerned about more subtle housing instability which is associated with significant adverse impact on very young children and their households
- Given the current economic landscape, it is likely that increasingly large numbers of young children are experiencing housing instability

Housing Costs

- According to the US Census, 8.8 million low-income households pay more than 50% of their cash income for housing.
- This number represents a 33% increase since 2000

Housing Foreclosures

- Home foreclosures compound the problem with 1 in 33 homeowners projected to be subject to foreclosure due to subprime lending rates
- Foreclosures may directly impact 2 million children, a figure that does not include evictions from rental properties due to foreclosures

Housing Programs Protect Health of Young Children

- Housing subsidies protect growth and nutrition (Meyers) and reduce number of moves and crowding (Mills)
- Energy assistance programs reduce undernutrition risk in young children and acute hospitalizations (Frank)

Meyers et al, *American Journal of Public Health* 1993. 83(1): 115

Mills et al, http://www.nhc.org/pdf/chp_int_litrvw_hsglth0707.pdf

Frank et al, *Pediatric*. 2006; 118(5): 1293-1302

Housing Programs Do Not Meet Current Need

- Of the 15.8 million household eligible for the Housing Choice Voucher Program (formerly section 8), only one in nine eligible households receive this type of assistance
- From 2005 to 2007, nearly 150,000 tenant-based housing vouchers were eliminated
- In 2006, the HUD budget was 8% below that of 2004 when corrected for inflation

Comment

- Promoting housing stability is essential for safeguarding health of young children
- The increased risk for developmental delays and undernutrition precipitated by severe housing instability can have life-long impact

Sources of Support

Annie E. Casey Foundation
Anthony Spinazzola Foundation
Candle Foundation
Citizens Energy Corporation
Claneil Foundation
Daniel Pitino Foundation
Eos Foundation
Fireman Foundation
Gold Foundation
Gryphon Fund
Hartford Foundation for Public Giving
Joint Center for Political and Economic Studies Health Policy Institute
Larson Family Foundation
MAZON: A Jewish Response to Hunger
National Fuel Funds Network
New Hampshire Charitable Foundation
Project Bread - The Walk For Hunger
Sandpiper Philanthropic Foundation
Thomas Wilson Sanitarium for Children of Baltimore City
United States Department of Agriculture
Vitamin Litigation Funding
Private donors
Major funding from the W.K. Kellogg Foundation