



CHILDREN'S  
HealthWatch

# HOW UNSTABLE HOUSING IMPACTS CAREGIVER AND CHILD HEALTH: IDEAS FOR SOLUTIONS

Megan Sandel, MD, MPH

Co-Lead Principal Investigator

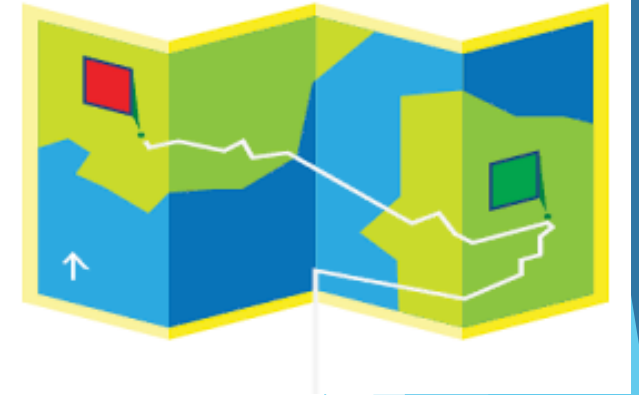
Richard Sheward, MPP

Deputy Director of Innovative Partnerships

Allison Bovell-Ammon, M.Div

Deputy Director of Policy Strategy

# Roadmap



- ▶ About Children's HealthWatch
- ▶ Explore:
  - ▶ How adverse housing circumstances affect health
  - ▶ Three forms of housing instability w caregiver/child health
  - ▶ Interventions addressing housing instability



# CHILDREN'S HealthWatch

- ▶ Founded: 1998
- ▶ Non-partisan, pediatric research and policy network
- ▶ Collect data in urban hospitals across the country on infants and toddlers from families facing economic hardship
- ▶ Improve health & development of young children→ alleviate economic hardships→ inform public policies
  - ▶ Difficulty affording enough food (food insecurity)
  - ▶ Unstable housing (housing insecurity)
  - ▶ Trouble keeping heat/lights on (energy insecurity)
  - ▶ Health care hardships
- ▶ Provide policy makers with evidence from the frontlines to develop policies that protect young children's health and development

# Where our data come from:

- Collecting real-time data in frontline healthcare settings:
  - Boston, Baltimore, Philadelphia, Little Rock and Minneapolis
  - Interviews - caregivers with children 0 to 4yrs
  - More than 60,000 surveys in our data set
    - “invisible” group
    - critical window of time



# How adverse housing circumstances affect health



Photo credit: Witnesses to Hunger

# Conceptual framework for adverse housing circumstances

HOMELESSNESS

HOUSING INSECURITY:

- Crowding
- Multiple moves

UNAFFORDABLE HOUSING



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## Homelessness During Pregnancy: A Unique, Time-Dependent Risk Factor of Birth Outcomes

Diana B. Cutts · Sharon Coleman · Maureen M. Black · Mariana M. Chilton · John T. Cook · Stephanie Ettinger de Cuba · Timothy C. Heeren · Alan Meyers · Megan Sandel · Patrick H. Casey · Deborah A. Frank

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**Abstract** Evaluate homelessness during pregnancy as a unique, time-dependent risk factor for adverse birth outcomes. 9,995 mothers of children <48 months old surveyed at emergency departments and primary care clinics in five US cities. Mothers were classified as either homeless during pregnancy with the index child, homeless only after the index child's birth, or consistently housed. Outcomes included birth weight as a continuous variable, as well as categorical outcomes of low birth weight (LBW; <2,500 g) and preterm delivery (<37 weeks). Multiple logistic regression and adjusted linear regression analyses were performed, comparing prenatal and postnatal homelessness with the referent group of consistently housed mothers, controlling for maternal demographic characteristics, smoking, and child

D. B. Cutts (✉)  
Department of Pediatrics, Hennepin County Medical Center, 701  
Park Avenue, Minneapolis, MN 55415, USA  
e-mail: diana.cutts@hmed.org

S. Coleman · S. E. de Cuba · T. C. Heeren  
Data Coordinating Center, Boston University School of Public  
Health, Boston, MA, USA

M. M. Black  
Department of Pediatrics, University of Maryland School of  
Medicine, Baltimore, MD, USA

M. M. Chilton  
Department of Health Management and Policy, Drexel  
University School of Public Health, Philadelphia, PA, USA

J. T. Cook · A. Meyers · M. Sandel · D. A. Frank  
Department of Pediatrics, Boston University School of  
Medicine, Boston, MA, USA

P. H. Casey  
Department of Pediatrics, University of Arkansas for Medical  
Sciences, Little Rock, AR, USA

Published online: 18 November 2014

Springer

# Timing of Homelessness matters

**Table 3** Adjusted birth outcomes of pre and postnatal homeless mothers

Adjusted for site, mother's birthplace, race/ethnicity, education, employment, marital status, child's age and mother's smoking history  
AOR adjusted odds ratio, 95 % CI = 95 % confidence interval

	Consistently housed	Any prenatal homelessness AOR (95 % CI)	Postnatal homelessness only AOR (95 % CI)	Overall <i>p</i> value
Low birth weight <2500 g	1.00	1.43 (1.14, 1.80) <i>p</i> < 0.01	1.0(0.72, 1.40) <i>p</i> = 0.98	0.01
Premature <37 weeks GA	1.00	1.24 (0.98, 1.56) <i>p</i> = 0.08	1.21 (0.89, 1.63) <i>p</i> = 0.22	0.13
Birth weight in grams Least square mean (SEM)	3,093 (7.1) (ref)	3,040 (29.2) <i>p</i> = 0.08	3,106 (38.1) <i>p</i> = 0.73	0.19

As many as 3.5 million people experience homelessness yearly [1, 2]. Children are disproportionately impacted; from 2007 to 2010 homelessness among children increased by 448,000–1.6 million children, or one in 45 US children [3]. Homeless children experience increased risk of acute illnesses, nutritional deficits, physical trauma, developmental



# 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.<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup>

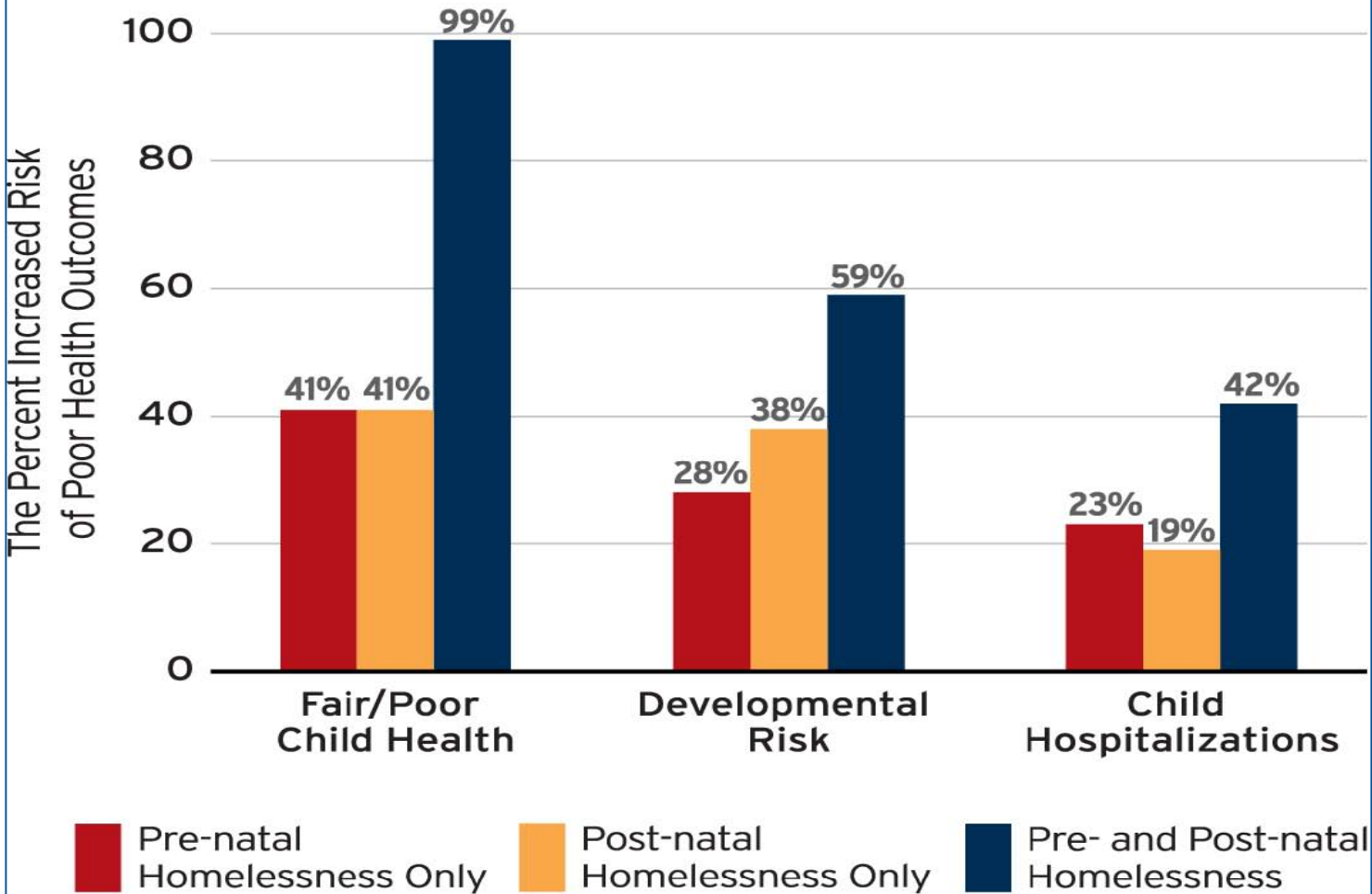


New research from Children's HealthWatch illustrates there is no safe level of homelessness. The timing (pre-natal, post-natal) and duration of homelessness (more or less than six months) compounds the risk of harmful child health outcomes. **The younger and longer a child experiences homelessness, the 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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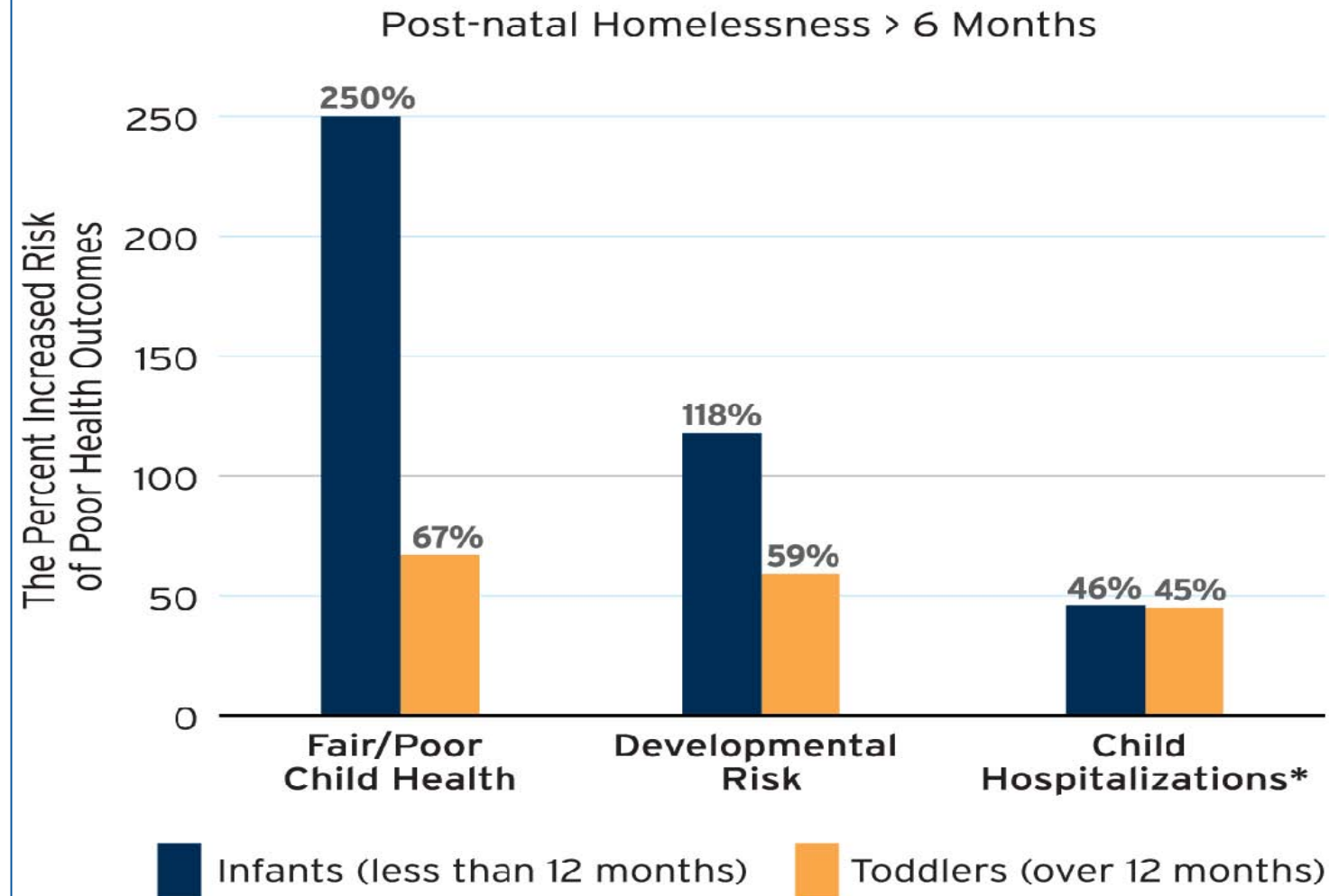
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FIGURE 2

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.

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## 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

### 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)

In the United States, housing insecurity is considered a significant determinant of health.<sup>1</sup> Poor housing conditions have been linked to multiple health outcomes in both children and adults. The American Journal of Public Health and Human Development has identified housing insecurity as highly correlated with low income, poor health, and living in high-poverty neighborhoods, overcrowding, and homelessness.<sup>2</sup> Crowding in the home is linked to health problems for children, including mental health issues, stress,<sup>4</sup> child abuse, and poor relationships,<sup>3</sup> and is a risk factor for childhood injury and illness, including respiratory conditions and asthma.<sup>7</sup> Adults in crowded households are less likely to seek 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.<sup>10</sup>

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HealthWatch study approached 36 618 adult caregivers of children younger than 3 years at

Cutts et al, 2011

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**TABLE 2—Variables Associated With Insecure Housing, by Housing Group: Children Younger Than 3 Years, 7 US Cities, 1998–2007**

Variables	Secure Housing (Ref)		Crowding			Multiple Moves		
	Unadjusted No. (%)	AOR (95% CI)	Unadjusted No. (%)	AOR (95% CI)	P	Unadjusted No. (%)	AOR (95% CI)	P
Household food insecurity (n = 22 069)	1052 (9)	1.0	1060 (12)	1.30 (1.18, 1.43)	<.001	166 (16)	1.91 (1.59, 2.28)	<.001
Child food insecurity (n = 22 069)	872 (7)	1.0	1513 (17)	1.47 (1.34, 1.63)	<.001	204 (19)	2.56 (2.13, 3.08)	<.001
Caregiver report of fair/poor child health (n = 22 069)	1313 (11)	1.0	1193 (13)	1.07 (0.98, 1.18)	.14	192 (18)	1.48 (1.25, 1.76)	<.001
Caregiver report of child developmental risk (after 2004, n = 7345)	621 (14)	1.0	355 (14)	1.06 (0.91, 1.23)	.49	96 (22)	1.71 (1.33, 2.21)	<.001

Note. AOR = adjusted odds ratio; CI = confidence interval. Analyses are adjusted for site, race/ethnicity, US-born mother, marital status, maternal age, education, mean child's age, mean number of children in the home, household employment, breastfeeding, and low birth weight. Secure housing is the referent group.

(Am J Public Health. 2011;101:1508–1514. doi:10.2105/AJPH.2011.300139)

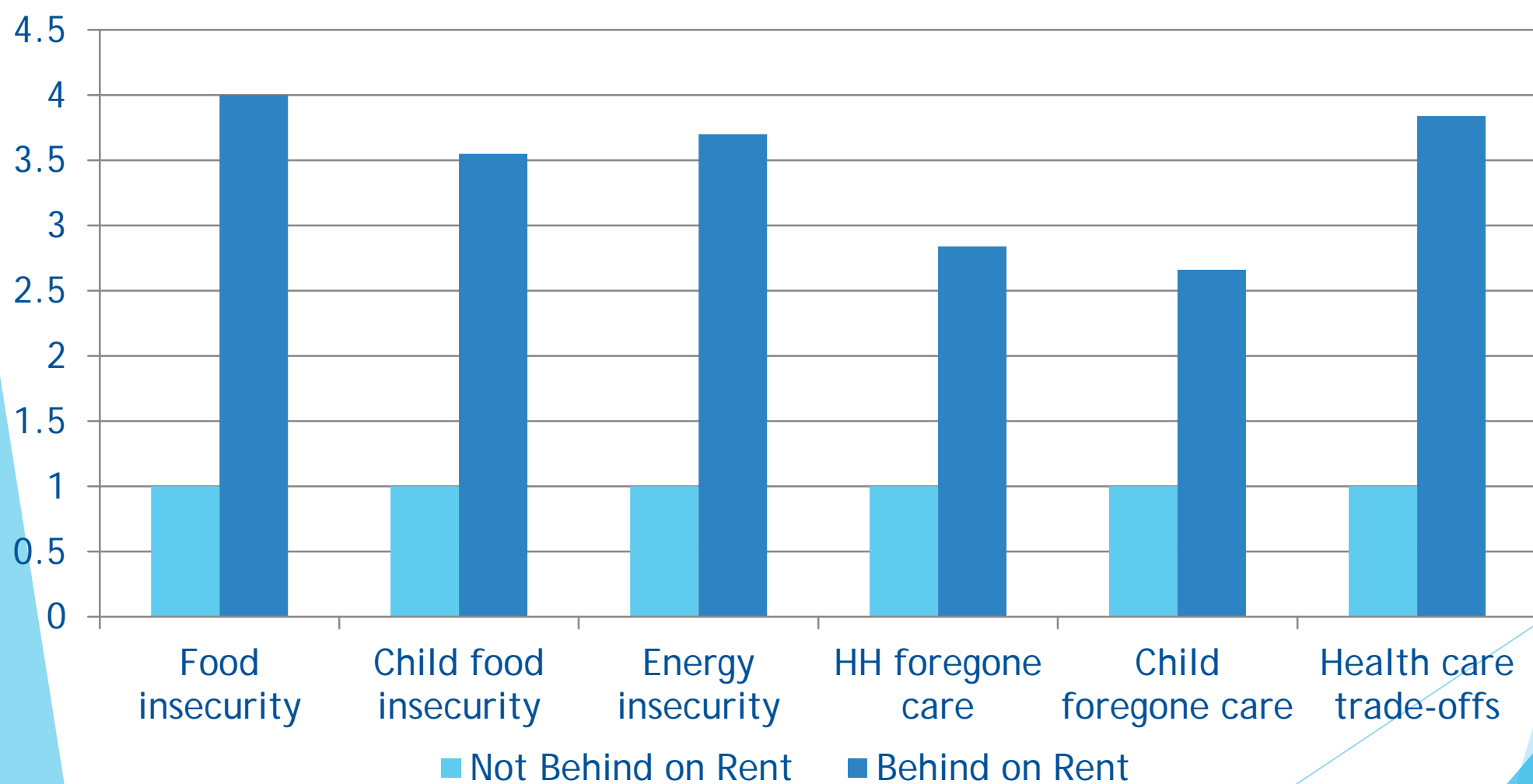
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# Behind on rent

## Strong indicator of other household hardships



# Multiple moves

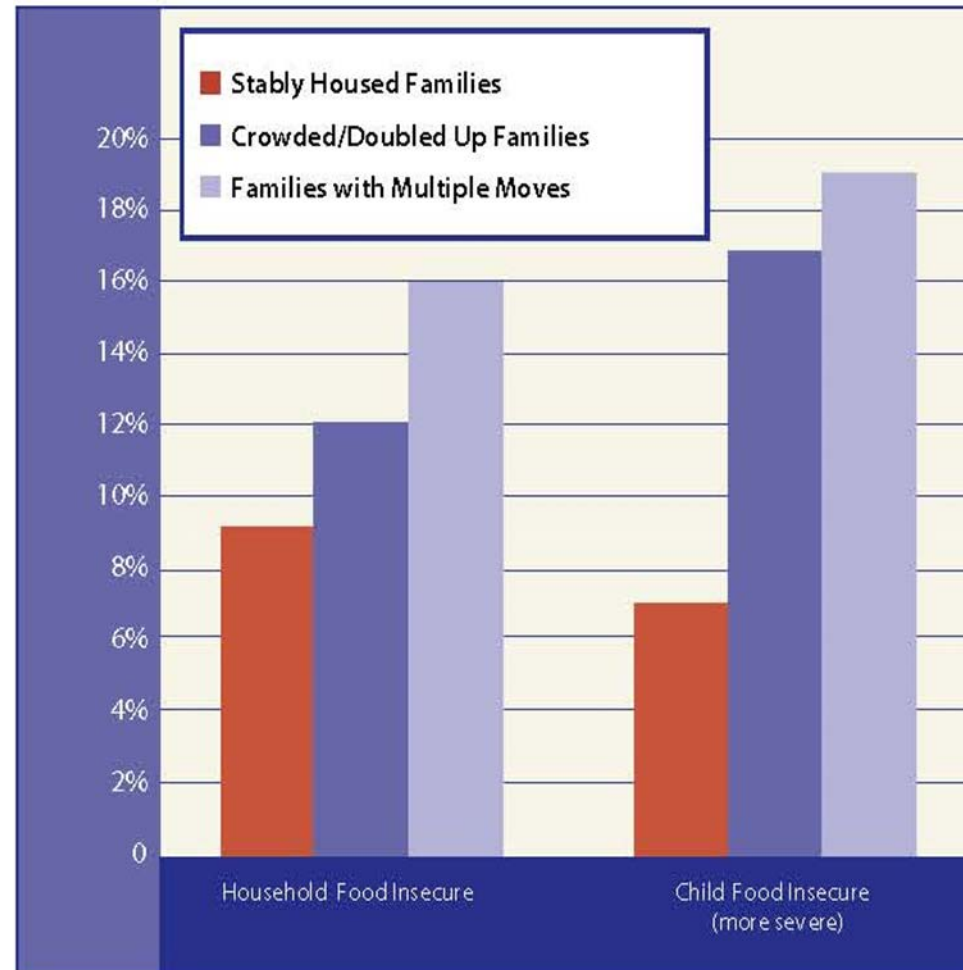
## Strong indicator of other household hardships

When we compared young children making frequent moves with those in stable housing we found that young children in households that had moved two or more times in the past year were more likely to be:<sup>7</sup>

- food insecure
- in fair or poor health
- at risk for developmental delays
- seriously underweight

even after accounting for other possible factors, such as maternal education.

**Figure 2:** Stable Housing Reduces Food Insecurity



# Revised conceptual framework for adverse housing circumstances

## Housing Instability

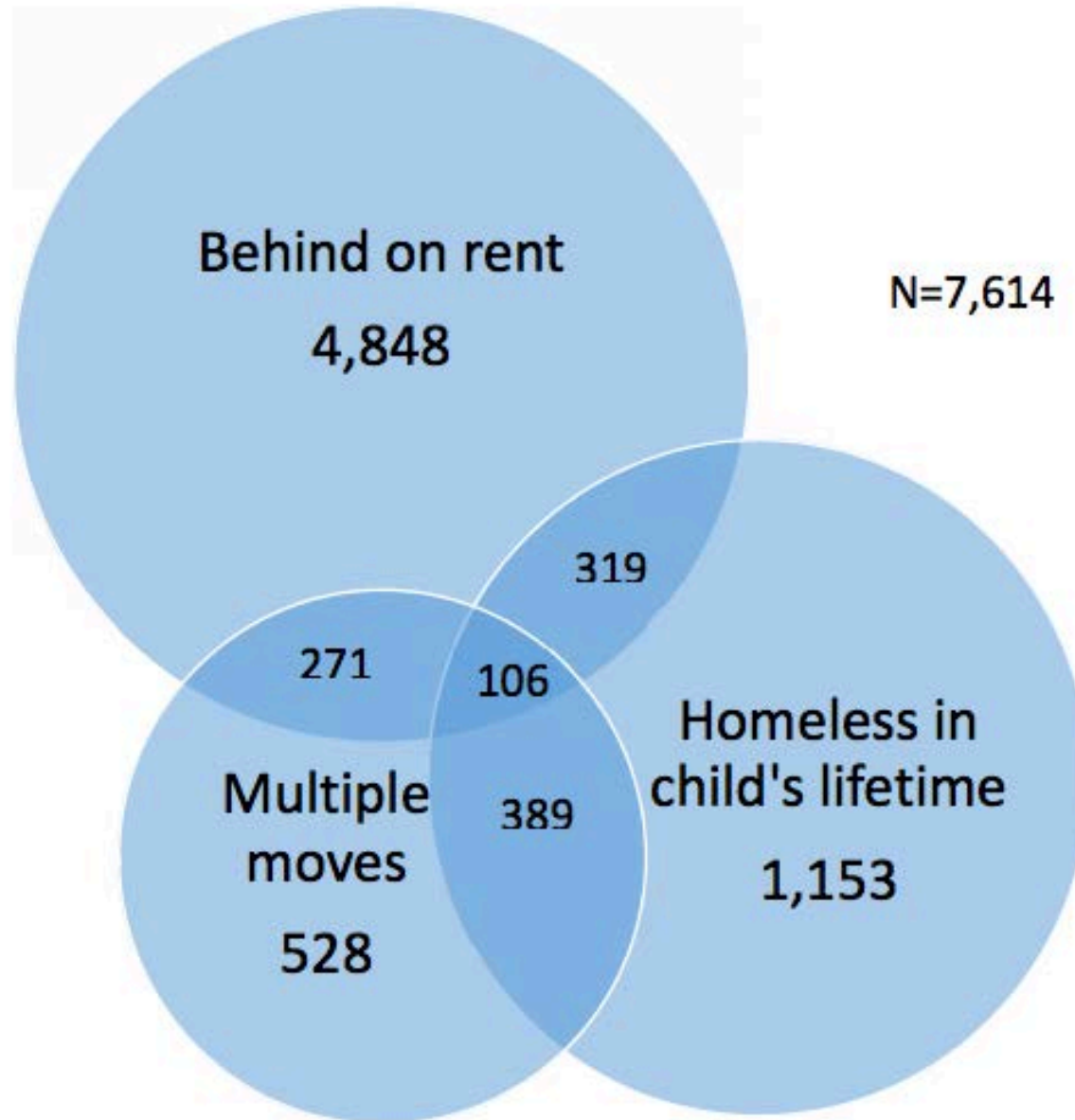
- behind on rent
- multiple moves
- homelessness

## Unaffordable Housing

# Exploring three forms of unstable housing with caregiver and child health

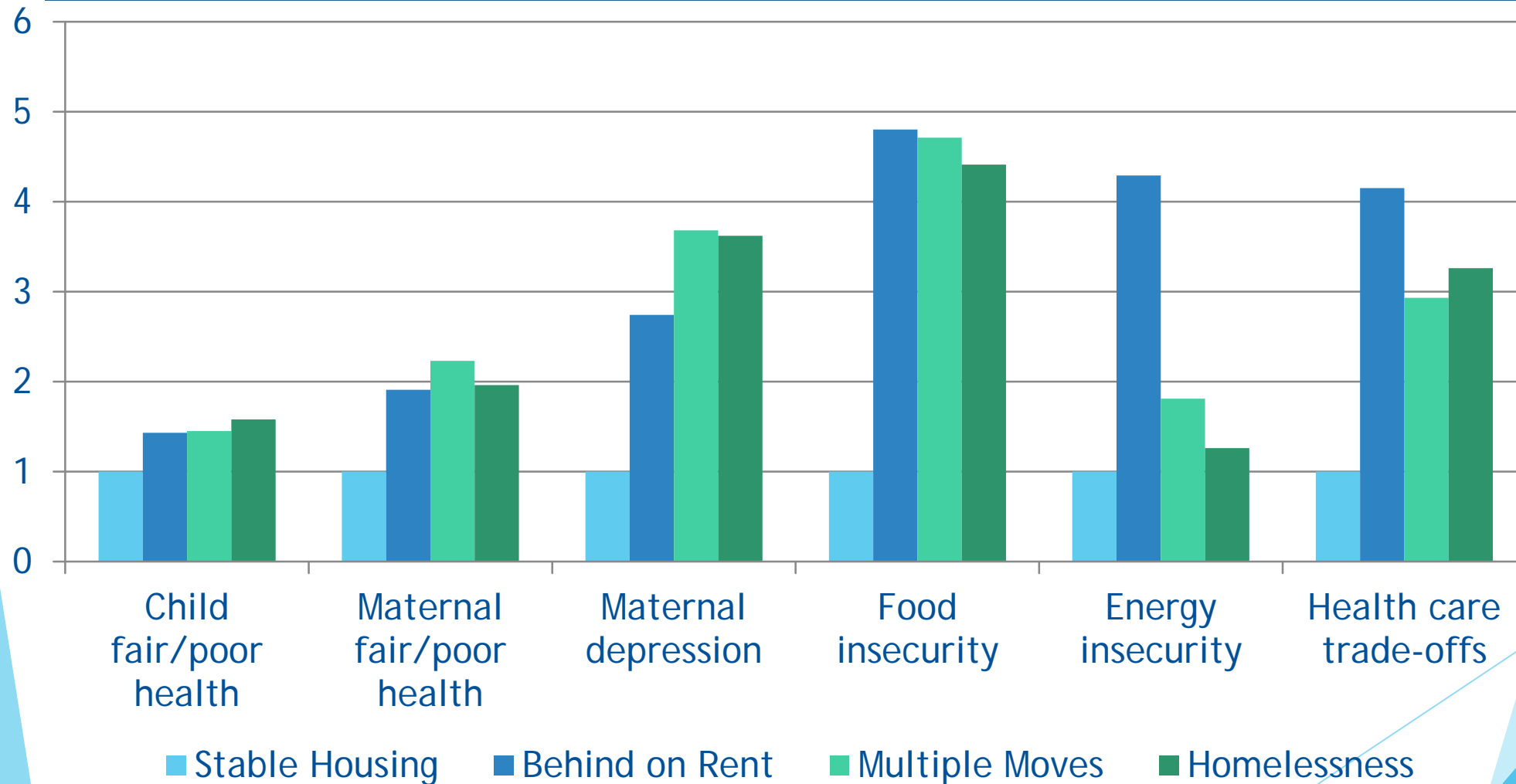
- Among 22,234 families, 34% had at least one adverse housing circumstance:
  - 27% behind on rent
  - 8% multiple moves
  - 12% history of homelessness
- Each circumstance individually associated with adverse health and material hardship compared to stable housing

## Number of adverse housing conditions



**Little overlap among  
three adverse housing  
conditions**

# Outcomes of unstable housing with health and material hardship outcomes



*Under review for publication*



# HOUSING STABILITY Vital Sign™

*Since [current month] of last year,*

1. Was there a time when you were not able to pay the mortgage or rent on time?

*Answer is yes/no, positive screen if answer is yes*

2. How many places have you lived?

*Answer is # of places lived, positive screen if answer is 3 or more (i.e. multiple moves  $\geq 2$  in 12 mos.)*

3. Was there a time when you did not have a steady place to sleep or slept in a shelter (including now)?

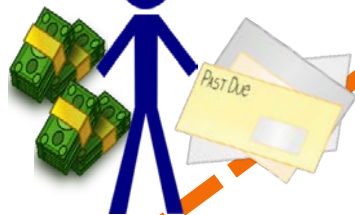
*Answer is yes/no, positive screen if answer is yes*

# Timing is everything!

Opportunities for prevention



More than 50%  
Income Spent on  
Rent + Utilities



Owes 2 Months  
Rent

Heading to the  
"Legal Emergency Room"



Received  
14-day  
Notice to  
Quit



Received Court  
Summons



Final Notice to  
Vacate -  
Immediate Risk  
of  
Homelessness!

Source: Medical Legal Partnership Boston

# The Medical-Legal Partnership Approach



Developed by the National Center for Medical-Legal Partnership  
[www.medical-legalpartnership.org](http://www.medical-legalpartnership.org)

Individual patient legal interventions are  
*pathways to finding the policy interventions  
for improving population health.*

# Housing Security Promotion: Co-Enrollment in Other Programs Matter

- Housing subsidies well known to promote housing security
- When pairing nutrition subsidies (WIC/SNAP) with housing subsidies, housing security increased by 72 percent over housing subsidies alone
  - Loss of housing subsidy decreased housing security by 62 percent
  - Loss of SNAP subsidy decreased housing security by 27 percent

# Healthy Start in Housing

## Targeting the vaccine:

- ▶ Housing insecure, high risk pregnant/ parenting families, child <5 with complex condition requiring specialty care
- ▶ Secure and retain housing to
  - ▶ improve birth outcomes
  - ▶ improve the health and well-being of women and families
- ▶ Provision of housing
- ▶ Intensive case management: housing retention, engagement in services, family development plan



Boston Public Health Commission & Boston Housing Authority



## Designing and Stocking the Housing Pharmacy to Improve Health Outcomes and Utilization

Pilot RCT at Boston Medical Center funded by The Boston Foundation

### Goals:

- Enroll 100 families over next 18 months
- Reduce housing instability among families with young children
- Improve child health
- Improve predictors on the pathway toward better child health outcomes, including food security and maternal mental health status





- ▶ Design and stock a “housing pharmacy” of new therapies and combinations of therapies developed through a collaborative of partners across the health, housing, social and legal professional service sectors
- ▶ Project partners include:
  - ▶ Project Hope
  - ▶ Nuestra Comunidad
  - ▶ Medical-Legal Partnership | Boston
  - ▶ Boston Housing Authority
- ▶ Learn more at [childrenshealthwatch.org/housing-prescriptions/](https://childrenshealthwatch.org/housing-prescriptions/)



- ▶ Resource List group
  - ▶ Current standard to care
  - ▶ Packet of resources with information on housing agencies, affordable housing waitlists, rental housing search tools, housing support resources, and legal assistance
- ▶ Intervention group
  - ▶ Intensive housing case management and Problem Solving Education from Project Hope
  - ▶ Financial Counseling and Benefit Maximization from Nuestra Comunidad
  - ▶ Legal Services from Medical-Legal Partnership
  - ▶ Priority on Boston Housing Authority waitlist of public housing (50 units available for this project)

# 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.*



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Contact us:

[megan.sandel@bmc.org](mailto:megan.sandel@bmc.org)

[richard.sheward@bmc.org](mailto:richard.sheward@bmc.org)

[allison.bovell-ammon@bmc.org](mailto:allison.bovell-ammon@bmc.org)

[www.ChildrensHealthWatch.org](http://www.ChildrensHealthWatch.org)

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