Healthy Moms and Babies: Housing and Health Integration

RESEARCH FINDINGS & RECOMMENDATIONS FOR POLICY MAKERS
Healthy Beginnings At Home

Maureen Stapleton
Executive Director, CelebrateOne
• Overview
• Design: Research and Intervention
• Findings: Housing and Health Outcomes
• Implications: Research, Policy & Practice
• Closing
CelebrateOne

- CelebrateOne is a community-wide, collective impact initiative with the mission of improving Columbus’ unacceptably high infant mortality rate.
- Recognizing housing as an important social determinant of health, CelebrateOne convened partners to establish the Healthy Beginnings at Home pilot in 2018.
Racial Disparities underly infant mortality, housing instability, and homelessness.
Racial Disparities underly infant mortality, housing instability, and homelessness

Figure ES 9. Housing cost burden by race/ethnicity and severity, Columbus region, 2017

Percent of renter-occupied households that are:
- Severely burdened (spending over 50% on housing)
- Burdened (spending over 30% on housing)

Black: 52%
Latinx: 46%
White: 41%

Racial Disparities underly infant mortality, housing instability, and homelessness

Black Ohioans are only 13% of the state’s residents, but make up nearly 50% of its homeless population.

COVID-19 has exposed underlying racial disparities in health and housing. With new federal resources available for rental assistance, the opportunity to target some of the resources to pregnant women could have profound impact on the health and well-being of infants. HBAH provides a framework for communities to use to achieve better birth outcomes.

Infants were the most common age accessing the homelessness assistance system in Ohio and the number of infants grew to 2,943 in 2017, a 53.0% increase since 2012.
Healthy Beginnings at Home

What is Healthy Beginnings at Home?
HBAH is a community initiative striving to reduce infant mortality through an affordable housing intervention.

The program seeks to strengthen the evidence regarding the impact of increasing housing stability in addressing infant mortality, reducing adverse birth outcomes, and improving health outcomes for women and their infants, with a strong focus on reducing racial disparities.
Key Partners & Principal Investigators

"I never got this much support and help [before]. Having your first baby, you don’t know what to expect … They were there to support me and asked me about my baby, asked me if I needed transportation and all that stuff."

~ HBAH participant

- Maureen Stapleton, CelebrateOne
- Kelly Kelleher, Nationwide Children’s Hospital
- Beth Fetzer-Rice, Homeless Families Foundation
- Amy Stevens, Health Policy Institute of Ohio
- Amy Riegel, CareSource
- Megan Sandel, Children’s HealthWatch
- Barbara Poppe, Barbara Poppe & Associates
- Charles Hillman, Columbus Metropolitan Housing Authority
Design: Research

Amy Stevens
Vice President of Policy, Health Policy Institute of Ohio
Can provision of safe, affordable housing during pregnancy improve health outcomes - birth, maternal and infant – and reduce infant mortality?
Research design

Recruitment
- Eligibility criteria
- Outreach and marketing
- Enrollment and random assignment

Randomization

Control group
(n=50)
- Usual care services
  - Lists of resources/providers
  - Referrals to services
  - Access to medical services

Intervention group
(n=50)
- HBAH rental assistance
- HBAH housing stabilization and other services
- Usual care services
  - Lists of resources/providers
  - Referrals to services
  - Access to medical services

Health outcomes
- Healthcare utilization and spending outcomes
- Housing, income, and material hardship outcomes

Nationwide Children's Hospital
- Phone interviews
- Baseline and six, 12, 18, and 22 months

CareSource
- Claims data for infants and household
- Infant's first year of life

University of Delaware
- Abstracted case files
- Baseline, midpoint, and exit

Healthy Beginnings At Home

- Birth outcomes
- Maternal health outcomes
- NICU utilization
- Medicaid spending
- Housing stability
- Neighborhood characteristics
- Income and employment
- Housing costs
- Food insecurity
- Impact of COVID-19
Nationwide Children’s Hospital

• Surveys conducted at baseline, 6 months, 12 months, 18 months and 22 months after enrollment

• Indicators include:
  • Birth outcomes
  • Housing stability
  • Maternal mental health
  • Health related social needs
  • Healthcare utilization through CareSource claims data
Housing Research Overview

Stephen Metraux, PhD
Director, Center for Community Research & Service; Associate Professor Biden School of Public Policy & Administration, University of Delaware

Housing, economic and related outcomes for intervention households before, during, and at the end of their HBAH participation
Healthy Beginnings at Home

Process evaluation
Design: Intervention

Beth Fetzer-Rice
Executive Director, Homeless Families Foundation
HBAH Target Population

• **Requirements**
  • pregnant adult in their first or second trimester,
  • living in Franklin County,
  • household income <30% AMI,
  • enrolled in CareSource, and
  • experiencing housing instability or homelessness

**HOUSING IS UNSTABLE WHEN A FAMILY EXPERIENCES ANY OF THESE SITUATIONS:**
  • multiple moves
  • eviction or risk of eviction
  • overcrowded or doubled up
  • a severe housing problem
  • homeless living in a shelter or place not meant for human habitation.
HBAH Intervention

**Inputs**
- Project model: Components as described in OHFA proposal
- Research design: Health and housing outcome evaluations
- Funding: Grants and in-kind contributions
- Project staff: Positions and skills/competencies (including cultural competence)
- Project partners: CelebrateOne, CMHA, HFF, CareSource, evaluators, consultants, Steering Committee, etc.
- Housing units: Tenant-based, scattered site, private landlord and public housing site

**Outputs**
- Recruitment
  - Eligibility criteria
  - Outreach and marketing
  - Enrollment and random assignment
- Rental assistance
  - Rental payments, security deposits, utilities arrears and related costs
  - CMHA inspections for Housing Quality Standards
  - Step-down subsidy schedule
- Usual care services
  - Lists of resources/providers
  - Referrals to services
  - Access to medical services

**Phase 1 services**
- First 30 days
  - Strengths and needs assessment
  - Person-centered plan
  - Housing stabilization services and home visits by Housing Stability Specialist (HSS) or Community Health Worker (CHW)

**Phase 2 services**
- 30 days through birth of child
  - Housing stabilization services and home visits by HSS or CHW
  - Implementation of person-centered plan (including services such as healthcare coordination, income stabilization, nutrition assistance, etc.)

**Phase 3 services**
- Post-partum
  - Housing stabilization services and home visits by HSS or CHW
  - Implementation of person-centered plan (including services such as healthcare coordination, income stabilization, nutrition assistance, etc.)

**Phase 4 services**
- Aftercare and housing retention
  - Individualized housing retention plan
  - Supports provided by HSS and other partners, as needed (including emergency assistance, financial coaching, referrals, education, stabilization, nutrition assistance, etc.)

**Randomized control trial**
- Intervention Group (50 families)
  - HBAH rental assistance
  - HBAH housing stabilization and care coordination services
  - Usual care services (referrals, access to medical care and JobConnect through CareSource)
- Control Group (50 families)
  - Usual care services (referrals, access to medical care)

**Evaluate health and housing outcomes**
- from baseline (first or second trimester of pregnancy) to 24 months after baseline

**Housing outcomes**
- Reduced housing insecurity: Homelessness, multiple moves, behind on rent

**Other material hardship outcomes**
- Decreased food insecurity
- Decreased energy insecurity

**Health outcomes**
- Improved birth outcomes: Preterm birth, low birth weight
- Reduced infant mortality: Neonatal, post-neonatal
- Reduced ED usage and hospitalizations for mothers and children
- Improved adherence to well-child visits and immunization schedule
- Reduced maternal depressive symptoms
- Decreased healthcare hardships
Rental Assistance + Housing Stabilization Services

Rental Assistance

• 15-months of rental subsidy covering the gap between full market rent and 30% of the participants’ income
• Followed by 6-month stepdown period in which the subsidy decreased gradually until the participant pays full rent.
• Some participants found housing in units that included a full rent subsidy on an ongoing basis rather than the time limited subsidy provided by HBAH
Rental Assistance + Housing Stabilization Services

**Housing stabilization services** helped participants identify housing, negotiate with landlords, and remain securely housed when faced with challenges.

- Family Critical Time Intervention (CTI)
- Housing First approach
- Clinical best practices: person-centered planning, motivational interviewing, and trauma-informed care
- Other usual care support services included access to a CelebrateOne CHW, a CareSource Care Manager, and a JobConnect Life Coach
Usual Care

• Participants randomized to the usual care group did not receive a rental subsidy from the HBAH program, but remained eligible for housing assistance from other sources.

• All community-based services for which they were eligible, including support from CareSource and CelebrateOne, remained available to these participants.
Findings: Housing

Amy Riegel
Senior Director of Housing, CareSource
## Demographics

### Participants

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<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
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<tr>
<td>Non-Hispanic Black</td>
<td>81%</td>
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<tr>
<td>Non-Hispanic White</td>
<td>10%</td>
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<tr>
<td>Hispanic Black or Multiracial</td>
<td>9%</td>
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</tbody>
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**Average Age**

- 25.5

**Prior Pregnancy**

- 81%

### Past Housing Experiences

- **Homeless for a few months or longer**: 50%
- **Concerned with paying rent**: 40%
- **Desired safer neighborhood**: 20%
- **3+ moves in the previous year**: 10%
Financial Barriers to Stable Housing

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<th>Income Per Month</th>
<th>Percentage</th>
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<tr>
<td>Zero</td>
<td>46%</td>
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<tr>
<td>$1 to $500</td>
<td>9%</td>
</tr>
<tr>
<td>$501 to $1,000</td>
<td>18%</td>
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<tr>
<td>Above $1,000</td>
<td>27%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit Score</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Above 580 (“low” or “average”)</td>
<td>8%</td>
</tr>
<tr>
<td>Below 580 (“bad” or “poor”)</td>
<td>38%</td>
</tr>
<tr>
<td>No Score (insufficient information)</td>
<td>54%</td>
</tr>
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</table>
Figure ES 3. Homeless shelter use by HBAH intervention and control group households: Total household-days in shelter

- **Pre-HBAH enrollment period (9/2016 through 10/2018)**
  - Intervention group (n=48): 695
  - Control group (n=50): 834

- **HBAH enrollment period (10/2018 through 6/2019)**
  - Intervention group (n=48): 436
  - Control group (n=50): 77

- **Post-HBAH enrollment period (7/2019 through 5/2020)**
  - Intervention group (n=48): 0
  - Control group (n=50): 114

**Source:** Homeless Management Information System, collected by Columbus Community Shelter Board, analysis by University of Delaware
“The fact that my son has his own room right now – that is something that is super sweet ... I get to put him in a situation of living where he can be comfortable, be a baby, be himself, learn and grow and be inquisitive and play. You can’t have that if you aren’t living in a stable home.”

- HBAH participant
Findings: Health

Leslie Jones
Research Assistant, Nationwide Children’s Hospital
Findings show differences between the birth outcomes for the intervention group and the usual care group

- Due to small "n", results are not statistically significant

Babies in the housing intervention group were less likely to be admitted to Neonatal Intensive Care Unit (NICU) and stayed just 8 days on average rather than 29 days for usual care NICU admissions.
Birth Outcomes

Figure ES 2. Birth outcomes for HBAH intervention and control group participants

51 live births

44 live births

40 (78%) Full-term and healthy birth weight

24 (55%) Full-term and healthy birth weight

Intervention group (n=50)

Control group (n=50)

Source: Nationwide Children’s Hospital, CareSource data and self-reported data
Healthcare Savings

Figure ES 2. Medicaid spending for HBAH intervention and control group participants

- Average paid per claim: Infant only at time of birth until initial release
- Total Medicaid spending per member, per month (PMPM) without outliers: All household claims (from date of infant's birth to first birthday)

- Intervention group (n=47*): $4,175
- Control group (n=41*): $21,521
- Intervention group (n=94): $351
- Control group (n=81): $646

* N is based on live births. Does not include fetal deaths.
Source: CareSource
Implications: Research

Megan Sandel, MD, MPH
Co-Lead Principal Investigator, Children’s HealthWatch
Timing and Duration of Homelessness matters, Both Prenatally and in Early life, on Child Health

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

Homelessness During Infancy: Associations With Infant and Maternal Health and Hardship Outcomes

Timing and Duration of Pre- and Postnatal Homelessness and the Health of Young Children
Compounding Stress  
The Timing and Duration Effects of Homelessness on Children's Health

By Megan Sanjel, MD MPH, Richard Shewari, VPP, and Lisa Sturtivant, PhD  
June 2015

Decades of scientific research has demonstrated that homelessness experienced during early childhood is harmful to a child’s growth and development. 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. 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.

New research from Children’s HealthWatch illustrates there is a 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 results in a so-called “dose-response” effect that compounds 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.

The percent increased risk of poor health outcomes:

- Fair/Poor Child Health: 41% increase
- Developmental Risk: 28% increase
- Child Hospitalizations: 23% increase

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
Analysis demonstrated **significantly greater improvements in child health status and parent anxiety and depression scores** among those in the intervention group, compared to the control group.
Recommendation: Research Replication

Test the HBAH model in other communities and at a greater scale to better understand impacts on maternal, birth, and child health outcomes and potential cost benefits related to investment in the HBAH model.

- Preliminary evidence from the HBAH program suggests rental assistance and housing stabilization services may help pregnant housing-instable women achieve better birth outcomes.
- The HBAH model could be scaled and rigorously evaluated in Columbus as well as other communities that experience high rates of infant mortality.
- This work could ultimately lead to a large, nationally funded, multi-site study.
Implications: Policy & Practice

Barb Poppe
Principal, Barbara Poppe and Associates
Promote housing stability for pregnant women with extremely low incomes who experience homelessness or housing insecurity. Use an equity lens to better understand and reverse health disparities associated with race and ethnicity.

- Provide **rental and utility assistance** to bridge the gap between household income and housing costs for pregnant women with extremely low incomes
- Provide **housing stability services** that support the household and enable better relationships with landlords.
- **Increase availability of safe, quality rental housing** for households with extremely low incomes and reduce admission barriers.

**Recommendation: Policy & Practice Enhancements**
Local Replication

- **Pregnancy Care Initiative**
  - Building system to prevent homelessness for pregnant women
  - New Housing for Pregnant Women using CRV/ARP funding

- **Ohio Learning Community**
  -Sharing HBAH lessons with 4 urban communities with high rates of infant mortality

- **State of Ohio investment**
  - $2.25 in biennial budget (FY2022) for HBAH replication
Implications: federal policy

- HHS
  - CMS Informational bulletin
  - HRSA – MCHV & FQHCs
  - ASPE report
- HUD
  - HCV, including special purpose vouchers
  - CoC guidance
“Before Healthy Beginnings at Home, I was sleeping on the floor at my boyfriend’s mom’s house – pregnant. Nobody wants to do that. It’s not easy to do that. Now, not only do I have a stable place to grow my family, but I have a place for myself.”

-HBAH participant
Healthy Beginnings at Home Collaborative

Other partners:
- StepOne for a Healthy Pregnancy, Physicians Care Connection
- Barb Poppe
- Jacob Bowling
- Craig Thiele
- University of Delaware
- Community Shelter Board
- Health Policy Institute of Ohio