CENTER FOR HOUSING POLICY
CHILDREN'S HealthWatch
INSIGHTS from Housing Policy Research

Compounding Stress

The Timing and Duration Effects of Homelessness on Children's Health

By Megan Sandel, MD MPH, Richard Sheward, MPP, and Lisa Sturtevant, PhD

June 2015

Decades of scientific research has demonstrated that homelessness experienced during early childhood is harmful to a child's growth and development.[1] The stress of homelessness during early childhood can lead to potentially permanent harmful changes in brain and body function, in turn causing higher levels of stress-related chronic diseases later in life.[2] In addition, a growing body of evidence has established that a child's health and development are critically dependent on his mother's mental and physical well-being during pregnancy.[3]

iStock

New research from Children's HealthWatch illustrates there is no safe level of homelessness. The timing (pre-natal, post-natal) and duration of homelessness (more or less than six months) compounds the risk of harmful child health outcomes. **The younger and longer a child experiences homelessness, the greater the cumulative toll of negative health outcomes, which can have lifelong effects on the child, the family, and the community.**

The Children's HealthWatch Research Network

Researchers from Children's HealthWatch collected data from over 20,000 caregivers of low-income children under the age of four with public or no health insurance. These caregivers were interviewed in urban pediatric clinics and emergency departments in five U.S. cities from 2009 through 2014. Interview data were analyzed to assess children's health and development and to compare outcomes for children who experienced homelessness at some point in their lives with children who were never homeless.

New Research Findings

While pre-natal and post-natal child homelessness were each separately associated with poor health outcomes for children, the combination of pre-natal and post-natal homelessness resulted in a so-called "dose-response" effect that compounded the health risks linked to both pre-natal and post-natal homelessness. In addition, longer periods of homelessness among children generally were associated with worse health outcomes.

Timing of Homelessness

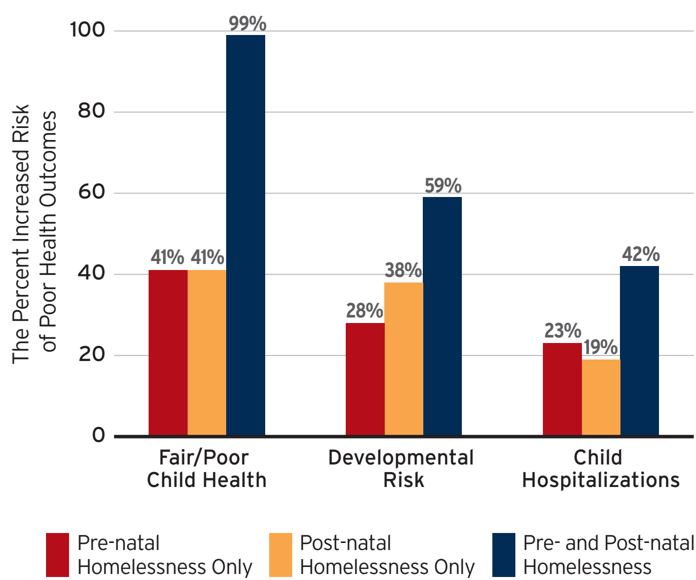
Young children who only experienced pre-natal homelessness (that is, their mothers were homeless during pregnancy but had housing after their birth) were more likely to be in fair or poor health[4] and more likely to have been hospitalized since birth compared to children who did not experience pre-natal homelessness (Figure 1).

Young children who only experienced post-natal homelessness (that is, their mothers had housing during pregnancy but were homeless when the children were infants and/or toddlers) were also more likely to be in fair or poor health, and were more likely to be at risk for developmental delays, compared to children who were never homeless.

Being homeless both before and after birth resulted in even more serious consequences for children's health. Young children who experienced both pre- and post-natal homelessness were at increased risk of being hospitalized, having fair or poor health, and experiencing developmental delays compared to children who were never homeless. The compounding stress of homelessness both before and after birth is associated with significantly worse health outcomes for children than either homelessness before birth or after birth alone.

FIGURE 1

Compounding Effect of Homelessness on Child Health



The comparison group for these data is children who were never homeless.
All findings statistically significant at $p<.05$.
Source: Children's HealthWatch Data, May 2009-December 2014.

Developmental Risk: The Parents' Evaluation of Developmental Status (PEDS) is both an evidence-based surveillance tool and a screening test, and is used to assist in the detection of developmental disabilities for children from birth to 8 years of age.

Fair/Poor Child Health: A caregiver-reported measure of less than optimal child health and highly predictive of health services utilization, including hospitalizations, ambulatory visits, and dentist visits.

Child Hospitalizations: A caregiver-reported measure of whether the child has been hospitalized for any reason since birth.

Duration of Homelessness

Just as the timing of homelessness matters for children's health outcomes so, too, does the duration of homelessness (Figure 2, facing page). Young children (especially infants) who experience homelessness for greater than six months were significantly more likely to be at risk for developmental delays, fair or poor health, hospitalizations and overweight, compared to children who were never homeless or only homeless for less than six months.

Implications

Homelessness both before and after birth has significant negative implications for children's health and well-being, increasing the risk of long-term consequences not only for the child and his family, but also for society as a whole. Greater health care utilization associated with worse health outcomes involves large financial costs, most of which are paid by public health insurance. In 2012 the average cost of non-birth-related pediatric hospital stays was $14,266 for infants and $8,901 for toddlers, with 52% of all such stays covered by Medicaid.[5]

Policy Solutions

This new research suggests that interventions that focus on preventing child and family homelessness can be especially effective before birth. Rapid response to the needs of pregnant women at-risk of homelessness has the potential to reduce the likelihood of negative health outcomes, help support a child's trajectory towards lifelong healthy development, and reduce public health expenditures.

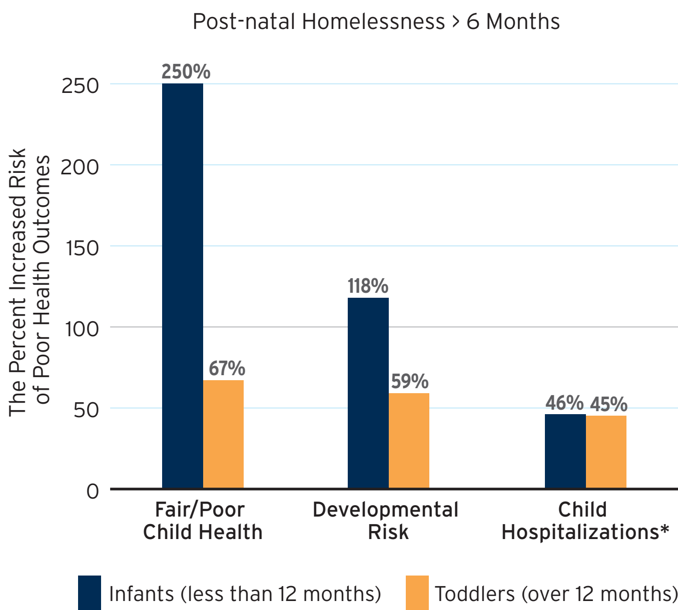
Proven policy tools can prevent the compounding stresses and negative health outcomes created by pre-natal, post-natal, and persistent homelessness:

- **Rapidly re-housing** women and children is an essential and cost-effective preventive treatment for the health risks associated with child homelessness. Rapid re-housing programs move a homeless family into permanent housing as quickly as possible through housing identification, financial assistance, and case management. Rapid re-housing programs have demonstrated encouraging outcomes for families, including fewer returns to homelessness, lower costs than other interventions, and decreased overall levels of homelessness. Additionally, rapid re-housing prevents families and children from experiencing the negative impacts of long-term homelessness. Several federal housing programs support rapid rehousing initiatives, including the Housing Choice Voucher, Emergency Shelter Grant, Supporting Services for Veterans Families and Continuum of Care programs. Rapid re-housing programs have also been supported by state and local funding sources.

- **Wraparound case management** can maximize the child health benefits of stable housing. Case management involves the coordination of services offered by different agencies for a particular client to ensure the supports provided are integrated and individualized for the clients' needs. Services can include counseling, financial literacy training, substance abuse treatment, and others. The Boston Public Health Commission's program, Healthy Start in Housing, illustrates a successful example of combining housing with wraparound services to improve outcomes for families (see callout box).

Pre-natal and post-natal homelessness have long-term negative health impacts on children, families and communities. This new research from Children's HealthWatch reinforces the urgency of acting early to prevent child homelessness, using proven and cost-effective approaches, including rapid re-housing and intensive case management.

FIGURE 2
Long Duration of Post-natal Homelessness Affects Child Health



The comparison group for these data is children who were never homeless.
All findings statistically significant at p<.05, except *hospitalizations among infants (p=.06).
Source: Children's HealthWatch Data, May 2009-December 2014.

Healthy Start in Housing (HSiH)

Healthy Start in Housing (HSiH) is a collaborative initiative of The Boston Public Health Commission and the Boston Housing Authority that helps housing-insecure, high-risk pregnant and/or parenting families, with a child under the age of 5 who has a complex condition requiring specialty care, to secure and retain housing. The goals of HSiH are to improve birth outcomes and to improve the health and well-being of women and families. Key strategies include the provision of housing as well as intensive case management aimed at housing retention and participant engagement in services and interventions that contribute to achievement of their identified goals. HSiH home visitors meet with expectant and new mothers weekly to see them through a 6 session course of Problem Solving Education and help them to implement a family development plan.

BOSTON PUBLIC HEALTH COMMISSION

Boston Housing Authority

ABOUT CHILDREN'S HEALTHWATCH

Children's HealthWatch is a nonpartisan network of pediatricians, public health researchers, and children's health and policy experts. Our network is committed to improving children's health in America. We do that by first collecting real-time data in urban hospitals across the country on infants and toddlers from families facing economic hardship. Our findings help policymakers and the public better understand the social and economic factors that impact children's health so they can make well-informed policy decisions that can give all children equal opportunities for healthy, successful lives.

MacArthur
Foundation

This brief was prepared by staff of the Center for Housing Policy with funding from the John D. and Catherine T. MacArthur Foundation and Children's HealthWatch. Any opinions or conclusions expressed are those of the authors alone.

ABOUT NHC'S CENTER FOR HOUSING POLICY

Formed in 1931, the nonprofit National Housing Conference is dedicated to helping ensure safe, decent and affordable housing for all in America. As the research division of NHC, the Center for Housing Policy specializes in solutions through research, working to broaden understanding of America's affordable housing challenges and examine the impact of policies and programs developed to address these needs. Through evidence-based advocacy for the continuum of housing, NHC develops ideas, resources and policy solutions to shape an improved housing landscape.

Endnotes

1. See, for example, Swick, K. J., & Williams, R. D. (2006). An Analysis of Bronfenbrenner's Bio-Ecological Perspective for Early Childhood Educators: Implications for Working with Families Experiencing Stress. *Early Childhood Education Journal*, 33(5). 371-378 and McLoyd, V. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53(2). 185-204.

2. Shonkoff, J., & Garner, A. S. (2012). The Lifelong Effects of Early Childhood Adversity and Toxic Stress. *Pediatrics*, 129(1). e232-e246.

3. See, for example, O'Leary, C. M., Nassar, N., Kurinczuk, J. J., et al. (2010). Pre-natal alcohol exposure and risk of birth defects. *Pediatrics*, 126(4), e843–e850; Harding, J. (1995). Nutrition and fetal growth. *Reproduction, Fertility, and Development*, 7, 539–547; and Dietz, W. H. (1994). Critical periods in childhood for the development of obesity. *American Journal of Clinical Nutrition*, 59(5), 955–959.

4. The study used the "fair/poor" health metric, which is derived from a standard self-report of health status question validated by RAND and used in the National Health and Nutrition Examination Survey and internationally. Fair/poor health status based on this measure is highly predictive of health services utilization, including hospitalizations, ambulatory visits, and dentist visits, and is a widely accepted measure of less than optimal health.

5. AHRQ, H-CUPnet Kids' Inpatient Database (KID), 2012. Non-neonatal, non-maternal stays for children by age; outcomes for CCS principle diagnosis category 219, short gestation, low birth weight, and fetal growth retardation. Available at http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=1342BAD98BFF5CA6&Form=SelLAY&GoTo=MAINSEL&JS=Y, accessed April 22, 2015.

The Center for Housing Policy and Children's HealthWatch appreciate the contributions of Children's HealthWatch staff Principal Investigator Dr. John Cook, Research and Policy Director Stephanie Ettinger de Cuba, and Executive Director Justin Pasquariello and NHC staff Ethan Handelman and Rebekah King for their review of this brief.