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CHILDREN'S
HealthWatch



@megansandel

@ChildrensHW

Roadmap

- Overview of Children's HealthWatch
- How housing influences child health
 - Quality
 - Stability
 - Affordability
- Homelessness, does timing matter?
- How child homelessness contributes to health care spending
- How affordable housing reduces infant hospitalizations
- Policy Solutions

About Children's HealthWatch

- Non-partisan network of pediatric & public health researchers → research & policy center
- MISSION: Improve health & development of young children → public policies → alleviate family economic hardships
 - Hunger (Food Insecurity)
 - Unstable Housing (Housing Insecurity)
 - Trouble Keeping Heat or Lights on (Energy Insecurity)
- Provide policy makers with evidence to develop policies that protect young children's health and development

Where our data come from:

Frontline health care settings:

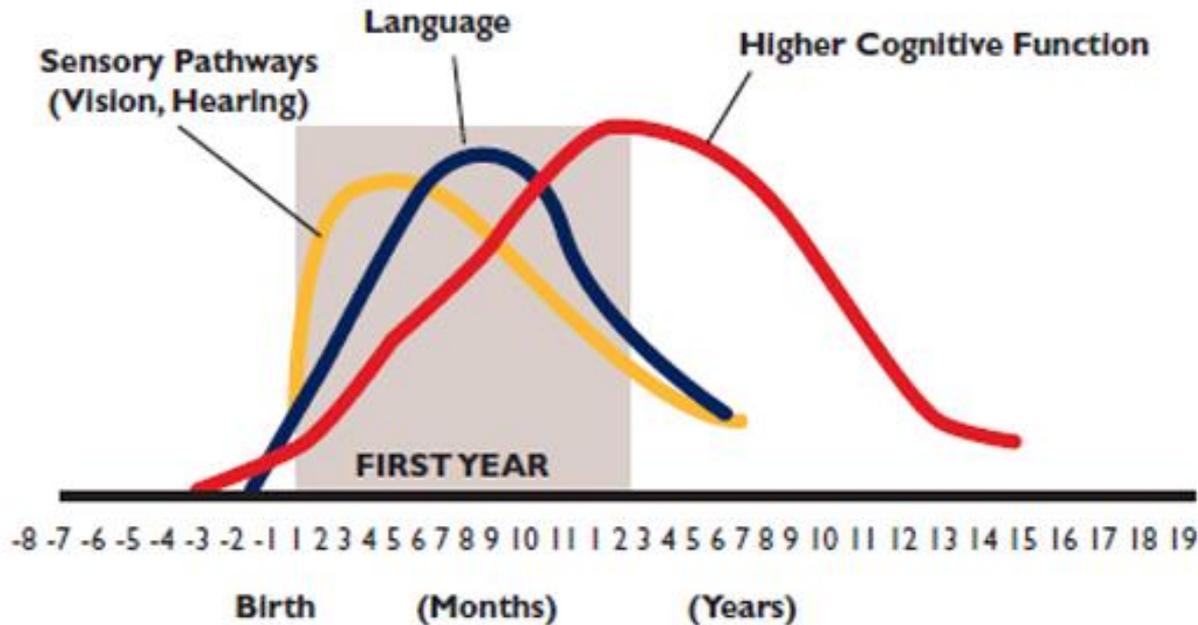
Boston, Baltimore, Philadelphia,
Little Rock and Minneapolis

- Household survey
- Interviews - caregivers with children 0 to 4 years old
 - “invisible” group
 - critical window of time



Human Brain Development

Synapse Formation Dependent on Early Experiences
(700 per second in the early years)



Data source: C. Nelson (2000); Graph courtesy of the Center on the Developing Child at Harvard University

Human Brain Development

Most Vulnerable Period:
Birth – Age 4 Yrs

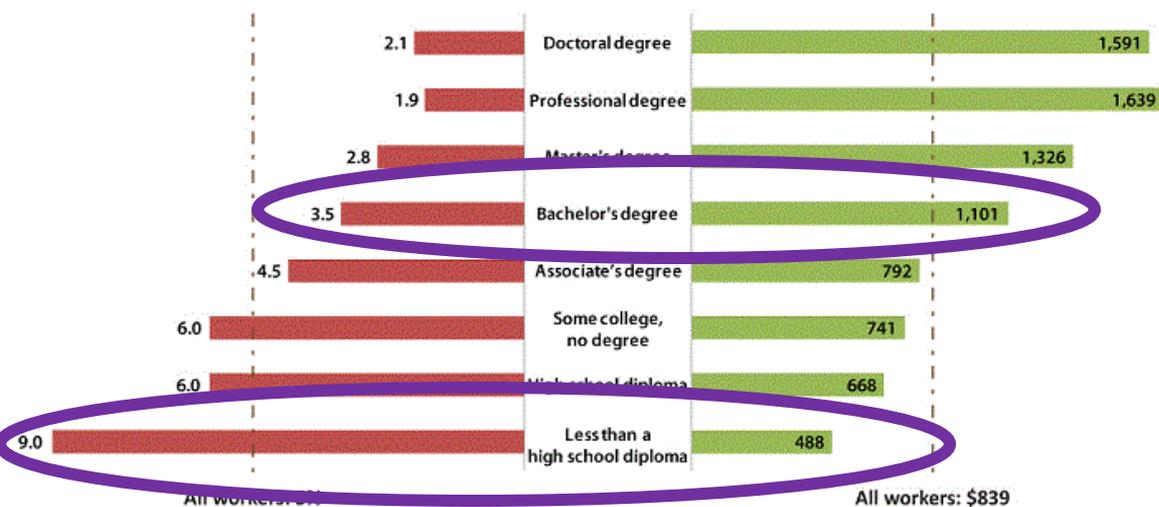
Synapse formation,
neural networks –
“brain architecture”

Why Child Health and Development Matters

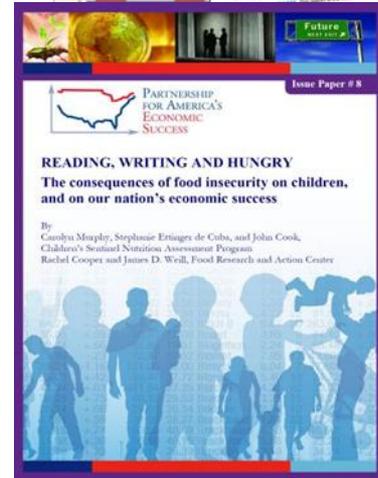
Earnings and unemployment rates by educational attainment

Unemployment rate in 2014 (%)

Median weekly earnings in 2014 (\$)



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.
Source: Current Population Survey, U.S. Bureau of Labor Statistics, U.S. Department of Labor



Evidence on Housing Quality

- Accidents/Injuries – exposed wiring, needed repairs
- Development and worsening asthma, allergies tied - specific housing conditions
 - Pests (cockroaches and mice)
 - Molds/Chronic Dampness
 - Tobacco smoke
- Lead exposure tied to long term effects
- Anemia, developmental delay, aggression, attention deficit



Poor Quality Housing Is Tied to Children's Emotional and Behavioral Problems

Parents' stress from housing problems takes a toll on children's well-being

by REBEKAH LEVINE COLEY, TAMA LEVIN, ALICIA DOYLE LYNCH, AND MELISSA P. KILPATRICK

SEPTEMBER 2013

A family's home is their haven, but for families living with leaking roofs and mold, it's not always a safe place. For those who have to choose between paying for rent or for food, or for those who repeatedly move in search of a more affordable home, one's place of refuge is not always very homey.

This brief examines how housing characteristics affect children and families' well-being.¹ Among the variables tested, poor housing quality was the most and strongest predictor of emotional and behavioral problems in low-income children and youth. It also had a significant association with school performance among children. Housing affected children because the stress of living in unhealthy and unsafe conditions affected parents' ability to care for their children.

Advantages of the Current Study

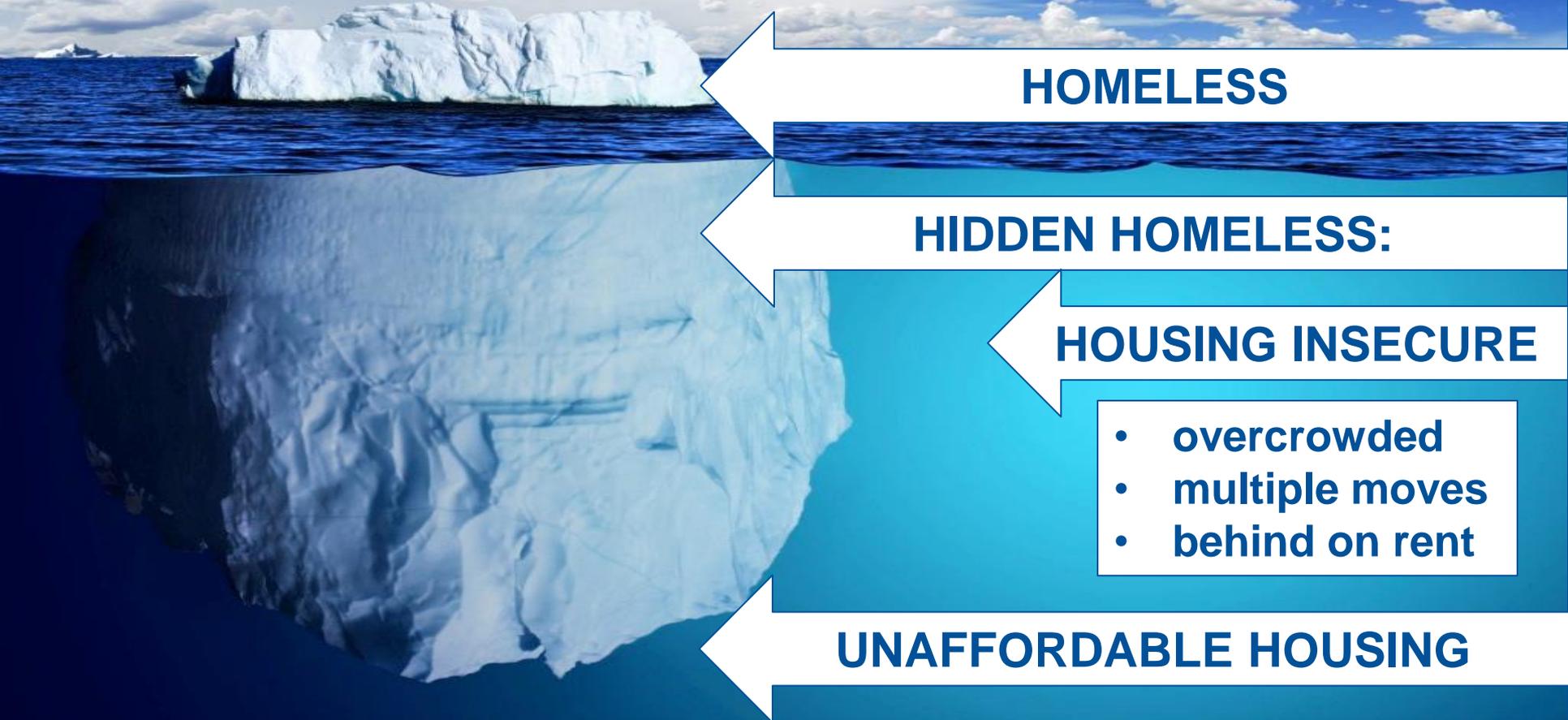
Past research has identified several aspects of poor housing that are thought to be associated with children's health and well-being.² Researchers, for example, have found that poor housing—exposed wiring, peeling lead paint, rodent infestation, and the like—may contribute to physiological stress in children, inhibiting their emotional stability and learning. Similarly, residential instability may interrupt peer

- Poor housing quality strongest predictor of emotional and behavioral problems in low-income children
- Much of association between poor housing quality and children's wellbeing operates through parental stress and parenting behaviors

relationships. Access to a stable home or receiving government subsidies may increase family stability and social connections, helping to improve children's school success.

Evidence on Housing Quality

Stability: The Housing Iceberg





US Housing Insecurity and the Health of Very Young Children

Diana Becker Cutts, MD, Alan F. Meyers, MD, MPH, Maureen M. Black, PhD, Patrick H. Casey, MD, Mariana Chilton, PhD, MPH, John T. Cook, PhD, Joni Geppert, MPH, RD, LN, Stephanie Ettinger de Cuba, MPH, Timothy Heeren, PhD, Sharon Coleman, MPH, MS, Ruth Rose-Jacobs, ScD, and Deborah A. Frank, MD

In the United States, as housing is considered a determinant of health.¹ Poor housing has been linked to multiple health outcomes in both children and adults. The Centers for Disease Control and Human Services define housing insecurity as high housing costs relative to income, poor housing quality, overcrowding, and homelessness.² Crowding in the home has been linked to health outcomes for children. Crowding is associated with mental health problems, stress,⁴ child and parent relationships,³ and sleep problems for childhood injuries,⁶ respiratory conditions,⁷ and disease.⁷ Adults⁸ and children in crowded households are less likely to use preventive health services than are those in noncrowded households, and families with multiple moves are less likely to establish a medical home and seek out preventive health services for their children than are securely housed families.¹⁰

Children in housing-insecure families more likely to be

- Food insecure
- In fair/poor health
- At risk for developmental delays
- Seriously underweight

(compared to children in housing-secure families)

adjusted income has been used as the threshold for affordable housing costs. But affordability

HealthWatch study approached 36618 adult caregivers of children younger than 3 years at

Cutts et al, 2011

BEHIND

Closed Doors

The hidden
health
impacts
of being
behind
on rent



More and more families across Massachusetts and the nation are struggling to pay their rent. For some, the struggle is too great and they fall behind, with what we now know are significant costs to their health.

January 2011

Children's HealthWatch

This report was made possible by generous funding from The Paul and Phyllis Fireman Charitable Foundation

Affordability: Behind Closed Doors

- Being behind on rent strongly associated with negative child and maternal health outcomes
 - Lifetime hospitalizations
 - Fair/poor health
 - Serious underweight
 - Maternal fair/poor health
 - Maternal depressive symptoms

Homelessness: does timing matter?

Yes!

- Comparison - birth outcomes
 - Consistently housed
 - Homeless prenatally
 - Homeless postnatally
- Mothers' characteristics or homelessness itself?
- Prenatal homeless – increased risk of
 - Low birthweight
 - Preterm delivery
 - Lower weight at birth



Cutts et al. MCH, 2014.

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



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

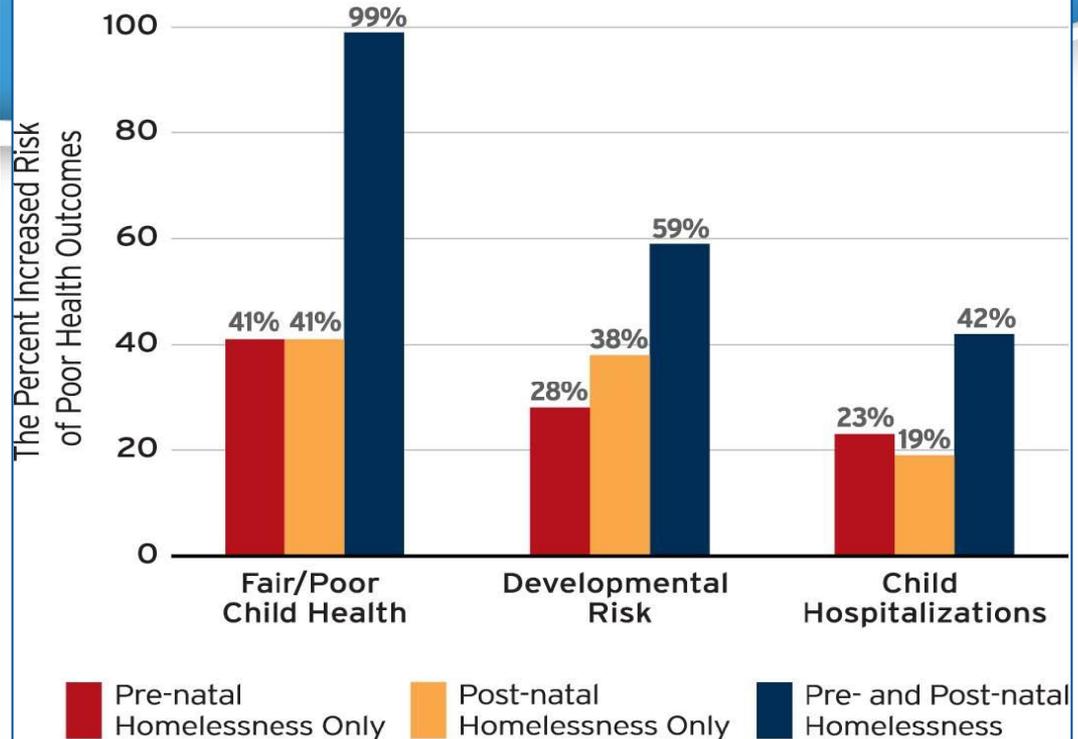
Researchers from Children's HealthWatch collected data from over 20,000 caregivers of low-income children under the age of four with public or no health insurance. These caregivers were interviewed in urban pediatric clinics and emergency departments in five U.S. cities from 2009 through 2014. Interview 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.

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.

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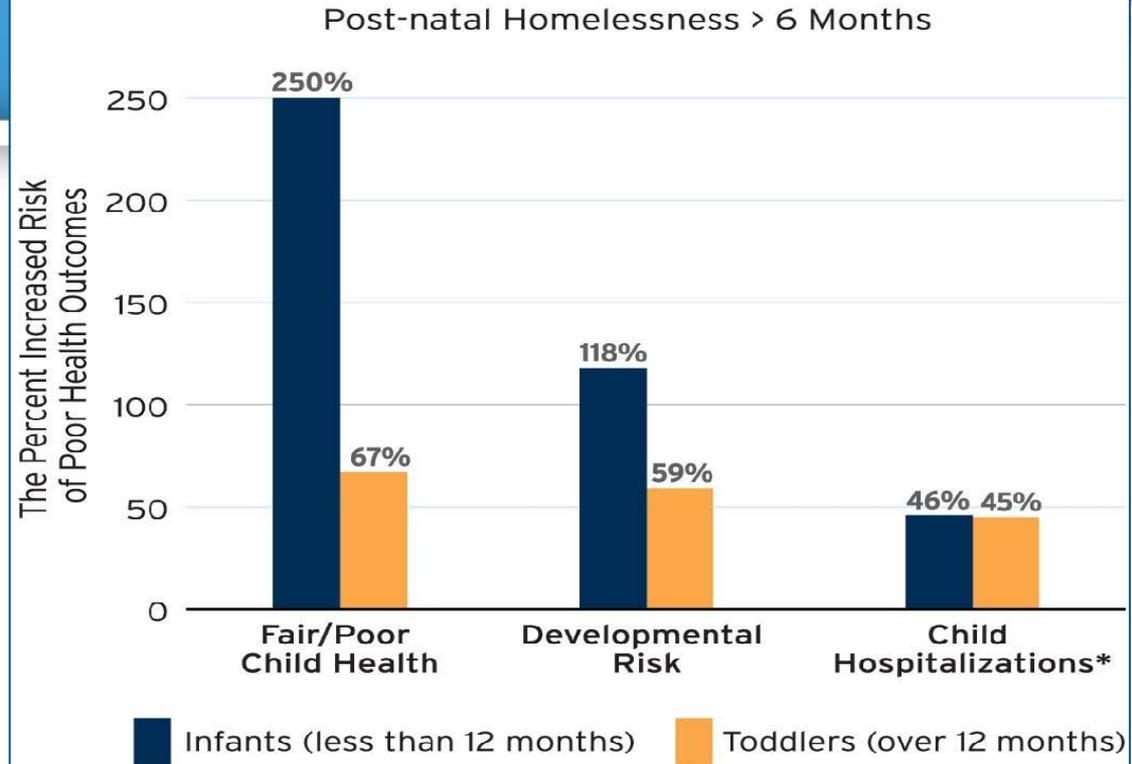
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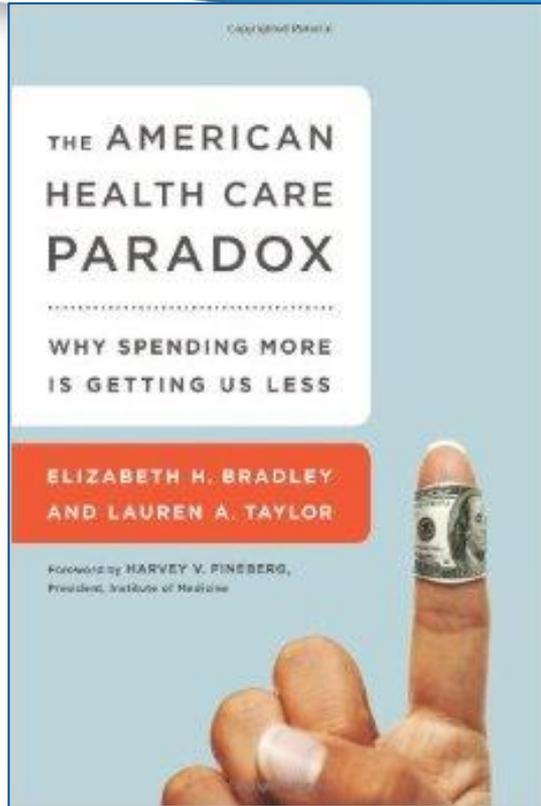
FIGURE 2
Long Duration of Post-natal Homelessness Affects Child Health



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.

Health Care Spending in America



Spending on health care



Data downloaded from OECD.StatExtracts. Available at stats.oecd.org



Health outcomes

US Ranking out of 34 OECD countries

Maternal Mortality: 25th

Life expectancy: 26th

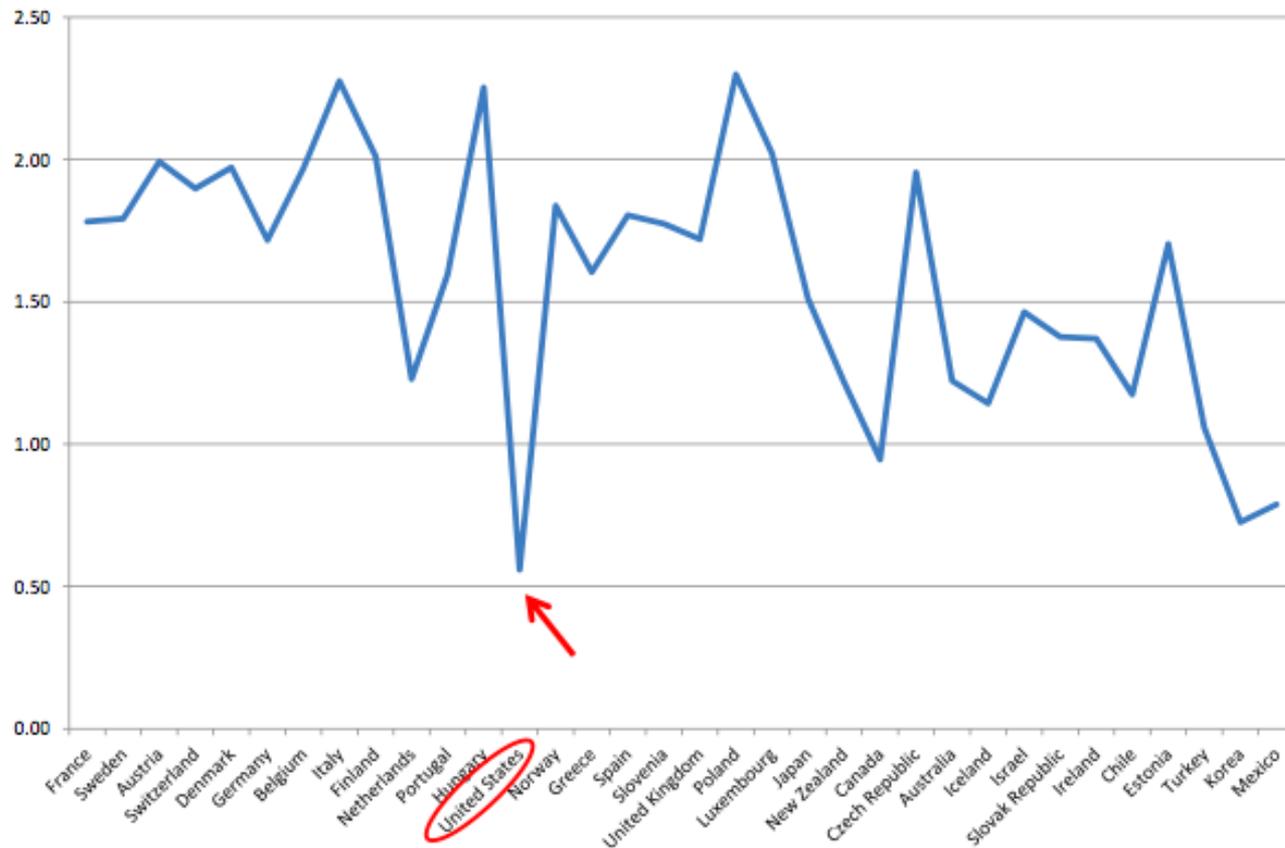
Low birth weight: 28th

Infant mortality: 31st

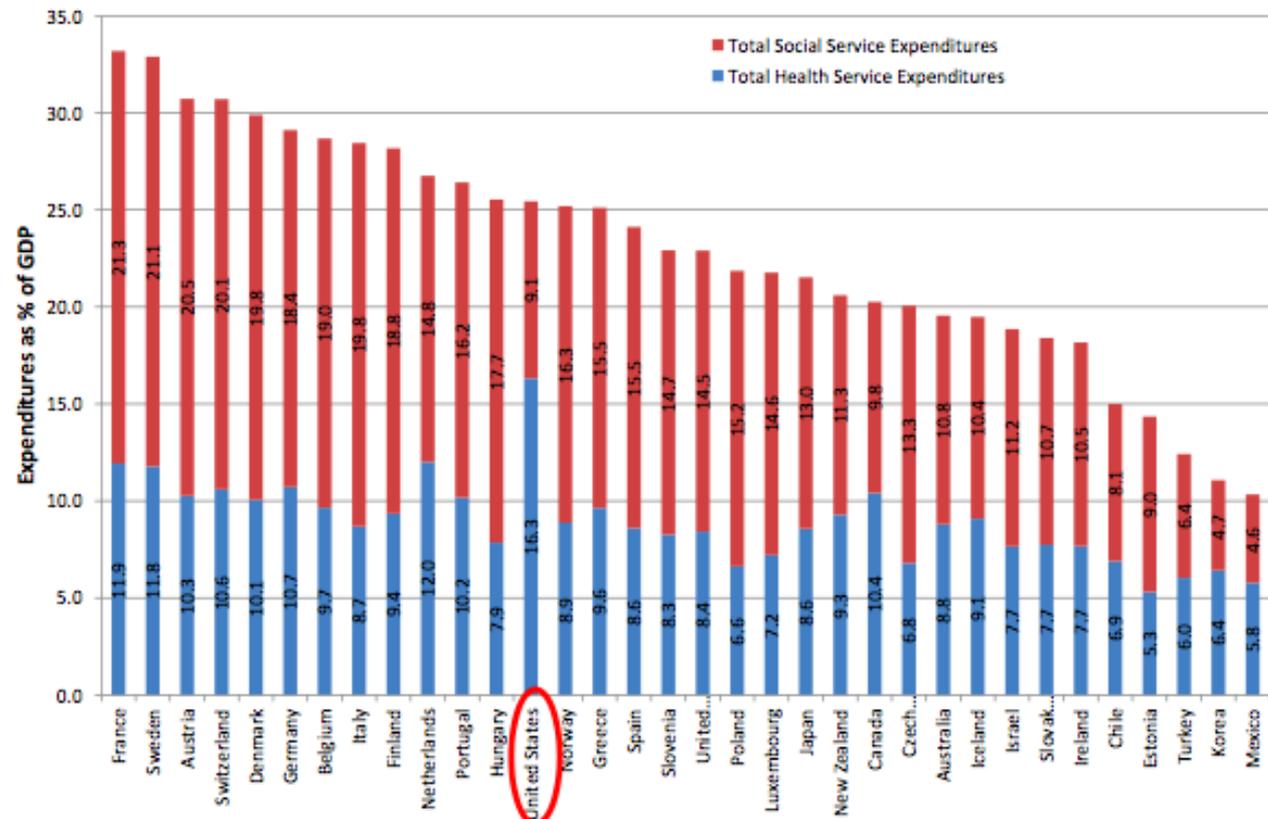


Source: OECD, *Health at a Glance 2009*: OECD Publishing

Ratio of social to health spending is different



Total health care investment in US is *less*



In OECD, for every \$1 spent on health care, about \$2 is spent on social services
In the US, for \$1 spent on health care, about 55 cents is spent on social services

Child Homelessness Contributes to High Health Care Spending

- In 2014 an estimated **671,000** children age four or under had been homeless at some point or were born to a mother who was homeless when she was pregnant
- These children, as a group, experienced **18,600** additional hospitalizations attributable to their experience of homelessness
- The estimated total annual cost of hospitalizations attributable to homelessness among children age four and under in 2015 alone were over **\$238 million nationally**, with more than half of those costs associated with hospitalizations of infants under the age of one

Housing as a Health Care Investment

Affordable Housing Supports Children's Health

By Megan Sandel, MD, MPH; John Cook, PhD, MAEd; Ana Poblacion, MSC; Richard Sheward, MPP; Sharon Coleman, MS, MPH; Janet Viveiros, MPP; and Lisa Sturtevant, PhD

MARCH 2016

Affordable and stable housing plays a critical role in supporting the health and well-being of children. Research from Children's HealthWatch shows public investment in housing—including housing for homeless families and rental assistance for food-insecure families—improves the health outcomes of vulnerable infants and young children and lowers health care spending.

Previous research from Children's HealthWatch demonstrated the harmful impact homelessness has on the health of young children and that the negative health outcomes are compounded when a mother is homeless both before and after her child is born.¹ New findings from Children's HealthWatch researchers show affordable and stable housing made possible through rental assistance is associated with better health outcomes for infants in vulnerable families.

Investments in programs that house families in need and have the potential to reduce public spending on health care can be a double win for public policy. Given the significant impact stable

and affordable housing has on the health of children, policymakers should consider how to expand investment in affordable housing and services for vulnerable families to improve the health outcomes of young children and reduce health care spending.

Homelessness Harms Young Children's Health

Previous research from Children's HealthWatch illustrates the devastating impact of homelessness on children's health. While pre- and post-natal child homelessness are each separately associated with poor health outcomes for children, the combination of pre- and post-natal homelessness demonstrates a "dose-response" effect that compounds the health risks linked individually to pre- and post-natal homelessness.²

When compared to children who were never homeless:

- Children who experienced pre-natal homelessness (i.e., their mothers were homeless during pregnancy but were housed after their birth) were **20 percent more likely to have been hospitalized** since birth.
- Children who experienced post-natal homelessness (i.e., their mothers were housed during pregnancy but were homeless when the children were infants and/or toddlers) were **22 percent more likely to have been hospitalized** since birth.
- Children who experienced both pre- and post-natal homelessness were **41 percent more likely to have been hospitalized** since birth.



FIGURE 1. Hospitalization Costs Associated with Children's Homelessness, 2015 (in 2015 dollars)

TOTAL **\$238** million

\$132
million



\$106
million

55%

- 1-4 years of age
- Less than 12 months

45%

Source: Children's HealthWatch Calculations.

Affordable Housing Reduces Infant Hospitalizations

- Infants in food-insecure families with rental assistance during the pre-natal period were **43 percent less likely to have been hospitalized** compared to infants in food-insecure families eligible for but not receiving rental assistance.
- Health care cost savings associated with avoided hospitalizations among infants in food-insecure families with rental assistance were an estimated **\$20 million— or 1,200 avoided hospitalizations**—in 2015

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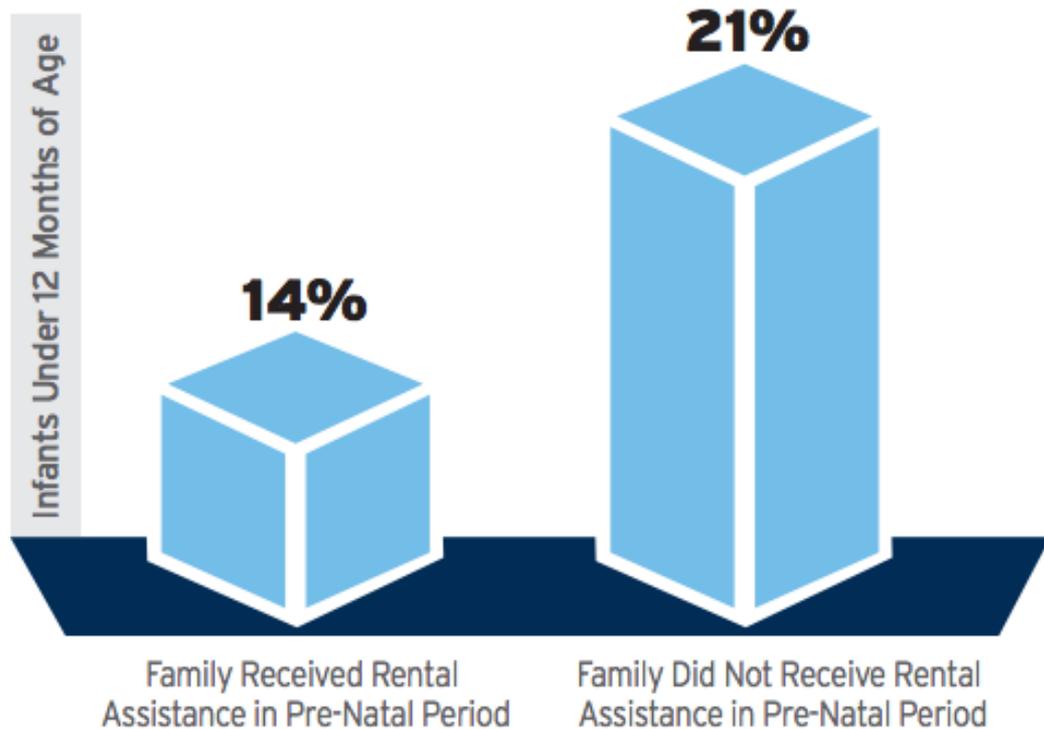
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FIGURE 2. Prevalence of Hospitalization Among Food-Insecure Infants, 2015



All findings statistically significant at $p < .05$.
Source: Children's HealthWatch Data, May 2009–December 2015.

Policy Solutions

- Expanding funding for rental assistance programs
- Creating more affordable housing suitable for families
- Making housing voucher programs easier for families to navigate
- Ensuring access to supportive services for families receiving rental assistance
- Considering vulnerable families to be a special population



Thank You!

The mission of Children's HealthWatch is *to improve the health and development of young children by informing policies that address and alleviate economic hardships.*

Contact us:
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www.ChildrensHealthWatch.org
[@ChildrensHW](https://twitter.com/ChildrensHW)



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