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Early childhood education and enrichment activities are emphasized strongly in the Neighborhood Revitalization Initiative, which is aimed at helping communities turn neighborhoods into places of opportunity.

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In This Issue

Housing's and Neighborhoods' Role in Shaping Children's Future

Children, minorities, the poor, and people with chronic medical conditions or behavioral health issues are disproportionately affected by living in inadequate housing and neighborhoods. Children are particularly vulnerable to influences from their residential surroundings; the quality of the environment in which young people learn and grow has serious implications for their physical health, behavioral and emotional welfare, school achievement, and economic opportunity, affecting them directly and indirectly through its impact on parents and the significant adults in their lives.[1]

A wide array of research has been devoted to the ways in which housing matters for families and children, but methodological challenges in many of the studies limit the ability of this research to definitively inform policy decisions (see "How Housing Mobility

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

PD&R

Message from the Assistant Secretary

This 12th edition of *Evidence Matters*, focusing on housing and children, comes at an opportune time. Secretary Julián Castro recently released "Our Vision," a document outlining HUD policy goals that together will expand opportunity for all Americans. As HUD approaches its 50th anniversary, the agency is continuing its deep commitment to delivering programs that provide a platform for children and families to succeed. Reaffirming that quality housing and neighborhoods are the foundation that helps children and youth achieve their life goals — and ensuring that children have access to them — are important for maintaining not only the strength of our communities but also our competitiveness in the global economy.

This issue of *Evidence Matters* examines the evidence base around how housing matters for families and children. A better understanding of the research and lessons learned from previous studies will enhance ongoing policy efforts to improve children's physical health, behavioral and emotional welfare, school achievement, and economic opportunities. Research investigates how the various dimensions of housing, such as quality, crowding, affordability, housing assistance, ownership, and stability, are linked to children's development and well-being. Of course, housing's effect on the development and well-being of children extends beyond the home itself to the surrounding neighborhood. Various neighborhood characteristics may play a vital role in either expanding or limiting opportunity for children and families. Neighborhood effects research examines the causal links between neighborhood contexts and the social and economic outcomes of individual families. A key challenge of this work is untangling the influence of family and individual characteristics from that of the neighborhood, in addition to distinguishing among various correlated neighborhood attributes. The strongest evidence exists on the effects of neighborhood contexts on children.

As noted in a forthcoming article by Patrick Sharkey and Jacob Faber summarizing recent literature in this area, consistent evidence exists linking concentrated poverty or disadvantage with children's academic and cognitive development. Exactly what it is about neighborhoods that matters, and for whom, is less well understood, but there are several areas of growing evidence. As with housing quality, specific physical aspects of the neighborhood appear to be significant. Air pollution may contribute to respiratory problems and result in school absences, whereas noise pollution may interfere with attention and studying, lowering academic progress. As for the social characteristics of neighborhoods, the research focus is increasingly on areas of highly concentrated disadvantage, which are also associated with high crime and violence. In numerous articles and with various coauthors, Sharkey has documented the effect of concentrated disadvantage on early verbal development and the effect of exposure to violence on student test scores. Further analysis of the cross-site variation in student outcomes in the Moving to Opportunity demonstration by Burdick-Will et al. provides evidence that the positive effects found in Baltimore and Chicago may be driven by students moving out of the most disadvantaged and violent neighborhoods.

These findings are consistent with increasing evidence from the fields of neuroscience and developmental psychology on the ways early exposure to extreme environmental stress affects brain development, including the areas of the brain responsible for executive function. Executive function is central to impulse control and long-term planning, perhaps explaining the relationship between children's early environment and their cognitive development. This means that the earliest intervention may be the most important, and safety (or lack thereof) may be of singular importance in a child's environment.

Encouraging families to prioritize the safety of their environment is not an issue; low-income families consistently rank safety as their greatest concern when assessing neighborhoods. Rather, the policy challenge is enabling families to successfully live in safe and healthy neighborhoods. One path to this goal is mobility; the other is improving neighborhoods. On the first, HUD's proposed rule and process for Affirmatively Furthering Fair Housing might provide the type of planning and data needed to support efforts for more meaningful mobility. On the second, federal cross-agency, cross-disciplinary, place-based approaches such as Promise Zones may help communities address interrelated challenges around employment, health, education, and safety. Tackling these interconnected challenges in a holistic way is necessary to positively shape children's futures.

As the President noted in his January announcement of the first five Promise Zones, a child's success "should be determined not by the ZIP code she's born in, but by the strength of her work ethic and the scope of her dreams." We have increasing evidence, however, that the quality of children's neighborhoods does determine their prospects, and we need more effective policies to ensure that it does not.

— Katherine M. O'Regan, *Assistant Secretary for Policy Development and Research*

Editor's Note

Since 2009, "housing as a platform" — emphasizing the connection between the stability and quality of housing and important health, education, and economic outcomes — has been a key strategic direction for HUD. As Assistant Secretary for Policy Development and Research, Kathy O'Regan, has said, "health is a key focus [of our agency], and we consider this nexus of health and housing to be one of our priorities for future work." In addition to its own programs and partnerships with other federal agencies, HUD has worked closely with the MacArthur Foundation's How Housing Matters initiative to consider how housing quality and stability impact various populations, from families and seniors to youth. This issue of *Evidence Matters* focuses on how housing matters for youth, documenting evidence that a range of outcomes in children are closely aligned with housing and neighborhood quality.

The lead article, "Housing's and Neighborhoods' Role in Shaping Children's Future," presents an overview of the topic, discussing the effect of housing and neighborhood quality on physical health, behavioral and emotional welfare, school achievement, and economic opportunity, among other topics. The Research Spotlight piece, "How Housing Mobility Affects Education Outcomes for Low-Income Children," details research on the Annie E. Casey Foundation's Making Connections initiative and analyzes important findings on mobility and educational attainment. Finally, the In Practice article, "Protecting Children From Unhealthy Homes and Housing Instability," examines the work of organizations that promote housing quality and reduce youth homelessness.

The topic of how housing and neighborhood quality affect youth is substantial — any one of the outcomes we discuss could easily fill an entire issue. We hope this edition of *Evidence Matters* offers a useful overview of the subject and prompts readers to research these issues in greater depth. Our next issue will focus on another critical topic: disaster recovery. As always, please provide any feedback at **www.huduser.org/forums**.

— Rachelle Levitt, *Director of Research Utilization Division*

Affects Education Outcomes for Low-Income Children," p. 17).[2] These investigations, however, have identified various dimensions of housing — such as quality (the physical condition and safety of the home), crowding, affordability, housing assistance, ownership, and stability — that have been linked to children's development and well-being. This article examines what researchers, policymakers, and other stakeholders are learning about the effects of housing and neighborhood conditions on children's outcomes and describes how this information is being incorporated into policies and initiatives designed to improve these conditions.

Physical Conditions of Housing

Of all the dimensions of housing, poor physical quality is a strong predictor of emotional and behavioral problems.[3] The "Worst Case Housing Needs 2011: Report to Congress" notes a "decades-long trend of improvements to the

Highlights

- Research devoted to the ways in which housing matters for families and children has focused on the connections between children's development and well-being and various dimensions of housing such as quality, crowding, affordability, housing assistance, ownership, and stability.

- Poor physical quality of housing is a strong predictor of emotional and behavioral problems in children, with lead-based paint and mold or moisture problems presenting two well-known threats to the welfare of children.

- Federal recognition of lead's deleterious effects on children has led to concerted efforts to remove lead-based paint from all housing, prohibit the residential use of lead-based paint, and address lead-contaminated dust and soil.

- Neighborhoods also play a critical role in the well-being of children and families. Policymakers and practitioners are employing holistic approaches that consider housing within its neighborhood and community context.

nation's housing stock" due to rehabilitation, the demolition of obsolete units, and more stringent building codes.[4] In 2011, however, an estimated 6 percent of households with children aged 0 to 17 were living in inadequate housing with severe or moderate physical problems, including plumbing and

heating deficiencies; rodent and cockroach infestations; and structural issues such as cracks and holes in walls and ceilings, water leaks, broken windows, and crumbling foundations, according to the Federal Interagency Forum on Child and Family Statistics.[5] Although Holupka and Newman find that physical

housing conditions for children have generally improved over the past four decades, income and racial disparities persist, and disproportionate shares of poor and minority children live in inadequate housing (see fig. 1).[6] Children living in these conditions are at risk of behavioral and developmental problems in addition to infectious disease, chronic disease, and injury.[7]

Two well-known physical problems in housing that threaten the welfare of children are lead-based paint and mold or moisture problems. Found in older homes, lead-based paint is highly toxic, especially to young children, causing damage to the brain, kidneys, nerves, and blood and impairing cognitive and socioemotional development.[8] Early childhood exposure to lead has been linked to IQ deficits in children as young as three, visual-motor integration problems, poor school performance and lower levels of proficiency in reading and math, attention and behavioral problems, juvenile delinquency, and an increased likelihood of dropping out of high school.[9] According to the U.S.

Centers for Disease Control and Prevention, "[e]ven low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement. And effects of lead exposure cannot be corrected."[10] This danger is a particular threat to children living in poverty; low-income households have a higher rate of lead-based paint hazards in their homes than do higher-income households (29 percent and 18 percent, respectively).[11]

Although lead's deleterious effects on children were recognized as early as the 1920s, it was not until 1971 that the first national legislation, the Lead-Based Paint Poisoning Prevention Act, prohibited lead-based paint in residential structures built or rehabilitated with federal funds. This first step ultimately led to concerted efforts by Congress, HUD, the U.S. Department of Health and Human Services, the Consumer Product Safety Commission, and the U.S. Environmental Protection Agency to remove lead-based paint in all housing, prohibit the residential use of lead-based paint, and address

lead-contaminated dust and soil.[12] As a result of these initiatives, the number of U.S. children with lead poisoning has declined by 75 percent over the past 20 years.[13] Yet the danger persists; an estimated 22 percent (23.2 million) of all American homes contain one or more lead-based paint hazards. Of these households, 3.6 million have children under 6, and nearly a third of these children are from low-income families.[14]

Respiratory illnesses stemming from the presence of allergens, mold, and other indoor air pollutants have been linked to poor housing conditions that create or amplify exposure to these agents, such as inadequate heating and ventilation, pest infestation, and moisture problems. Asthma in particular is a leading cause of childhood disability and illness as well as higher rates of school absenteeism.[15] Of the 7 million U.S. children with asthma, poor minority children are disproportionately afflicted. While "the nation's overall asthma rate is 9.4 percent, the prevalence among black children is 16 percent and 12.2 percent for children in poverty."[16]

Figure 1. Inadequate Housing Among Households With Children, by Race and Annual Income
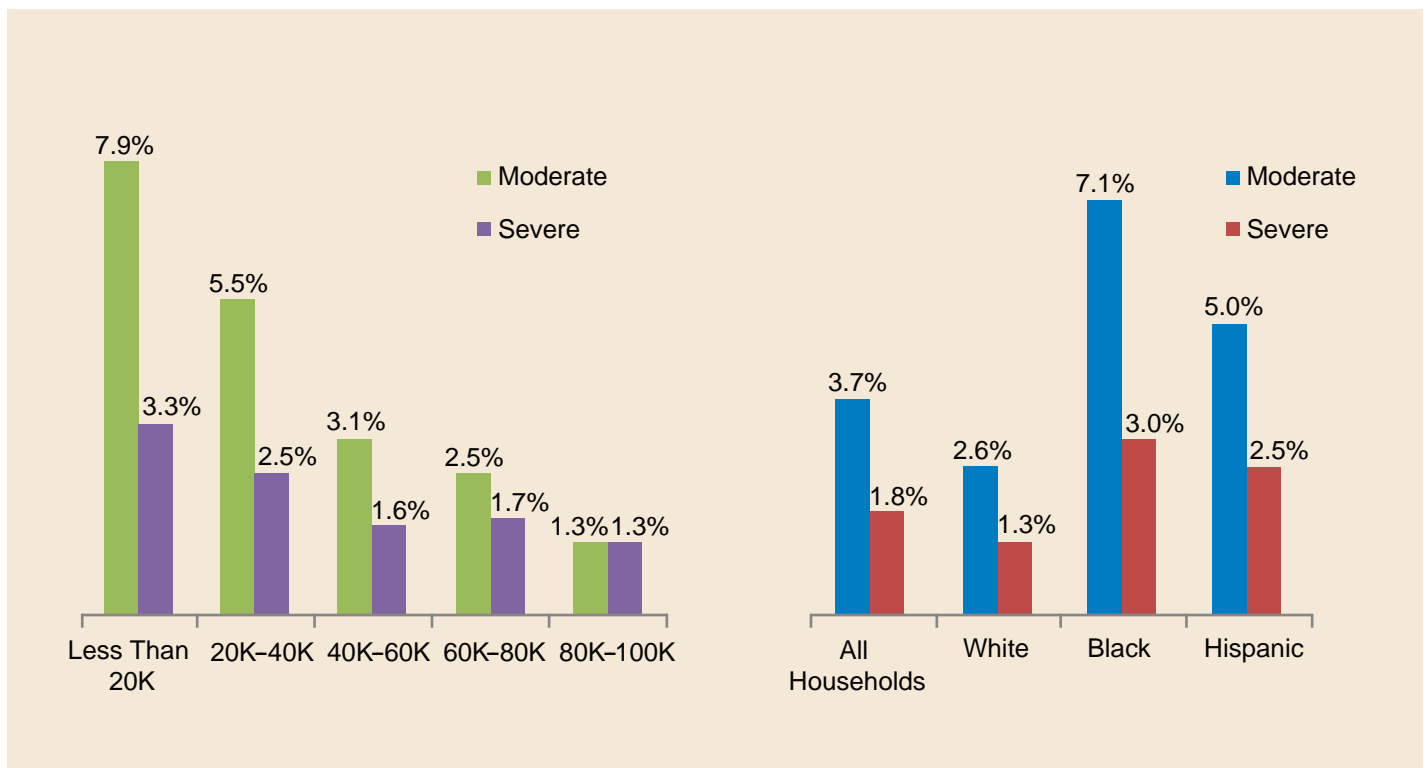
Source: United States Census Bureau. 2011. American Housing Survey National and Metropolitan Public Use File.

These students at Watkins Elementary School in Washington, DC are engaged in a high-quality educational experience that matters in the trajectory of well-being they will follow into adulthood.

HUD has expanded and coordinated its efforts with other federal agencies and currently participates in the President's Task Force on Environmental Health Risks and Safety Risks to Children to eliminate asthma triggers such as mold, moisture, secondhand tobacco smoke, and pest infestations and to find effective ways to improve the control of respiratory diseases, particularly in public housing.[17] As these conditions have improved, HUD's Healthy Homes Initiative has expanded its efforts to address any environmental health and safety threats (see "Protecting Children From Unhealthy Homes and Housing Instability," p. 27) by focusing on the need to address injury hazards as part of comprehensive home interventions; the initiative also supports research on strategies to reduce home-related injuries in children.[18]

In a comprehensive analysis of the impact of multiple housing dimensions on child development, Coley et al. found the strongest relationship with poor housing conditions. The researchers also considered parental and family influences as well as multiple aspects of child functioning and applied their analysis to different developmental stages for young children, school-age children, and teenagers. The random, representative sample of 2,400 low-income youth aged 2 to 21 lived in moderate- and high-poverty neighborhoods in Boston, Chicago, and San Antonio. The researchers followed the subjects and their families from 1999 to 2005, focusing on three areas of the children's development: reading and math skills, emotional problems such as depression and anxiety, and behavioral difficulties. These researchers found that children living in homes with "leaking roofs, broken windows, rodents, non-functioning heaters or stoves, peeling paint, exposed wiring, or unsafe or unclean environments" were more likely (although no causality was established) to have emotional and behavioral problems, and in greater quantity, than children in better quality homes. If these housing problems worsened during the study period for the children in Coley et al.'s sample, the emotional and behavioral difficulties also increased. Reading and math skills were not strongly linked to housing quality, nor was there significant evidence of differences in the housing experiences of differently aged children. Finally, family processes were affected by low-quality housing.[19] Rebekah Levine Coley, a professor at Boston College, explains that housing quality is associated with children's functioning, in part, "through its association with the mother's functioning. Very often the mother acts as a conduit through which the environment influences children. Mothers in poor housing show higher levels of emotional and psychological distress and parenting stress that in turn are partly responsible for the association between housing quality and child outcomes."[20]

The Challenge of Moving for Military Children

In 2012, there were over 1.2 million children in U.S. military families, and more than three-fourths lived in households headed by enlisted military service members.[1] Military families with children frequently relocate, often moving across state lines or to foreign countries, and move every two to three years, on average.[2] Having to move frequently is recognized as a significant military lifestyle stressor that can disrupt a child's friendships, educational experiences, community connections, and extracurricular activities.[3] On average, military children change schools six to nine times during their elementary and secondary years, requiring a significant number of adjustments by the time they graduate from high school.[4]

Although research has explored how military children react and adjust to frequent changes in residence, results are mixed, and many studies are specific to small, unrepresentative samples of the population. Other studies may not apply to the experiences of today's military families, which include war and multiple parental deployments.[5] Timely data come from a qualitative study by researchers at Johns Hopkins Bloomberg School of Public Health in which a group of military adolescents who had moved an average of 5.72 times reported in focus groups, along with parents and school personnel, on what stressors they experienced with relocating. The students reported the biggest challenges they faced when transitioning to a different place to live were experiencing an increase in family tension, particularly when a move was unanticipated; having difficulty separating from friends and facing the challenge of assimilating into established social networks to form new friendships; learning and adapting to a new school and community; dealing with differences between the old and new schools (such as size, requirements, quality of education, treatment of special needs, available resources, and administrative procedures); leaving and developing new student-teacher relationships; and getting accepted into extracurricular activities.[6]

Admittance to extracurricular activities is one of the challenges that military children face when moving to a new school.

Focus group members also identified what students found helpful in coping with the stress of relocating. Coping mechanisms mentioned include blending in, improving communication skills, assuming adult roles and responsibilities, joining available activities, connecting with other military children, and confiding in peers. Several focus group participants expressed a belief that military children are uniquely equipped to handle relocation stressors adeptly, positively, and maturely and to take advantage of chances to live abroad, experience diversity, and acculturate.[7] These data resonate with other research suggesting that these experiences may help military children become more resilient. Weber, for example, finds that as the frequency of moves increased for a group of military adolescents, their rates of behavioral and school problems declined, suggesting that these students were becoming more resilient in making moves.[8]

Numerous groups from the military, civilian, and nonprofit sectors offer assistance to military families and their children. One example is the Student 2 Student peer support program sponsored by the Military Child Education Coalition, in which high school students from military families who are entering a new school receive support and advice from student peers on how to assimilate into the new environment.[9] Another example is Tutor.com for U.S. Military Families, an online tutoring service that offers free, 24-hour homework help to all K-12 military children. This service is sponsored by the U.S. Department of Defense Morale, Welfare and Recreation Library Program; the Yellow Ribbon Reintegration Program; and the Navy General Library Program. Finally, one of the most significant initiatives on behalf of military schoolchildren is the Interstate Compact on Educational Opportunity for Military Children. Developed by the Council of State Governments, the U.S. Department of Defense, and other stakeholders and signed by most states, the compact is a commitment to uniform policies that will ease military child transfers between public school districts on matters such as educational records, immunizations, entrance into kindergarten and first grade, deployment-related absences, special education, graduation, extracurricular activities, and guardianship.[10]

[1] U.S. Department of Defense. "2011 (Updated November 2012) and 2012 Demographics: Profile of the Military Community" reports (www.militaryonesource.mil/footer?content_id=267470). Accessed 18 September 2014.

[2] Carlos V. Guzman. 2014. "School-Age Children of Military Families: Theoretical Applications, Skills Training, Considerations, and Interventions," Children & Schools 36:1, 9–14; Molly Clever and David R. Segal. 2013. "The Demographics of Military Children and Families," The Future of Children 23:2, 13–39.

[3] Lisa Hains Barker and Kathy D. Berry. 2009. "Developmental Issues Impacting Military Families With Young Children During Single and Multiple Deployments," Military Medicine 174, 1033–40.

[4] Center for American Progress. 2014. "Better Serving the Children of Our Servicemen and Women." Accessed 5 August 2014.

[5] M. Ann Easterbrooks, Kenneth Ginsburg and Richard M. Lerner. 2013. "Resilience among Military Youth," The Future of Children 23:2, 99–120.

[6] Catherine P. Bradshaw, May Sudhinaraset, Kristin Mmari, and Robert W. Blum. 2010. "School Transitions Among Military Adolescents: A Qualitative Study of Stress and Coping," School Psychology Review 39:1, 84–105.

[7] Ibid.

[8] Eve Graham Weber. 2005. "Geographic Relocation Frequency, Resilience, and Military Adolescent Behavior," Military Medicine 170:7, 638–42.

[9] "Parents and Students," Military Child Education Coalition website (www.militarychild.org/parents-and-students). Accessed 1 August 2014.

[10] "Collaboration: Interstate Compact on Educational Opportunity for Military Children," Military K-12 Partners website. (www.militaryk12partners.dodea.edu/collaborate.cfm?colId=compact). Accessed 1 August 2014.

An overly crowded living situation, with its lack of privacy, lack of control, and overstimulation, can also potentially affect a child's well-being and development.[21] Definitions of overcrowding vary, but "more than one person per room" is commonly used.[22] Although crowded conditions for children have declined since 1975, an estimated 10.8 percent of U.S. children lived in overcrowded homes in 2005; the rates were higher for poor (21.2%) and near-poor (17.9%) children. However, a total estimate for children living in crowded conditions in 2012 (14%) suggests that this problem may have worsened.[23] The circumstances in which overcrowding occurs vary widely and the research literature leaves enough questions unanswered that general conclusions about its impact are difficult to draw. The influence of many variables remains unknown — for example, cultural preferences, the ages of household members, household composition, and interfamily obligations.[24] Nevertheless, child development studies have noted the heightened stress, noise levels, and lack of privacy that crowding can create as well as the related psychological distress, detached parenting, family turmoil, poor school adjustment, and reduced social and cognitive competency.[25] Some studies

increased the probability of being held back a grade in primary or junior high rose significantly regardless of family size or socioeconomic status.[28]

Affordability of Housing

Housing expenditures are conventionally considered affordable if they do not exceed 30 percent of family or household income. Since 1975, housing has become increasingly unaffordable for poor and minority families, and households with children that are burdened by housing costs have more than doubled.[29] Sixty-five percent of children in low-income families now live in households that are "housing cost burdened," meaning that they spend more than 30 percent of their income on housing-related expenses such as rent or mortgage payments, taxes, and insurance.[30] This does not take into account the costs of housing plus the costs of transportation, which are increasingly viewed as the combined "cost of place."[31] In 2011, among all very low-income families with worst case housing needs — those who receive no government housing assistance and pay 50 percent or more of their income for rent, live in severely inadequate housing, or both — 42.8 percent were households with children, a substantial

parental stress, thereby having an adverse effect on family and child well-being.[34] According to the Joint Center for Housing Studies of Harvard University, the average severely housing cost-burdened, low-income family with children that paid 50 percent or more of its income for shelter in 2011 had about $565 left for savings and all other monthly expenses — only half of what unburdened households had available.[35] Being housing cost burdened clearly curtails a family's ability to afford essentials such as food and medicine that relate to health and positive development.

An alternative theory suggests that the benefits of living in a higher-priced housing market and a better neighborhood, such as better-performing schools, a safer environment with lower crime rates, and other resources, outweigh the hardship of a housing cost burden, resulting in a worthwhile tradeoff that benefits children.[36] Sandra Newman, professor at Johns Hopkins University, points out that "when you pay more for housing — whether in rent or the purchase price of an owned home — you're also buying a bundle of neighborhood and community characteristics."[37] Newman notes that if children benefit from higher-quality neighborhoods and communities, then taking on a high housing cost burden might produce better child outcomes. On the other hand, if spending a high proportion of income on housing crowds out essential spending on children, living in a higher-quality neighborhood may not neutralize or overcome the negative effects of unaffordability on child outcomes such as cognitive performance.[38] Within a different sample of Coley et al.'s study, however, children in low-income families that were spending the most on housing and living in the relatively best-quality housing and neighborhoods had the highest levels of emotional and behavioral functioning and the best reading scores. These families were also more likely to own their home and less likely to live in government-assisted

> ## Child development studies have noted the heightened stress, noise levels, and lack of privacy that crowding can create.

have linked crowded housing to physical health, including the transmission of infectious disease, and to higher rates of mental health issues.[26] In two studies, a nationally representative sample and a representative sample in Los Angeles County, Solari and Mare find that living in crowded conditions appeared to negatively affect math and reading achievement, which has implications for the adult socioeconomic status of children.[27] In another large study of 15-year-olds in France, Goux and Maurin find that as the number of persons per room in the home

increase from 34.6 percent in 2007.[32] Housing cost burdens and the inability to afford adequate housing are often associated with housing instability and mobility for families with children.[33]

There are two primary schools of thought about the effect of unaffordable housing on children. One theory is that more expensive housing creates hardship for families; having less money available for other necessities such as food and medicine undermines economic stability and increases

In one day, volunteers from DC Promise Neighborhood Initiative, the DC Housing Authority, JetBlue, and the Kenilworth-Parkside community built a new place for children to play in the Kenilworth Courts. The project was in partnership with KaBOOM!, a nonprofit that creates play spaces for children.

housing, and they resided in neighborhoods with low levels of social disorder, crime, and assisted housing.[39]

Few studies have compared the effects of affordable and unaffordable housing on children. In one exploratory study, Harkness and Newman find that affordable housing favorably affects older children, raising the question of whether the effect might be cumulative.[40] Other research indicates that children in higher-priced housing experienced no differential impact in behavior, health, or school performance compared with those in lower-priced markets, and parents in higher-priced housing did not experience more stress.[41]

The difficulty in these investigations lies in untangling, sorting, and clarifying which factors act independently on child outcomes, directly or indirectly.

More recently, Newman and Holupka have tested the effects of affordability, measured by housing cost burden, on low-income children's cognitive achievement, health, and behavior and explored the potential benefits of less affordable housing in higher-priced markets. Their results indicate that although housing affordability does not affect children's behavior or health, a significant relationship exists between cognitive performance and housing affordability. This relationship takes the form of an inverted U, in which better cognitive achievement occurred in the middle; cognitive performance was lower at both low and high levels of housing cost burden.[42]

Extending their investigation to examine whether families free of high housing costs spend more on their children's welfare, Newman and

Holupka followed this study with one that explored the relationship between spending on child enrichment (such as child care, school materials, books, outings, and music lessons) and housing cost burden. Again, the researchers found an inverted-U relationship. As the housing cost burden rose from 10 to 30 percent, spending on child enrichment rose by an average of $170. As the housing cost burden continued to rise from 30 to 60 percent, child enrichment expenditures fell by an average of $98. Thus, both child enrichment spending levels and cognitive performance measures were low at the extremes of the U-shaped housing cost-burden continuum. These scholars hypothesize that child-related expenditures, particularly for enrichment, may be one way in which housing affordability influences children's cognitive development and well-being.[43]

Newman notes that "an intriguing aspect of this is that housing cost burden is not simply a reflection of income….Whether this pattern is explained by the constrained choices parents are forced to make, their values and motivations, or other unknown factors is yet to be determined."[44]

Discussions about the role of housing affordability in the well-being of children are also concerned with the part that homeownership and subsidized housing may have in their welfare and that of their families.

Homeownership. Results of studies of the relationship of homeownership to the well-being of children are mixed, and the meaning of those results is subject to debate. Studies have indicated positive links between homeownership and education, health, and behavioral outcomes for children, attributing them to factors such as greater stability, reduced rates of student turnover in schools, better quality homes that owners keep properly repaired and upgraded, and higher-quality neighborhoods containing other invested owners. More recently, some researchers have come to think that self-selection, rather than homeownership itself, explains these effects; they argue that homeowners have characteristics that differ from renters in ways that also positively affect child outcomes.[45] Another concern about the body of research on homeownership's effect on children is the existence of unrecognized, untested, or unmeasured factors that might influence study outcomes, leading to spurious conclusions.[46]

Researchers presently looking at this homeownership question see little conclusive evidence about the effect of homeownership on children's cognitive achievement, behavior problems, or health.[47] For example, Coley et al. recently looked for relationships between housing contexts and child functioning that differed by age group. Although a quarter of their sample lived in owned homes rather than rental or assisted housing, the children and adolescents in the three groups exhibited few differences in emotional, behavioral, or cognitive functioning.[48]

Nevertheless, the existence of a connection between homeownership and stability, regarded as a good outcome for children, continues to be inferred from other studies such as the one in which Theodus et al. found children who remained in the same school (40%) during a three-year period were likelier than those who changed schools (34%) to live in an owner-occupied home.[49] Although homeownership does not necessarily increase residential stability, researchers need to learn more about the relationship between the two because stability is important to the welfare of children and families.[50] Further research that addresses these questions is necessary before it can be determined whether a causal link exists between homeownership and child

household income enough to allow more resources and options for children.[52] In some cases, housing subsidies place families closer to better-performing schools.[53] Some types of subsidized housing, however, have placed families near schools that perform worse than schools near families in poverty. A recent study finds that voucher holders and public housing residents tend to live in neighborhoods with lower-performing schools than renters and other poor households.[54]

Various studies suggest that children living in subsidized households do experience certain benefits, including a greater likelihood of being adequately nourished and physically healthy than children in similar families on a waiting list for housing assistance, favorable educational outcomes, the stability and social connections that support academic success, self-sufficiency, and future economic attainment.[55]

Subsidies often reduce stress for families by lowering rents, eliminating the risks of rent increases and evictions, and raising household income.

well-being and, if so, what constitutes the nature of that causality.

Subsidized Housing. Approximately one-third of households living in public assisted housing — and 43 percent with vouchers — have children under the age of 18.[51] The impact on children of residing in subsidized housing has been examined from several angles. Housing assistance does allow the neediest families to enjoy decent housing and adequate living space. Overcrowding is avoided in most subsidized housing because of program rules that prescribe a certain number of bedrooms depending on family size. Subsidies often reduce stress for families by lowering rents, eliminating the risks of rent increases and evictions, and raising

Massey et al.'s recent study of Ethel R. Lawrence Homes, an affordable housing development in Mt. Laurel Township, New Jersey, is an example. This development for low- and middle-income families effectively blends into and reflects the layout and physical characteristics of the surrounding affluent suburbs. The townhomes house families earning 10 to 80 percent of the area median income. Children in these families benefit from decent housing and a neighborhood that is safer than their previous home, an environment that is less economically and racially segregated, schools with less crime and violence, and better quality schools with quiet places to study, and they show improved grades as a result.[56]

Mobility, Stability, Schools, and Neighborhood Effects

Residential stability can provide children and families with a firm foundation from which to expand opportunity.[57] On the other hand, family relocation, with its potential to disrupt relationships with the school peers and friends in the neighborhood that constitute a child's support system, can have the opposite effect, negatively affecting school performance and behavior.[58] Many factors enter into the decision to move, such as the desire to secure a better or safer neighborhood; for example, three-fourths of the participants in the Moving to Opportunity for Fair Housing (MTO) demonstration program listed safety as the first or second most important reason for enrolling in the program, which enabled them to move to better neighborhoods. Other reasons for relocating were to have a larger home or a better school, to lower the cost of housing, to recoup from eviction or foreclosure, to adjust to changes in family composition, to adapt to loss of employment or other resources, to be nearer to a job, or to be closer to child care.[59]

Cohen and Wardrip's analysis finds that poor and near-poor households with children moved more often within a two-year period than did other households with children, and their reasons for relocating were frequently associated with housing cost burdens and changes in income. On initial receipt of a subsidy, households were more likely to move — to better housing or to a public housing unit — than families without a subsidy. Households that lose a housing subsidy are 10 times more likely to change neighborhoods than those without subsidies.[60] Burkham et al. also found that decisions to relocate tend to be related to family socioeconomic status and that socially disadvantaged children change school with more frequency than others, particularly during the first two years of school.[61] And in surveys of distressed, low-income neighborhoods in 10 cities, a large share of moves in the beginning and middle part of the 2000s were "churning" moves made frequently by vulnerable families. Of the 28 percent of families with children in these neighborhoods who moved annually, 13 percent were churners, moving only short distances without making any gains in neighborhood satisfaction or amenities — usually as a response to financial problems.[62]

The impact of relocation on children has been the subject of numerous research inquiries. The outcomes for children operate not only directly but indirectly, through extrafamilial contexts and parental stress and behaviors. In general, moving is associated negatively with school performance, heightened stress levels, and socioemotional functioning for children and their parents.[63] In some instances, moves have ultimately resulted in improved physical and mental health: adults and girls participating in MTO experienced less depression and fewer conduct disorders 10 to 15 years after moving to low-poverty neighborhoods. Boys participating in MTO, however, experienced higher rates of posttraumatic stress disorder, depression, and conduct disorders.[64] In other studies of the impact of mobility programs, outcomes for families and children have been better if the target neighborhoods were integrated, of high quality, and well-resourced and if movers received adequate counseling assistance before and after the move.[65]

Other research indicates that although children have some resilience and are seemingly able to recover from a single move and close any resultant achievement gaps, the effects of frequent relocating appear to be cumulative and increasingly difficult to surmount; with multiple moves children face a higher likelihood of having to repeat a grade, being suspended or expelled, and performing academically near the bottom of the class. For frequent movers, each move can intensify the odds of having problems in school; children and adolescents in families with a higher than average number of moves experience more emotional and behavioral problems than do those who move less often.[66]

The strong connection that RAND Corporation scholar Heather Schwartz found between lower mobility, school

Safe streets and neighborhoods are high priorities for families, especially those with children.

> "The combination of residential stability and exposure to a low-poverty school and neighborhood work together to a child's benefit."

quality, and academic performance in Montgomery County, Maryland adds weight to hypotheses that residential stability and good quality schools in low-poverty neighborhoods make a significant difference in outcomes and opportunities for children. Over a 5- to 7-year period, children in public housing who attended Montgomery County's most advantaged schools outperformed their counterparts who attended the district's least advantaged elementary schools in both math and reading. These children were able to attend good schools because these were the children's neighborhood schools; the county's longstanding zoning policy allows the public housing agency to buy one-third of the inclusionary zoning homes set aside in each new subdivision to rent or sell at below-market prices. Families in Schwartz's sample had been living in public housing in low-poverty neighborhoods for an average of eight years and attending academically high-ranking schools. This residential stability, concluded Schwartz, allowed the children to garner the longer-term benefit of attending low-poverty schools that led to improved academic outcomes. The longer that public housing children attended the better schools, the more the initial math and reading achievement gaps between them and their nonpoor peers narrowed.[67] In weighing the relative benefits of these findings, Schwartz posits a ripple effect that starts with housing: "Housing that's affordable to a low-income family and is located in a low-poverty place makes it easier to stay over the long term in a high performing school. The combination of residential stability and exposure to a low-poverty school and neighborhood work together to a child's benefit."[68]

Although the implication is that affordable housing in low-poverty neighborhoods means access to better schools and improved academic performance, this assumption does not always prove true. The MTO demonstration encouraged relocation from high- to low-poverty neighborhoods, but these moves did not necessarily translate into access to, and benefits from, better schools.[69] Even though children in the MTO low-poverty voucher group relocated to neighborhoods with schools that were slightly better than those of the control group, the schools were not *sufficiently* better. Average test scores in these schools were still in the lowest quarter of state rankings; the marginal improvements were not enough to make a difference in children's academic achievement.[70] The children that Schwartz studied benefited from living in low-poverty neighborhoods, but less so than from attending low-poverty schools, which had twice as large an effect on low-income children's academic performance.[71] This outcome, Schwartz stresses, is specific to a locality with a low prevailing rate of neighborhood poverty, so it does not generalize to areas with high rates of neighborhood poverty. Still, "in general, though the research isn't firm, poverty in schools has more influence on academic performance than neighborhood poverty."[72]

Other neighborhood characteristics aside from school quality contribute to improved educational outcomes and child well-being, such as local norms and values; amenities, including convenient daycare and accessible public transportation; safety; and proximity to employment.[73] Although community

context shapes the housing and neighborhood opportunities available to families with children, that context is articulated by other variables that might include levels of fair housing enforcement, compliance, and education; access to well-child education and healthcare programs; and levels of racial, ethnic, and economic integration.

Seeking to identify relationships between housing and neighborhood factors that affect child well-being, Coley et al. recently developed distinct profiles of low-income urban neighborhoods and explored how they might relate to child functioning. Having identified links between lower-quality housing and neighborhood contexts and greater social and economic disadvantage, they conclude that housing dimensions may be acting synergistically in defining neighborhood contexts in which children find more or less developmental support.[74]

Wayne State University urban affairs professor George Galster's study of the "neighborhood effect" reveals a complex web of factors that influence residents' physical, social, and educational outcomes. Neighborhood residents are most likely to be affected by social interactive, environmental, geographic, and institutional factors, which are manifested in such phenomena as neighborhood violence and pollution; social networks; parental stress; public services; socializing across socioeconomic lines; and institutional resources such as schools, charities, medical clinics, and local businesses. The effects these neighborhood characteristics have on children depend on dimensions such as frequency, intensity, timing, thresholds, buffers, and mediation. How these characteristics combine to form a particular neighborhood context at a particular point in time — what Galster, using a medical metaphor, calls the "neighborhood dosage" — needs to be taken into account when studying child outcomes.[75] Galster explains, "Different kinds of mechanisms have different saliences for different outcomes and

at different points in kids' lives. So, to generalize to say 'Okay, this is how neighborhoods affect children' is just wrong. It's much more the case that it is all contingent on a lot of things. What outcome are you looking at? What's the age of the child in question? These are two key elements; it always depends on these two things. Everything is so contingent. Unfortunately, people want certainty and generalization but this is an area that defies that."[76]

A Wider Focus From Housing to Neighborhood Context

The body of accumulating evidence about the impact of housing and neighborhoods reinforces the traditional idea that housing matters for child and family outcomes, while it also confirms that housing research and policy has new challenges in light of housing's influence on human development. From the inception of the 1937 and 1949 Housing Acts, federal housing policy has articulated the goal of "a decent home and suitable living environment for every American family" and has aimed to improve housing.[77] Early housing policymakers thought of decent housing in terms of its physical condition. When researchers began understanding the links between housing and its effect on people, policymakers focused on how poor housing conditions made people physically unhealthy.[78]

By the 1990s, however, it was apparent that housing had a much broader impact on people's lives than once thought. In 1992, the same year in which Congress passed the authorizing legislation for MTO and HOPE VI was implemented, the congressionally appointed National Commission on Severely Distressed Public Housing proposed a national action plan to eradicate severely distressed public housing. The commission found families living in deteriorated housing that posed a threat to the safety and health of residents, families fearful in their own homes and neighborhoods, high unemployment and limited opportunities for jobs, and

Youth participating in the DC Promise Neighborhood Initiative's Digital Media Academy learned creative skills in computer programming, graphic design, and editing videos and music, and applied them in producing public service announcements about the impact of teen pregnancy on future dreams.

ineffective programs that were "too little, too late" to address distressed conditions and discouraged self-sufficiency. The Commission's conclusion was that

[the] combination and pervasiveness of these factors — and more — have begun to cause almost unimaginable distress to a segment of this Nation's most valuable resource, its people…. Traditional approaches to revitalizing seriously distressed public housing have too often emphasized the physical condition of the developments without addressing the *human condition* of the residents.[79]

The relationships between aspects of housing and neighborhoods and the well-being of children and families continue to steer housing policy. However, as the research described above indicates, these relationships are much more complex and multivariate than previously thought. The evidence increasingly highlights the constraints

of focusing on singular aspects of housing and neighborhoods rather than taking a holistic approach that considers housing within its neighborhood and community context. The lessons of MTO and HOPE VI, in particular, underscore the importance of housing policy that extends beyond housing itself and emphasizes strengthening neighborhoods and communities with programs such as the Obama administration's Neighborhood Revitalization Initiative (NRI) and Promise Zones. This programmatic catalyst for changing struggling neighborhoods was prompted by population growth in neighborhoods of concentrated poverty, where more than 40 percent of residents were poverty-stricken — from 10.3 million in 1990 to 11.5 million between 2006 and 2010.[80]

Although researchers are still exploring the different ways in which housing and neighborhood environments affect

The likelihood that living in poverty negatively influences cognitive, physical, and socioemotional development and curtails lifetime opportunities demands action.

children's well-being, the increased likelihood that living in poverty negatively influences cognitive, physical, and socioemotional development and curtails lifetime opportunities demands action.[81] NRI, a holistic place-based initiative begun in 2010, is a comprehensive federal interagency effort to help local communities transform poverty-stricken neighborhoods into places of opportunity. Accomplishing such a transformation requires all stakeholders to align and coordinate their available resources to improve housing, education, public safety, health, and human services. Three federal programs — Choice Neighborhoods, Promise Neighborhoods, and the Byrne Criminal Justice Innovation (BCJI) program — form the core of the initiative; together, they had invested $365 million by the end of 2012.[82]

- Choice Neighborhoods replaces distressed public or HUD-assisted housing with quality mixed-income housing developments, which are considered an essential driver of neighborhood transformation. These mixed-income developments address neighborhood barriers to opportunity such as vacant properties, a lack of amenities and services, and poorly performing schools. This strategy supports positive health, safety, employment, and education outcomes for families, with effective schools and education programs being of particular interest.[83] Choice Neighborhoods strongly emphasizes early childhood education, K-12 school enrichment, and other child opportunity programs.

- Promise Neighborhoods, a second core component of NRI initiated by

the U.S. Department of Education, aims to improve educational and developmental outcomes of children and youth living in distressed neighborhoods. The program is designed after New York City's Harlem Children's Zone, which offers participants a cradle-to-career continuum of comprehensive support from partnering community-based organizations. Making this level of support possible entails deepening the capacity of local community organizations and schools, integrating programs and solutions available from different agencies, strengthening neighborhood infrastructure, and evaluating outcomes.[84]

- The U.S. Department of Justice's BCJI program supports community-oriented, evidence-based strategies that address safety and crime in conjunction with revitalizing neighborhoods.[85] This initiative targets crime hotspots and supports partnerships between law enforcement agencies and community organizations, integrating targeted enforcement with prevention, intervention, and neighborhood revitalization services.[86] Two child-centered BCJI strategies illustrate how localities might use this resource: Seattle's redevelopment of a children's park that was once a haven for prostitution and drug dealing has made the park safe to play in once more, and San Francisco's Tenderloin Safe Passage program, which has created a volunteer- and police-manned safety zone for neighborhood children who walk to school.[87]

These three programs also coordinate with the U.S. Department of Health and Human Services' Community

Health Centers program and the U.S. Treasury Department's Community Development Financial Institutions (CDFI) program. Community health centers are a longstanding mechanism for delivering primary health care and behavioral health services to underserved and low-income individuals. The Affordable Care Act establishes a fund for operating, expanding, renovating, and building more community health centers in medically underserved areas to ensure access to health care for low-income, minority, rural, and other underserved populations, ensuring greater equity of health care despite geographic, cultural, and linguistic barriers.[88] Health services available to children at these centers include prenatal care, vaccinations, primary care, and well-child checkups.[89] CDFIs fund local community development services that include basic banking, financial literacy, and safe lending as well as affordable housing development and home-ownership support for low-income borrowers.[90] These entities have wide latitude in addressing local needs, including child-centered community development; for example, New Jersey Community Capital, a statewide CDFI, is a major lender for organizations building charter schools and child care facilities.[91]

The Choice Neighborhoods Initiative in Columbus, Ohio is redeveloping Poindexter Village, a demolished public housing complex, into a mixed-income housing community near Ohio State University Hospital East.

U.S. Department of Housing and Urban Development

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Sample Continuum of Promise Neighborhood Cradle-to-Career Services

Source: GAO analysis of applications, grantee depictions, and program documentation.
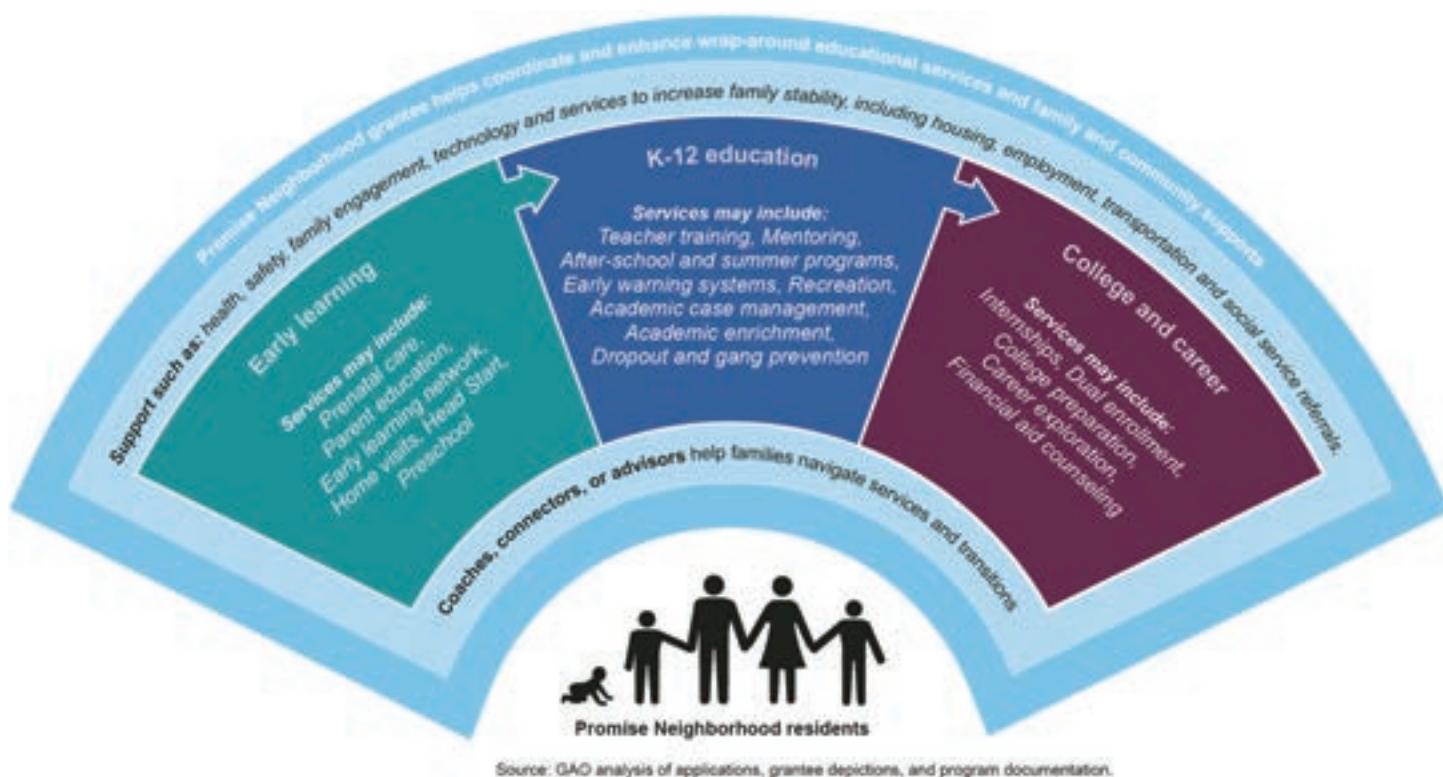
Most recently, in January 2014 President Obama designated the first five Promise Zones, which are planned to total 20 by 2016. Local need is the focus of the Promise Zones program; participating communities receive priority access to federal resources that can be applied toward job creation, increased economic activity, improved educational opportunities, and the reduction of violent crime in high-poverty neighborhoods. The NRI-related tools discussed above are available to Promise Zones, allowing the program to target multiple objectives and conditions and addressing the complexity of the neighborhood effect. Goals to improve life chances for children are embedded in localities' Promise Zone plans.[92] The Choctaw Nation of Oklahoma, for example, prioritizes early literacy, parent support programs, and improved educational outcomes in the region's school districts. As part of its Promise Neighborhoods initiative, the city of Los Angeles has partnered with the Youth Policy Institute and

the city's Unified School District to expand its Full Service Community Schools model from 7 schools to 45 schools, with the aim of ensuring that all youth can choose a high-quality education that prepares them for college and a career.[93] In the Kentucky Highlands, all high school youth in the Promise Zone will be able to take part in evidence-based college and career readiness programs and will have greater access to technical education programs.[94]

These federal initiatives to coordinate and align programs to serve specific goals accomplish two things; they help communities combat the effects of poor-quality housing and poverty-ridden neighborhoods, particularly on the opportunity trajectories of children, and they demonstrate the lessons learned to date about the ways in which decent, affordable housing and neighborhoods open pathways to fulfilled lives and create healthier communities.

Implications for Policy

There are immediate implications for housing policies that improve outcomes for families with children. Many housing researchers agree that low-income families should receive assistance in securing the resources necessary for acquiring decent housing or improving the quality of their homes, including subsidies for things like electricity, heating, and weatherization; although many such programs are already in place, they are not necessarily adequate to meet community needs. Coley encourages governments to follow through with existing programs such as lead abatement but also suggests that they consider new policies, such as regulating landlords with stricter requirements and enforcement standards, to be sure that problems such as exposed wiring and nonfunctioning refrigerators and heaters are addressed.[95] Schwartz thinks it worthwhile to make vouchers more easily portable, or easier to use across different public housing agency jurisdictions, to enable low-income families

to move to low-poverty communities. Schwartz also notes that aside from vouchers many localities have housing policies such as inclusionary zoning that can inject small amounts of affordable housing into low-poverty areas, thereby providing families in high-poverty areas with access to better neighborhoods. Although these initiatives are generally small and localized, says Schwartz, they can have a significant impact on children and their education outcomes. As Schwartz explains, "[T]hinking of ways to create incentives for counties and cities to voluntarily adopt their own integrative housing programs like inclusionary zoning could be a good way to distribute affordable housing in an effective manner."[96]

As for neighborhoods, Galster observes, "There are aspects we know aren't good for kids. We're not exactly sure of the mechanisms of how these things work, but concentrations of multiply disadvantaged households and concentrations of crime and violence and concentrations of toxins and pollutants are not healthy places to raise kids. Community development policies that try to improve the physical quality of neighborhoods where disadvantaged people live are certainly to be commended. And policies that allow some low-income people who have an inclination to do so to move to better quality neighborhoods through vouchers or some other kind of affordable housing policy is the other side of that coin."[97]

Longer term implications for ensuring that children are able to flourish in healthy communities rest on continued research and application of lessons learned about the effect of physical and socio-environmental conditions on individuals and families. As researchers attempt to build, expand, and refine knowledge about how housing and neighborhoods shape child outcomes by challenging traditional assumptions and using fresh approaches to disentangle the complexities, policymakers can use this knowledge to focus broadly but comprehensively on making all

housing and neighborhoods places of opportunity for low-income and minority children and their families. **EM**

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97 Interview with George Galster.

How Housing Mobility Affects Education Outcomes for Low-Income Children

Improving education outcomes for low-income children is a topic of pressing concern for researchers, policymakers, and educators, especially in light of evidence that over time, the widening gap in test scores between children from rich and poor families and the growing divide between these groups in completed schooling hinder the socioeconomic mobility of low-income children.[1] Policy efforts to promote academic achievement among low-income children often focus on school-based investments such as increased teacher training, smaller class sizes for early grades, and curriculum development.[2] Researchers and educators also recognize that improving poorly performing schools requires comprehensive community-building activities designed to strengthen the neighborhoods these schools serve. This awareness, which stems from decades of research demonstrating that neighborhood conditions, including racial segregation, influence children's education outcomes, has led to a growth in place-based initiatives that target specific low-income neighborhoods with comprehensive economic, social, and educational resources from the public and private sectors.[3]

Place-based interventions, often referred to as "community-change initiatives," are led by philanthropies, nonprofits, or governments seeking to improve conditions in targeted low-income communities.[4] By supplying tailored social services, technical assistance, grants, and capacity-building resources in a specific geographic area, place-based initiatives intend to benefit residents directly through improved services and indirectly through strengthened social networks.[5] The Annie E. Casey Foundation's Making Connections initiative was such a place-based approach, with the goals of improving employment, asset development, education, health, and civic participation.[6] Between 2002 and 2010, the Casey Foundation invested $500 million in the program, which took place in low-income neighborhoods across 10 U.S. cities. In addition to on-the-ground interventions, Making Connections pursued public policy advocacy at the city and state levels in support of community

Highlights

- The Annie E. Casey Foundation's Making Connections initiative is a prominent example of a philanthropically directed, place-based intervention. Through tailored social services, technical assistance, grants, and capacity-building resources, the Making Connections initiative sought to improve conditions in targeted low-income communities. Between 2002 and 2010, the Casey Foundation worked in 10 U.S. cities with the goals of improving employment, asset development, education, health, and civic participation.

- A study of survey data from Making Connections by Theodos, Coulton, and Budde examined housing mobility and school mobility patterns among residents of these neighborhoods, assessing whether these moves led children to better- or worse-performing schools.

- Practitioners of place-based initiatives can derive important lessons from the research about how changing residences and schools affects the academic achievement of low-income students.

- Children in Making Connections neighborhoods experienced the greatest improvements in school quality after changing school districts, confirming previous research that found housing mobility positively affects low-income children when mobility leads them to higher-performing schools.

Decades of research demonstrate that neighborhood conditions influence children's educational outcomes.

development priorities in each neighborhood.[7]

The initiative, which collected broad data on neighborhood families through a longitudinal survey, inspired a range of research studies examining various aspects of how housing and neighborhoods affect outcomes for children in communities targeted for a place-based initiative.[8] The effect of housing mobility on education outcomes for low-income children is one such research area that bears important implications for place-based policy and practice. Researchers Theodos, Coulton, and Budde studied housing mobility and school mobility patterns among residents in Making Connections neighborhoods.

The Theodos, Coulton, and Budde research study offers important lessons about how families moving residences and moving schools can negatively and positively impact improved academic achievement for low-income students. The research base is varied. On the one hand, housing mobility can enable low-income children to switch into higher-performing schools, potentially leading to important educational gains. On the other hand, changing schools as the result of a move can disrupt or interfere with children's educational attainment, especially if the change is to a lower-quality school.[9]

Although the Making Connections data spurred many program evaluations and research articles, this study is unique for two reasons. First, the study analyzes the interplay between residential moves and school changes in low-income neighborhoods, which is important because most studies focusing on educational outcomes analyze residential and school mobility changes in isolation.[10] Second, the sites in the study occur in the context of a place-based initiative, offering present-day practitioners a critical opportunity to understand how housing mobility and school mobility affect these efforts. In particular, the study potentially could inform the federal government's ongoing place-based

initiatives, such as Promise Zones, Promise Neighborhoods, and Choice Neighborhoods, among others, whose program designs incorporated many lessons from previous community-change initiatives that foundations have sponsored (see "Housing's and Neighborhoods' Role in Shaping Children's Future," p. 1).[11]

This article highlights findings from the Theodos, Coulton, and Budde study on the relationship between housing mobility and education outcomes for low-income children; considers the relevance of these findings to place-based policy and practice, especially ongoing federal efforts; and situates this study within the research

base on housing mobility and education outcomes.

Making Connections Initiative

The Casey Foundation's Making Connections initiative was a comprehensive community change demonstration project targeting low-income neighborhoods in cities selected based on data indicators of child and family need and proven leadership capacity at the community level.[12] The Casey Foundation narrowed its initial selection of 22 cities down to the 10 cities that had previously demonstrated the local capacity and institutional support necessary to successfully implement the initiative.[13] The 10 cities were Denver, Des Moines,

Residential mobility can have either a positive or a negative impact on families and children.

Hartford, Indianapolis, Louisville, Milwaukee, Oakland, Providence, San Antonio, and White Center (a suburb of Seattle).[14] Through a mix of grants, technical assistance, and social investment, the Casey Foundation sought to strengthen the community, and thereby strengthen families, by improving participants' connections to "economic opportunity, positive social networks, and effective services and supports."[15] Addressing the needs and challenges of both children and their parents simultaneously is referred to as a "two-generation" strategy.[16]

The Casey Foundation created local site teams in each city, composed of foundation staff; consultants; and partners from community foundations, nonprofits, and government agencies.[17] Each local team worked with the Casey Foundation to determine neighborhood boundaries, delineating a Making Connections neighborhood with a median size of 4.9 square miles and median population of 30,598.[18] The teams were responsible for improving outcomes for children and families and employed various strategies to achieve cross-site goals such as increasing employment and earnings, improving the reading proficiency of students completing third grade, and developing the leadership capacity of residents so they can better participate in civic processes. For example, some sites created one-stop job training and employment-related service centers called Centers for Working Families. The Casey Foundation also contributed social investments in each location, including certificates of deposits in local community financial institutions. The team's staffing structure evolved over the course of implementation, with local coordinators replacing foundation staff as leads for each site team.[19]

Although the designers of the initiative acknowledge that it "did not achieve the desired population-level change in its neighborhoods," Making Connections did have cross-site success in program goals related to employment,

asset-development, and children's school readiness.[20] For example, the enrollment of preschool children in schools across sites increased from 1,558 to 1,999 between 2005 and 2007. In addition, the percentage of students able to read proficiently by the end of third grade improved in seven of the eight schools focused on by the initiative.[21] Activities to improve education outcomes in Making Connections sites inspired two ongoing Casey Foundation programs: the Campaign for Grade-Level Reading, with the goal of improving the reading proficiency of low-income children by the end of the third grade, and Attendance Works, which promotes better policy and practice around school attendance. In addition to instructing work within the Casey Foundation, the strategies and lessons learned from Making Connections inform other foundation and government place-based initiatives.[22]

The Casey Foundation and researchers used a longitudinal cross-site survey as the primary data source for evaluating the Making Connections initiative's impact on children and families.[23] Researchers at the National Opinion Research Center at the University of Chicago and the Urban Institute designed the survey, which was to be completed by an adult resident aged 18 or older in each home, and collected the responses through in-person and phone interviews in three waves: from 2002 to 2004, 2005 to 2007, and 2008 to 2010.[24] Researchers designed the survey to obtain a representative sample of children and families in the targeted neighborhoods.[25] If families with children moved between waves, then the surveyors contacted and interviewed the resident at his or her new address.[26] The survey included questions on various topics of interest, including employment; income; level of hardship; community engagement; satisfaction with neighborhood services; and perceptions of neighborhood quality, safety, and social cohesion.[27] The survey also contained a separate section about each child living in the home, including

questions related to schools children attended and school readiness.[28] Theodos, Coulton, and Budde analyzed the data from this survey to determine whether moving residences and moving schools influenced education attainment for children in the Making Connections neighborhoods.

Housing Mobility and School Mobility in Making Connections

In their study, Theodos, Coulton, and Budde sought to "examine the relationship between residential and school mobility in these sites and to determine the circumstances that are associated with children switching to better or worse performing schools as a result."[29] The study relies on a hypothesis, borne out in the evidence base, that low-income students should attend high-performing schools because "the overall performance of a school's student body influences individual achievement."[30] This study uses reading and math test scores for each grade to define school performance, yielding a composite rank score for each school relative to all other schools in the state.[31] The researchers examined the three waves of Making Connections, classifying changes in data between waves 1 and 2 as "period 1" and between waves 2 and 3 as "period 2."[32]

Theodos, Coulton, and Budde analyzed whether a child's change in school rank between periods corresponded with a change of residence or school. Did housing mobility cause families in Making Connections neighborhoods to switch to higher-, lower-, or comparable-quality schools? Although some school changes are natural (such as moving from elementary to middle school or from middle school to high school), other school changes are not the result of advancing to the next grade level. The authors classified the former school changes as "promotional" and the latter as "nonpromotional."[33] Nonpromotional school mobility can be attributed to a number of voluntary and involuntary reasons, such as moving to

a new residence or transferring to another school (either because students request transfers or schools ask students to transfer because of disciplinary or academic issues).[34] They also calculated the distance that students moved from their original homes and schools, determining whether each move crossed school district and neighborhood boundaries. In addition, the researchers compared students on a range of economic, education, and housing characteristics, including household income level, parental education level, race and ethnicity, and family's ability to afford food.[35] Some major highlights from this Making Connections research study included the following:

- Little variation existed in the overall quality of the schools neighborhood children attended. In period 1, the schools children attended had an average state rank in the 27th percentile. In period 2, the average state rank of these schools was in the 26th percentile. Segments of the student population, however, experienced improvements and declines in school quality across periods; 38 percent of students experienced the greatest variation in school performance between periods, with 19 percent experiencing school rank improvements of two or more deciles and 19 percent studying at schools ranked two or more deciles below their period 1 school.[36]

- Of the school changers, 43 percent experienced changes of two or more deciles in school rank compared with 19 percent of school stayers. This finding confirms that the greatest changes in school quality — whether improvements or declines — occurred as a result of changing schools.[37]

- Most students (51%) attended schools outside of the neighborhoods defined by the initiative. Students in the initiative neighborhoods exhibited a high rate of school mobility. Between periods 1 and 2, 78 percent of students changed schools, and

22 percent of students remained in the same school. Of those changing schools, 56 percent did so for promotional reasons and 22 percent did so for nonpromotional reasons.[38]

- More than half of the children (55%) changed residences between periods. This finding tracks with national trends for housing mobility rates among low-income families.[39] Fifty-nine percent of families changing schools also changed residences compared with 41 percent of those remaining in the same school between periods.[40]

Additional variables that led to measurable changes in the rank of schools that children attended were parental education levels and the household's economic security. According to Theodos, Coulton, and Budde, each "additional level of parental education is associated with an increase in [average percentile] state rank of 0.8 [points] by period 2" and "households that experienced worsened food security between the two periods or that experienced food insecurity at both periods were associated with declining school performance ranks (–2.7 and –2.5 [points], respectively)."[41]

The finding related to worsened food security is especially noteworthy given the relationship between financial distress and housing mobility among low-income families. Cohen and Wardrip point out that poor and near-poor families move the most frequently, which reflects a "range of often complex forces," including residential instability related to housing cost burden, loss of employment, and the lack of a safety net.[42] Movers who frequently relocate short distances in response to financial stress or housing problems are known as "churners." In an earlier analysis of housing mobility data from Making Connections, Coulton, Theodos, and Turner find that 46 percent of movers were churners, who had a median annual income of $14,000 and relocated a median distance of 1.7 miles.[43] In addition, 24 percent were

"nearby-attached," middle-aged movers who relocated close by but did so more because of life-cycle factors than a desire to leave their neighborhood, and 30 percent were "up-and-out movers," who relocated greater distances to improve their housing and neighborhood satisfaction.[44] Evidence suggests that housing mobility triggered by economic distress hinders children's academic achievement.[45]

Although Theodos, Coulton, and Budde find that children in Making Connections neighborhoods demonstrate high rates of both housing and school mobility, those mobility rates did not lead to drastic improvements in the quality of the schools they attended.[46] According to the authors, children who changed school districts, which requires a change in residence, tended to move to higher-ranked schools, resulting in "an average improvement in percentile state rank of 8.9 points."[47] Moreover, families' degree of financial distress, as measured by difficulty affording food, contributed to switching to lower-performing schools.[48] Although the authors note that "it is not the case that no children who remained within the same school district saw improvement (or that all children leaving their school district did)," the data reveal that children had to move to schools outside of the target neighborhood to experience improvements in school rank.[49] These mobility dynamics reveal important implications about place-based policy and practice.

Research Limitations in Making Connections

The Making Connections data are limited in certain critical aspects. First, the families participating in the longitudinal survey do not constitute a representative sample of U.S. neighborhoods because they were "deliberately selected for a community-change initiative and may differ from other low-income neighborhoods in important ways."[50] Second, the initiative did not capture data on where childless households moved, excluding potentially relevant

Policymaking efforts to promote academic achievement among low-income children often focus on teacher training, small classes, and curriculum development.

data on how mobility patterns differed between these groups.[51] Third, and most relevant to the topic of educational attainment, the research study relied on student test scores in math and reading proficiency as a measure of school performance.[52] Researchers acknowledge that test scores are a limited measure of school quality, pointing to the need for collecting more comprehensive measures such as social and behavioral outcomes and college readiness.[53] As Theodos, Coulton, and Budde note, their study's reliance on test score data is likely masking "some differences in quality."[54] In addition, although the study examines the role of children's race and ethnicity on housing and school mobility rates, the authors do not specifically investigate how segregation or integration by race or ethnicity influences children's educational outcomes.[55] In particular, the study does not consider whether moving from a segregated to a nonsegregated neighborhood results in better educational outcomes for children and for minority children in particular. Nevertheless, these researchers highlight important issues about the relationship between housing and neighborhood context and the well-being of children.

Relevance for Place-Based Policy and Practice

High rates of housing and school moves outside of neighborhood boundaries can impede the implementation of place-based initiatives, such as Making Connections, that focus their activities to improve school and neighborhood quality within defined geographic areas.[56] The success of a place-based initiative depends in part on residential stability in the target area; to benefit from an initiative's services and capacity-building efforts, families need to have "access to these programs for some minimum amount of time," and demonstrable improvements in neighborhood capacity depend on "stability in emerging leaders and networks."[57] As Coulton, Theodos, and Turner make clear, community-based initiatives and local practitioners must heed the reality of high rates of residential mobility:

Efforts to improve the well-being of families and children by strengthening conditions in poor neighborhoods cannot simply assume that families will remain in one place long enough to fully benefit. Many of the Making Connections movers remained

nearby, however. These nearby movers may retain social connections from their original residential location and may still participate in activities and services there. This finding highlights an opportunity for community-based initiatives to continue serving families who move but remain nearby.[58]

Kingsley, Jordan, and Traynor posit that the high rates of housing mobility in Making Connections neighborhoods demonstrate the complexity of residential mobility, which requires new thinking about place-based policy.[59] In particular, the authors note that practitioners and policymakers of community-change initiatives must tailor their responses to meet the circumstances of different types of mobility.[60] The appropriate policy options are different, for example, for "up-and-out movers" — those with higher incomes who relocate to better neighborhoods — than for "churning movers" — those with lower incomes who tend to move shorter distances in response to complications with housing arrangements and financial stress.[61] Kingsley, Jordan, and Traynor offer community-based organizations a range of recommended practices tailored to the circumstances of each type

of residential mobility.[62] The authors suggest that although housing and other supportive counseling potentially benefit all movers, up-and-out movers in particular would benefit from housing counseling that enables them to make sensible housing choices in lower-poverty neighborhoods.[63] Reducing some of the barriers to mobility into lower-poverty neighborhoods, such as racial discrimination, is an effective response for this group of movers.[64] Churners, on the other hand, need to reduce the harmful effects of residential instability associated with insufficient income.[65] Because low-income families who frequently move short distances because of economic stress are at higher risk of becoming homeless, Kingsley, Jordan, and Traynor suggest that strategies and programmatic approaches should focus on homelessness prevention services such as providing legal services to prevent evictions and "network organizing."[66] Network organizing is a strategy that grassroots neighborhood organizations use to strengthen both family capacity and social networks, allowing churning movers to connect to needed services. Lawrence CommunityWorks, for example, is a community development corporation that uses network organizing strategies to produce

affordable housing in Lawrence, Massachusetts.[67]

Housing mobility patterns within targeted neighborhoods also pose a challenge to the evaluation of place-based initiatives.[68] Determining whether a program has improved neighborhood economic outcomes is difficult, for example, if the families benefiting from the program's success become up-and-out movers. As Coulton, Theodos, and Turner assert, place-based neighborhood interventions "may improve services for neighborhood residents or create employment and other opportunities, but needy families might not remain in the same neighborhood long enough to benefit."[69]

Place-based initiatives with the goal of improving educational outcomes in low-income communities endeavor

to strengthen the quality of neighborhood schools. The U.S. Department of Education's Promise Neighborhoods program, for example, aims to "significantly improve the educational and developmental outcomes of children and youth in our most distressed communities" (see "Housing's and Neighborhoods' Role in Shaping Children's Future," p. 1).[70] The goal of these efforts is

Improving poorly performing schools requires comprehensive community-building activities designed to strengthen the neighborhoods these schools serve.

to create high-performing neighborhood schools that function as an "anchor point for numerous partnerships that strengthen programs for children and promote parent and community engagement."[71] As the Making Connections data demonstrate, 83 percent of children at baseline were attending schools ranked below the 50th percentile in the state.[72] Considering the number of low-performing schools located in low-income neighborhoods, it is perhaps unsurprising that families are willing

Figure 1. Relationship Between Housing Stability and Child Outcomes
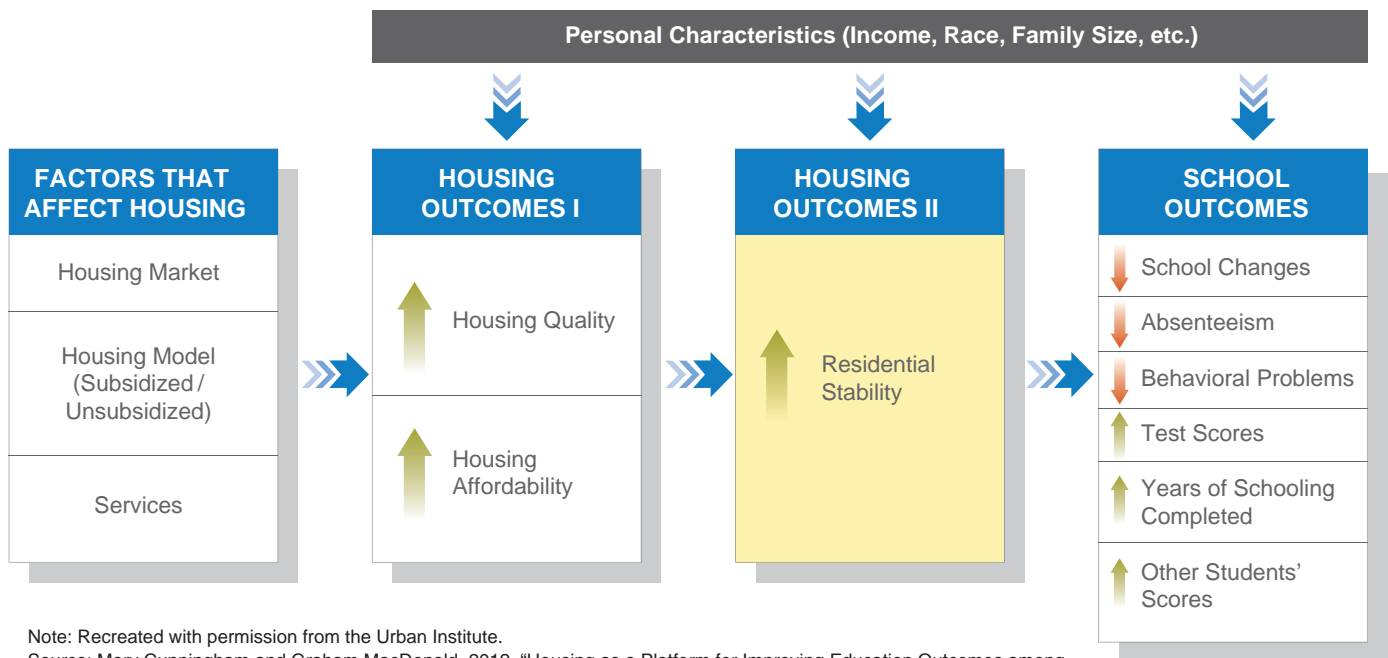
Note: Recreated with permission from the Urban Institute.
Source: Mary Cunningham and Graham MacDonald. 2012. "Housing as a Platform for Improving Education Outcomes among Low-Income Children," WhatWorks Collaborative, 5.

Place-based initiatives that bring children into higher-performing schools potentially lead to important educational gains.

to move long distances to access higher-ranked schools, and the research base on housing mobility and education outcomes confirms this.[73] Why families move influences whether education outcomes for low-income students will be better or worse after the move.

Housing Mobility and Educational Attainment

The literature on the relationship between housing mobility and educational outcomes is mixed.[74] For low-income children, the effect of housing mobility on school attainment depends on a range of factors. The transmission of the effect is either direct, as in a disruption in the children's instruction and curriculum, or indirect, as seen through the move's effect on the children's parents or peer network.[75] The effect also depends on the frequency of moves and whether the move is in response to distress factors such as poverty, low-quality housing, or domestic violence.[76] Frequent moves, which are often referred to as hypermobility, present "special challenges to children's well-being."[77]

Researchers use conceptual models to illustrate how housing mobility contributes to education outcomes for children. Cunningham and MacDonald developed a model demonstrating the relationship between housing instability and outcomes such as school changes, absenteeism, behavioral problems, test scores, years of schooling completed, and other students' scores (see fig. 1).[78] This model situates various research findings on housing mobility and education outcomes, establishing whether mobility creates a positive or negative pathway to education success.[79]

As demonstrated by the large number of churning movers in Making Connections neighborhoods, lower-income families are more likely to move, creating possible adverse impacts for children's schooling such as disrupted instruction and excessive absenteeism.[80] These moves are often unplanned or involuntary, caused by foreclosure, eviction, or cost burden, among other reasons.[81] The negative effects of housing mobility extend beyond the moving

family, affecting both the old and new schools as well as the neighborhood to which the family relocates. Kerbow, for example, finds that Chicago schools with highly mobile student populations had a negative effect on teachers' instruction and ability to keep progress on curriculum.[82] In such highly mobile schools, all students suffer as "review and catch-up work become the norm."[83] Frequent housing mobility also affects children's educational achievement. A 1994 study by the U.S. Government Accountability Office (then the U.S. General Accounting Office) finds, for example, that children who changed schools three or more times since first grade had a greater likelihood of repeating a grade or achieving lower reading scores by the third grade.[84] A Minnesota study finds that first- through sixth-grade students who moved three or more times over a 6.5-month period between 1994 and 1995 scored an average of 20 points lower on standardized reading tests than did their peers who did not move.[85]

The relationship between housing and its neighborhood context influences the well-being of children.

Although a number of studies confirm negative short-term consequences associated with housing mobility and school outcomes, some researchers suggest that the long-term benefit of moves that lead to higher-quality schools may outweigh these short-term costs.[86] In a study of Canadian children, for example, Hango discovered a long-term positive relationship between housing mobility and the completion of high school.[87] Other research indicates that, with the help of parents, children can recover from the disruption to their schooling that moving causes.[88] A body of research also confirms that residential mobility can lead to positive educational outcomes, especially when these moves give children access to high-quality schools and neighborhoods.[89]

Affordable housing strategies, including housing mobility programs and inclusionary zoning policies, have the explicit intention of providing low-income families with the opportunity to move to communities with strong school systems.[90] For example, Heather Schwartz's research into Montgomery County, Maryland's inclusionary zoning

policies, which mandate that a portion of all new residential development in the county must be set aside as affordable housing, finds that over a five- to seven-year period, students in public housing attending low-poverty schools outperformed their public housing peers in moderate-poverty schools in both math and reading (see "Housing's and Neighborhoods' Role in Shaping Children's Future," p. 1).[91] A key takeaway from Schwartz's research is that low-income children who attend economically integrated schools created by an inclusionary zoning program experience positive school effects that accrue with continued exposure to higher-income peers.[92]

HUD's Moving to Opportunity for Fair Housing (MTO) demonstration, an experimental program that provided a treatment group with housing vouchers and mobility counseling to help them move from high-poverty to low-poverty neighborhoods, surprisingly did not lead to improved educational outcomes for low-income children (see "Housing's and Neighborhoods' Role in Shaping Children's Future," p. 1).[93] These results run counter to the educational outcomes

associated with the Gautreaux Assisted Housing Program, Chicago's residential desegregation relocation program. The Gautreaux program, which arose out of a legal settlement in the Hills v. Gautreaux lawsuit regarding racial segregation in Chicago's public housing, eventually moved 7,000 African-American public housing families to the suburbs, mostly during the 1980s.[94] Certain findings on children's educational experiences illustrate the difference in results between the Gautreaux program and MTO. Eighty-eight percent of children who moved to the suburbs as part of the Gautreaux program went to schools with average ACT scores at the national average or above. By contrast, less than 10 percent of students from MTO's experimental group attended schools ranked at the 50th percentile or higher in their state.[95] Researchers posit that MTO's lack of educational benefit might be attributed to the short period of time that some families spent in lower-poverty neighborhoods and parental decisions to keep children in their previous schools.[96] In a three-city study of MTO, Ferryman, Briggs, Popkin, and Rendón find that many

children in the experimental group did not access higher-performing schools because their parents were "information poor" and did not make use of formal sources of information about schooling options, such as teachers or school staff, or receive formal counseling. Rather, parents relied "heavily on referrals provided by their networks of relatives and friends."[97] An additional factor that may explain the discrepancy in educational outcomes is that MTO movers in the experimental group, unlike the families participating in the Gautreaux program, moved to neighborhoods that were not "substantially more affluent or less segregated than their original neighborhoods."[98]

The foregoing research summary demonstrates that housing mobility has different consequences on the educational outcomes of low-income children depending on the circumstances surrounding a move; the level of racial segregation in the destination neighborhood is a crucial variable. As Guy maintains, residential mobility has the potential to be "either a positive or a negative phenomenon for families and neighborhoods."[99]

Conclusion

Theodos, Coulton, and Budde's analysis of housing and school mobility patterns in Making Connections neighborhoods is an important contribution to the research base. Whereas previous research on housing mobility and school mobility examined these changes in isolation, Theodos, Coulton, and Budde study the interplay between residential moves and school moves. As Making Connections demonstrated, some moves can have a positive effect on educational outcomes, especially when mobility leads students to higher-performing schools. Very few children experienced sizeable gains in the quality of schools attended, however, and those improvements tended to accompany moves outside of the student's school district. Most changes of schools and residences were not associated with school improvements, and some moves actually led students

to lower-quality schools. Although this finding is not surprising in the context of the low-income neighborhoods studied under the Making Connections initiative, it provides an opportunity to inform ongoing place-based efforts.

The study's finding that high rates of mobility did not correspond with increases in educational attainment suggests that place-based initiatives targeted in neighborhoods should help children from low-income families either switch into higher-ranked schools or minimize mobility into lower-ranked schools. As the findings demonstrate, many children in neighborhoods identified for a place-based initiative were attending schools outside of the target area and, therefore, not benefiting directly from targeted investments in a school within the Making Connections boundaries. In addition to improving conditions in schools within a small geographic area, place-based community-change practitioners should also address some of the structural impediments to accessing higher-quality schools.[100] Furthermore, this research study confirms the importance of complementary strategies: both improving conditions in low-income neighborhoods and helping low-income residents move to neighborhoods of opportunity. Housing mobility programs have a particular role to play in this regard. **EM**

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[1] Greg Duncan and Richard Murnane. 2011. "Executive Summary: Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances," Russell Sage Foundation. "Between 1978 and 2008, the gap between the average mathematics test scores of children from high- and low-income families grew by a third (from 96 points on an SAT-type scale to 131 points in 2008)….By the 1990s, more than 20 percent of men and almost as large a fraction of women had less education than their parents. Since education has been the dominant pathway to upward socio-economic mobility in the United States, the growing gap in educational attainment between children from rich and poor families is likely to result in increased income inequality in future generations and hinder the intergenerational socio-economic mobility that has been a source of pride for Americans."

[2] Heather Schwartz. 2010. "Housing Policy Is School Policy: Economically Integrative Housing Promotes Academic Success in Montgomery County, Maryland," Century Foundation, 13.

[3] Claudia Coulton, Brett Theodos, and Margery A. Turner. 2012. "Residential Mobility and Neighborhood Change: Real Neighborhoods Under the Microscope," *Cityscape* 14:3, 56; Maarten van Ham, David Manley,

Nick Bailey, Ludi Simpson, and Duncan Maclennan. 2012. "Neighbourhood Effects Research: New Perspectives," in *Neighbourhood Effects Research: New Perspectives*, eds. Maarten van Ham, David Manley, Nick Bailey, Ludi Simpson, and Duncan Maclennan, London: Springer Dordrecht Heidelberg, 3; Patrick Sharkey. 2012. "Residential Mobility and the Reproduction of Unequal Neighborhoods," *Cityscape* 14:3, 9–31; Ingrid Gould Ellen, Keren Horn, and Katherine O'Regan. 2012. "Pathways to Integration: Examining Changes in the Prevalence of Racially Integrated Neighborhoods," *Cityscape* 14:3, 33–54.

[4] For a helpful overview of the accomplishments of other place-based community change initiatives, please see: Anne Kubisch, Patricia Auspos, Prudence Brown, and Thomas Dewar. 2010. "Community Change Initiatives from 1990–2010: Accomplishments and Implications for Future Work," The Aspen Institute, Roundtable on Community Change.

[5] Claudia Coulton, Brett Theodos, and Margery Turner. 2009. "Family Mobility and Neighborhood Change: New Evidence and Implications for Community Initiatives," Urban Institute; "Place-Based Initiatives," Center for the Study of Social Policy website **(www.cssp.org/community/neighborhood-investment/place-based-initiatives)**. Accessed 20 August 2014.

[6] Annie E. Casey Foundation. 2013. "Community Change: Lessons from Making Connections," 2.

[7] Ibid.

[8] For more information about the Annie E. Casey Foundation's Making Connections initiative, please visit **www.aecf.org/work/past-work/making-connections/**. For a list of major research studies conducted with Making Connections data, please visit **mcstudy.norc.org/publications/**.

[9] Brett Theodos, Claudia Coulton, and Amos Budde. 2014. "Getting to Better Performing Schools: The Role of Residential Mobility in School Attainment in Low-Income Neighborhoods," *Cityscape* 16:1, 62.

[10] Ibid.

[11] Ibid., 62: "Moreover, for a decade or more, foundation-sponsored community change initiatives have invested in building the social fabric, institutional capacity, and civic engagement in distressed neighborhoods, with the expectation that doing so would lead to improved educational outcomes for children;" Annie E. Casey Foundation, 21.

[12] Annie E. Casey Foundation, 1.

[13] For more information about site selection, please see: "Frequently Asked Questions," National Opinion Research Center at the University of Chicago website **(mcstudy.norc.org/)**. Accessed 11 September 2014; Annie E. Casey Foundation, 1.

[14] "Frequently Asked Questions."

[15] Coulton, Theodos, and Turner, vii; Annie E. Casey Foundation, 1.

[16] Annie E. Casey Foundation, 3.

[17] Ibid., 1.

[18] "Frequently Asked Questions."

[19] Annie E. Casey Foundation, 2, 9.

[20] Ibid., 2, 16–7; Anne Kubisch. 2010. "Structures, Strategies, Actions, and Results of Community Change Efforts," in *Voices From the Field III: Lessons and Challenges From Two Decades of Community Change Efforts*, eds. Anne C. Kubisch, Patricia Auspos, Prudence Brown, and Tom Dewar, Washington, DC: Aspen Institute, 15: "Most [comprehensive community-change initiatives] can show improvements in the well-being of individual residents who participated in programs in their target neighborhoods. Some produced physical change in their neighborhoods through housing production and rehabilitation, some reduced crime, and a few also sparked commercial development.…[F]ew (if any) have been able to demonstrate population-level changes in child and family well-being or rates of poverty."

[21] Annie E. Casey Foundation, 4.

[22] Ibid., 3.

[23] Theodos, Coulton, and Budde, 65: "Of the 10 sites, 7 had three survey waves; in Hartford, Milwaukee, and Oakland, only the first two waves were administered."

[24] "Frequently Asked Questions."

[25] Theodos, Coulton, and Budde, 66.

[26] Ibid.; Authors also note that the survey did not reinterview childless households that moved between survey waves because the initiative "focuses on the well-being of families with children."

[27] Coulton, Theodos, and Turner, 60.

[28] "Frequently Asked Questions;" "Study Design," National Opinion Research Center at the University of Chicago website (mcstudy.norc.org/study-design/). Accessed 11 September 2014.

[29] Theodos, Coulton, and Budde, 62.

[30] Ibid., 64.

[31] Ibid., 67: "Because proficiency levels are state defined and, therefore, vary across states and over time, we first ranked reading and math scores for each grade (where tests were administered) for every school in each of the 10 states in this study, based on the percentage of students who tested at or above the state's proficiency level in that subject. This methodology provided a ranking of each school's relative performance on each test administered for each grade at that school in that year. We then averaged the schools' math and reading rankings for all tested grades in a given year to get a yearly composite rank score for each school in our analysis."

[32] Ibid., 66.

[33] Ibid., 67.

[34] Rebecca Cohen and Keith Wardrip. 2011. "Should I Stay Or Should I Go? Exploring the Effects of Housing Instability and Mobility on Children," Center for Housing Policy, 9; Russell Rumberger. 2003. "The Causes and Consequences of Student Mobility," *The Journal of Negro Education* 72:1, 12.

[35] Theodos, Coulton, and Budde, 69.

[36] Ibid.

[37] Ibid., 75.

[38] Ibid.

[39] Ibid., 74.

[40] Ibid.; Coulton, Theodos, and Turner, 69–70.

[41] Ibid., 77.

[42] Cohen and Wardrip, 3, 6.

[43] Coulton, Theodos, and Turner, 69.

[44] Ibid.

[45] Maya Brennan. 2011. "The Impacts of Affordable Housing on Education: A Research Summary," *Insights from Housing Policy Research* (May), 3.

[46] Ibid., 78.

[47] Ibid.

[48] Ibid., 79.

[49] Ibid., 77.

[50] Coulton, Theodos, and Turner, 84.

[51] Ibid.

[52] Theodos, Coulton, and Budde, 79.

[53] Mary Cunningham and Graham MacDonald. 2012. "Housing as a Platform for Improving Education Outcomes among Low-Income Children," What Works Collaborative, 10; For more comprehensive definitions of school quality used by researchers, parents, and government officials, see: Linda Darling-Hammond. 1996. "Restructuring Schools for High Performance," in *Rewards and Reform: Creating Educational Incentives That Work*, eds. Susan H. Fuhrman and Jennifer O'Day, New York: Jossey-Bass, 144–94, as cited in Cunningham and MacDonald, 6.

[54] Theodos, Coulton, and Budde, 79.

[55] Ibid., 77–8: "Racial differences emerged in the multivariate analysis, confirming findings from previous research on school performance and mobility. Relative to non-Hispanic White children and controlling for other factors, non-Hispanic African-American children had more negative school performance change measures. Regression results showed that non-Hispanic African-American children experienced a decline in the percentile of school state rank on the order of 4.4 compared with that of non-Hispanic White children. Hispanic children also fared worse than non-Hispanic White children controlling for other factors, with a decline of 3.4 in the percentile of school state rank relative to non-Hispanic Whites."

[56] Ibid., 62.

[57] Coulton, Theodos, and Turner, 56.

[58] Ibid., 84.

[59] G. Thomas Kingsley, Audrey Jordan, and William Traynor. 2012. "Addressing Residential Instability: Options for Cities and Community Initiatives," *Cityscape* 14:3, 168.

[60] Ibid.

[61] Ibid., 164.

[62] Ibid., 177. Recommended efforts to provide residential stability to churners, who move short distances because of financial duress, include the following: (1) establish or broaden outreach; (2) establish or strengthen referral functions; (3) establish or strengthen workforce development, financial management, and housing and mobility counseling; (4) provide affordable housing in the community, with a portion earmarked for residentially unstable families; (5) maintain links and services to outmovers; and (6) collaborate with and become stronger advocates for the reform and strengthening of relevant citywide programs.

[63] For more information about how housing counseling affects the housing decisions of residents who move to lower poverty neighborhoods, see: Mary Cunningham and Noah Sawyer. 2005. "Moving to Better Neighborhoods With Mobility Counseling," Metropolitan Housing and Communities Center, Urban Institute.

[64] Kingsley, Jordan, and Traynor, 168.

[65] Ibid., 169.

[66] Ibid., 170–5.

[67] Ibid., 175, 176.

[68] Cynthia Guy. 2012. "Guest Editor's Introduction," *Cityscape* 14:3, 3; Theodos, Coulton, and Turner, xii.

[69] Coulton, Theodos, and Turner, 59.

[70] "Promise Neighborhoods," U.S. Department of Education website (www2.ed.gov/programs/promiseneighborhoods/index.html). Accessed 24 August 2014.

[71] Theodos, Coulton, and Budde, 80.

[72] Ibid., 70.

[73] Cunningham and MacDonald, 3.

[74] Brennan, 1–3; Cohen and Wardrip, 7; Tama Leventhal and Sandra Newman. 2010. "Housing and Child Development," *Children and Youth Services Review* 32, 1169; Tama Leventhal and Jeanne Brooks-Gunn. 2000. "The Neighborhoods They Live In: The Effects of Neighborhood Residence on Child and Adolescent Outcomes," *Psychological Bulletin* 126:2, 315–8; Ingrid Ellen and Margery Turner. 1997. "Does Neighborhood Matter? Assessing Recent Evidence," *Housing Policy Debate* 8:4, 848–50; Arthur Reynolds, Chin-Chih Chen, and Janette Herbers. 2009. "School Mobility and Educational Success: A Research Synthesis and Evidence on Prevention," paper presented at the Workshop on the Impact of Mobility and Change on the Lives of Young Children, Schools, and Neighborhoods, Board on Children, Youth, and Families, National Research Council, June 29–30, 2009, Washington, DC.

[75] Cohen and Wardrip, 7.

[76] Brennan, 2.

[77] Cohen and Wardrip, 4.

[78] Cunningham and MacDonald, 4.

[79] Ibid.

[80] Brennan, 1.

[81] Cohen and Wardrip, 3, 9.

[82] David Kerbow. 1996. "Patterns of Urban Student Mobility and Local School Reform Technical Report," Center for Research on the Education of Students Placed at Risk.

[83] Cunningham and MacDonald, 8.

[84] U.S. General Accounting Office. 1994. "Elementary School Children: Many Change Schools Frequently, Harming Their Education."

[85] Kids Mobility Project. 1998. "Kids Mobility Project Report," Hennepin County Office of Planning and Development and Community Connections, Hennepin County, MN.

[86] Leventhal and Newman, 1169.

[87] Darcy Hango. 2006. "The Long-Term Effect of Childhood Residential Mobility on Educational Attainment," *Sociological Quarterly* 47:4, 631–64.

[88] Anne Hendershott. 1989. "Residential Mobility, Social Support, and Adolescent Self-Concept," *Adolescence* 24:93, 217–32; as cited by Brennan, 2.

[89] Cunningham and MacDonald, 8.

[90] Brennan, 2.

[91] Schwartz, 6.

[92] Ibid., 32.

[93] Lisa Gennetian, Lisa Sanbonmatsu, Lawrence Katz, Jeffrey Kling, Matthew Sciandra, Jens Ludwig, Greg Duncan, and Ronald Kessler. 2012. "The Long-Term Effects of Moving to Opportunity on Youth Outcomes," *Cityscape* 14:2, 137–68.

[94] Brennan, 5.

[95] Larry Orr, Judith Feins, Jacob Robin, Erik Beecroft, Lisa Sanbonmatsu, Lawrence Katz, Jeffrey Leibman, and Jeffrey Kling. 2003. "Moving to Opportunity for Fair Housing Demonstration: Interim Impacts Evaluation," U.S. Department of Housing and Urban Development, 111.

[96] Margery Austin Turner, Austin Nichols, and Jennifer Comey with Kaitlin Franks and David Price. 2012. "Benefits of Living in High-Opportunity Neighborhoods: Insights from the Moving to Opportunity Demonstration," Metropolitan Housing and Communities Center, Urban Institute; Kadija Ferryman, Xavier de Souza Briggs, Susan Popkin, and Maria Rendón. 2008. "Do Better Neighborhoods for MTO Families Mean Better Schools?" Metropolitan Housing and Communities Center, Urban Institute, 3.

[97] Ferryman et al., 2, 3.

[98] Brennan, 5. See also: Greg Duncan and Anita Zuberi. 2006. "Mobility Lessons from Gautreaux and Moving to Opportunity," *Northwestern Journal of Law & Social Policy* 1, 110–26: "One important way in which the Gautreaux program differs from MTO's is that the Gautreaux programs were part of a legal settlement involving racial discrimination and designed to provide families living in highly segregated neighborhoods of concentrated poverty in Chicago the opportunity to move to much better neighborhoods, where 'much better' was defined as more racially integrated. In contrast, Moving to Opportunity targeted only class. It provided families with opportunities to move to more affluent neighborhoods, defined as those with poverty rates under 10 percent, but attached no racial criteria whatsoever to the destination neighborhoods. In fact, most MTO families moved to highly segregated, if more affluent, neighborhoods."

[99] Guy, 1.

[100] Theodos, Coulton, and Budde, 81.

In Practice

Protecting Children From Unhealthy Homes and Housing Instability

Children who do not live in safe, quality housing — whether because of the presence of health hazards such as lead or asthma triggers; housing instability, including homelessness; or other reasons — experience high rates of physical, mental, and emotional problems.[1] Poor-quality housing disproportionately affects low-income and minority children (see "Housing's and Neighborhoods' Role in Shaping Children's Future," p. 1), and certain populations such as lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) youth and youth aging out of foster care are at increased risk of experiencing homelessness.[2] Improving the health and well-being of children, especially those in the most vulnerable groups, depends in part on protecting them from unhealthy homes and housing instability. This article reviews some of the federal programs that address home health and homelessness and profiles several local organizations that coordinate collaborative efforts to assess and remediate home health hazards and address the needs of youth experiencing homelessness.

Unhealthy Homes

Evidence shows that poor-quality housing negatively affects children's physical and emotional health.[3] Childhood asthma has been associated with poor air quality and exposure to mold and allergens from dust mites, cockroaches, and rodents. Lead paint exposure has been linked to cognitive impairments including reduced impulse control.[4] The presence of fire hazards, carbon monoxide, radon, secondhand smoke, poor lighting, cluttered floors, and unsecured

Highlights

- Several federal programs, including HUD's Office of Lead Hazard Control and Healthy Homes, work to protect children from home health hazards such as lead or asthma triggers. Poor-quality housing disproportionately affects low-income and minority children.

- The Omaha Healthy Kids Alliance and the Healthy Homes Coalition of West Michigan are two local nonprofits that use various strategies to address home health concerns, including one-on-one home assessments; training for parents; and coordination with other programs, systems, and initiatives.

- Housing instability can lead to a range of negative outcomes for children, especially when instability leads to homelessness. The U.S. Interagency Council on Homelessness (USICH) has identified youth experiencing homelessness as a priority population and set a goal of ending youth homelessness by 2020.

- The Hollywood Homeless Youth Partnership and the Houston Coalition for the Homeless are two local organizations implementing strategies from USICH's "Framework to End Youth Homelessness" by collecting better data about youth experiencing homelessness and building the capacity of youth-serving agencies.

firearms in the home along with inadequate adult supervision of young children in tubs and pools heighten the risk of disease or injury.[5] These largely preventable home health hazards impose high health and economic costs on children, their families, and society at large, with a number of studies citing annual health costs in the billions of dollars for each of several specific home health threats.[6] Studies have found that various interventions can effectively improve children's health and reap cost savings.[7]

In response to these hazards and the harm they inflict on children and families, HUD's Office of Lead Hazard Control and Healthy Homes enforces lead and lead-based paint regulations, supports research and outreach, develops guidelines and standards for healthy homes, and administers grant programs to support local organizations that promote healthy homes.[8] In 1999, the Office of Lead Hazard Control initiated its Healthy Homes Initiative, which built on its existing Lead Hazard Control program to promote holistic home health assessments and interventions.[9] Although funding for lead hazard

control efforts remains the core of the office's grant programs, applicants can also request supplemental Healthy Homes funding to address other health hazards.[10] In addition, in recent years, HUD's Healthy Homes Demonstration Grant and Healthy Homes Production Grant programs provided funding to nonprofits and other organizations for direct remediation and outreach, and its Lead and Healthy Homes Technical Studies programs currently fund research on home health hazards and interventions, such as a University of Texas at Austin study of the merits of using heating, ventilation, and air conditioning (HVAC) filters to evaluate the relationship between the concentration of asthma triggers in filter dust and asthma severity for asthmatic children in low-income rural households.[11] A 2007 evaluation of Healthy Homes Initiative grant programs found that many grantees had successfully identified and remediated health threats and had demonstrated a positive health impact for various interventions.[12] For example, the Cuyahoga County Department of Development combined weatherization and health interventions designed to control mold and moisture. Teaming

with researchers from Case Western Reserve University and other partners to study mold and moisture remediation in homes of children with asthma, the department found reduced asthma symptoms and associated hospitalizations, especially when the interventions included home repairs such as the removal of water-damaged materials, leak repairs, and HVAC improvements.[13] More recently, a Healthy Homes Technical Studies grant supported research finding that children who have a parent with asthma, live without air conditioning, or were exposed to high levels of dampness-associated molds at age 1 (but not at age 7) were at the highest risk of having asthma at age 7.[14]

Several additional federal initiatives seek to make home environments healthier. The U.S. Centers for Disease Control and Prevention's (CDC's) Healthy Homes and Lead Poisoning Prevention program, for example, supports efforts to tackle a range of home health dangers such as mold and cockroach dander, and the U.S. Environmental Protection Agency (EPA) works to contain threats posed by lead, radon, and other hazardous materials that affect home and neighborhood environments.[15] HUD also partners with the U.S. Department of Agriculture (USDA) to support the Healthy Homes Partnership, an effort coordinated by Auburn University that provides home health information through a network of state coordinators. The initiative encourages residents to reduce health hazards in their homes.[16] HUD and USDA also support the Northeastern Integrated Pest Management (IPM) Center at Cornell University to provide multifamily housing providers with technical assistance and training in IPM.[17] HUD's Office of Fair Housing and Equal Opportunity has worked with the Office of Lead Hazard Control and Healthy Homes to issue notices on the link between the presence of lead-based paint and familial status discrimination. HUD and its partners have charged many legal cases to protect families from discrimination related to lead hazard control regulations — for example, when landlords refuse to rent to families with children so that they do not have to complete required lead abatement. Finally, recognizing that home health issues cut across traditional silos, the Federal Healthy Homes Work Group convenes the expertise of representatives of HUD, the U.S. Department of Health and Human Services' CDC and National Institute of Environmental Health Sciences, EPA, USDA, the U.S. Department of Energy, U.S. Department of Labor, and the National Institute of Standards and Technology to establish and promote healthy homes guidelines and support home

Regular hand washing and removing shoes before entering a home can help protect children from exposure to lead through contaminated soil.

Centers for Disease Control and Prevention Public Health Image Library/Cade Martin, photographer

health education, training, and research. In 2013, the interagency group drafted *Advancing Healthy Housing: A Strategy for Action*, published under the auspices of the President's Task Force on Environmental Health Risks and Safety Risks to Children, to guide these efforts.[18] In June 2013, Jon L. Gant, then-director of the Office of Lead Hazard Control and Healthy Homes, pointed to the development of the *National Healthy Housing Standard* by the National Center for Healthy Housing (NCHH) and the American Public Health Association as a vital early step in implementing the federal strategy.[19]

The evolution of federal policy regarding home health hazards — galvanizing first around lead control and remediation and later expanding to a more holistic "healthy homes" approach that encompasses a range of home environmental health threats — follows a wider pattern also adopted by national organizations such as NCHH and many local nonprofits.[20] Two local healthy homes organizations that began with lead poisoning prevention campaigns and have since broadened their missions to include additional environmental threats that affect children's well-being are the Omaha Healthy Kids Alliance (OHKA) and the Healthy Homes Coalition of West Michigan (HHC).

Omaha Healthy Kids Alliance

In Omaha, Nebraska, community mobilization for lead hazard control initially centered on the threat associated with an American Smelting and Refining Company lead refining plant sited on a 23-acre stretch of downtown. For more than a century, beginning in the 1870s, the refinery spread lead pollution over the surrounding area, contaminating the soil over an area of approximately 27 square miles containing thousands of residences. Aaron Ferer & Sons Company, and later Gould Electronics Inc., operators of a lead battery recycling plant, exacerbated the problem.[21] In response to the Douglas County Health Department's finding of elevated blood

The Omaha Healthy Kids Alliance partners with volunteers to paint and clean yards and basements.

Omaha Healthy Kids Alliance

lead levels among the city's children, the Omaha City Council invited EPA to investigate. EPA sampled the soil on local properties and, with the U.S. Army Corps of Engineers, began replacing residential soil in 1999.[22] In 2004, EPA designated the area a Superfund site for large-scale cleanup and remediation.[23] To facilitate community dialogue and coordinate collaboration among organizations responding to lead hazards, concerned stakeholders formed the Omaha Lead Site Community Advisory Group (CAG). The following year, CAG, in collaboration with then-mayor Mike Fahey, announced the formation of OHKA with initial funding provided by Union Pacific Railroad.[24]

EPA's designation of Omaha as a Superfund site and its residential soil remediation activities played critical

roles both in sensitizing the community to the dangers associated with lead and in the founding of OHKA, but it had unintended consequences that complicate OHKA's current work. Although EPA cleanup remediates lead in residential yards — a significant threat to children's health — it does nothing to address the primary lead threat, which has been and continues to be inside the home. The Douglas County Health Department estimates that exposure to lead-based paint accounts for 90 percent of Omaha's incidences of lead poisoning.[25] OHKA chief executive officer Kara Eastman notes that some families assume that once their yard has been replaced, they no longer have to worry about lead, even though they may still have lead hazards inside their home.[26]

Healthy Homes Go Green

Launched in 2008, the Green & Healthy Homes Initiative (GHHI) works to improve the health and overall well-being of low-income children, families, and seniors by making homes healthier and more energy efficient.[1] Ruth Ann Norton, GHHI's president and chief executive officer, says that the organization's mission "is to make children healthier in their homes; to ensure that their homes do not undermine their ability to succeed in life."[2] At the national level, GHHI advocates for relevant public policies and provides technical assistance, training, and other supports to its 17 local sites.[3]

Shawana's 5-year-old son Josue suffered from severe asthma attacks, sending him to the hospital six times in one year. GHHI Baltimore completed an intensive intervention to address Josue's asthma triggers by removing the carpet, remediating mold, repairing the downspout and other leaks, and performing integrated pest management. In the year following the intervention, Josue has not returned to the hospital for asthma.

Unlike traditional fragmented and siloed approaches to remediating unhealthy, energy-inefficient homes, GHHI's service delivery model stresses the coordination of funding and integration of home interventions to improve both efficiency and cost effectiveness. GHHI aligns a range of government, private-sector, and philanthropic funding streams and programs to provide cross-sector interventions that address energy efficiency, health, and safety. A family seeking weatherization services, for example, may also receive lead hazard mitigation or integrated pest management as needed, with GHHI coordinating the appropriate service providers and funding resources for each.[4]

Supported by the national office, local GHHI sites forge partnerships among government agencies, nonprofits, and private-sector entities in their cities and have the flexibility to incorporate various programs. In Buffalo, New York, for example, GHHI has used such partnerships to reclaim vacant homes, hold landlords accountable for maintaining green and healthy rental properties through housing code enforcement, and train low-income people for green jobs. The Buffalo GHHI has also partnered with the Center for Employment Opportunities to train parolees, opening up a pathway to higher-wage work for a group that traditionally has had difficulty finding employment.[5]

To date, GHHI has served more than 5,000 homes nationally, and the organization has documented a number of successful outcomes from its efforts, including a reduction in asthma-related hospitalizations, a decrease in school absences due to asthma symptoms, and an annual reduction in home energy costs.[6] The benefits of GHHI's interventions extend beyond the households it helps, including reduced public healthcare costs and increased labor productivity from parents, who spend less time away from work caring for sick children.[7] GHHI plans to expand its successful program to a total of 60 cities within the next 3 years.

An independent evaluation finds that local GHHI programs are most effective when they have strong leadership from a site's coordinator, centralized processing to reduce duplication of effort, the full buy-in and backing of the city's leadership, and extensive partner participation. Among the challenges to GHHI's work noted in the evaluation were the need for "gap" funding to make properties eligible for federal funding (for example, repairing a leaking roof so that a home qualifies for a weatherization program), differing eligibility requirements among federal programs, and the lack of dedicated GHHI funding at many sites.[8]

[1] "History and Mission," Green & Healthy Homes Initiative website (www.greenandhealthyhomes.org/about-us/history-and-mission). Accessed 19 September 2014; Green & Healthy Homes Initiative. 2014. "Breaking the Link Between Unhealthy Housing and Unhealthy Families."

[2] "Green & Healthy Homes Initiative Helps Families," YouTube video, 0:03, posted by Green & Healthy Homes Initiative (www.youtube.com/watch?v=rbF71lDmt4k). Accessed 19 September 2014.

[3] Green & Healthy Homes Initiative. 2014. "GHHI at-a-Glance," Green & Healthy Homes Initiative; "Breaking the Link Between Unhealthy Housing and Unhealthy Families."

[4] "Breaking the Link Between Unhealthy Housing and Unhealthy Families."

[5] Cara Matteliano. 2014. "GHHI in Buffalo," speech delivered at Congressional Briefing: Housing as a Platform for Improving Public Health, Washington, DC, 17 September.

[6] "GHHI at-a-Glance."

[7] "Breaking the Link Between Unhealthy Housing and Unhealthy Families."

[8] David C. Cox and F. Gary Dewalt. 2014. "Summary Report: Targeted Review of the Green & Healthy Homes Initiative (GHHI)®," prepared by QuanTech for the Office of Healthy Homes and Lead Hazard Control, U.S. Department of Housing and Urban Development, 26–7.

OHKA's Healthy Homes program assesses homes for lead as well as mold, radon, and other hazards.[27] In 2012, OHKA augmented this program with a $750,000 award from the Kresge Foundation's Advancing Safe and Healthy Homes Initiative to fund a full-time outreach worker, a city healthy homes inspector who works with code inspectors, and the assessment and remediation of health threats in 120 low-income homes.[28] The grant enables OHKA to make approximately $1,500 worth of repairs to each home, such as replacing moldy drywall, stabilizing lead paint, and addressing asthma triggers.[29] The grant funding to support a city code official has come just as the city is adopting new software that will allow other code enforcers to automatically refer cases to the healthy homes inspector when they see a health-related hazard. The opportunity, as Eastman sees it, is for reframing code enforcement: "[Y]ou're not just there to give a ticket to somebody but rather to help a child or help somebody's health." Although this process is still in its early stages, it shows promise as a more systematic approach to health-related code enforcement that merits further evaluation.[30]

Outreach, education, and training are important components of OHKA's efforts to protect children from home health hazards. In May 2014, OHKA hosted the first of a planned annual event, the Healthy Homes Summit, to promote community awareness of home health issues.[31] In addition to its presence at the summit and other community events, OHKA produces public service announcements and developed a book geared toward children, *The Lead Detectives*, for outreach.[32] OHKA seeks partners who are already engaged with children or their homes. Since 2011, OHKA's participation in the One Touch program, which includes an information management system developed by the private consulting firm Tohn Environmental Strategies, has facilitated collaboration with other housing service providers including Habitat

for Humanity, Rebuilding Together, the Omaha Housing Authority, the City of Omaha Planning Department, and the Omaha Public Power District. The One Touch system streamlines data gathering and referrals among

> Outreach, education, and training are important components of OHKA's efforts to protect children from home health hazards.

the participating organizations. For example, someone doing a weatherization assessment could also take note of healthy homes issues and easily refer the client to OHKA. Eastman says of the program, "We're finding increased collaboration, that we're able to better serve the families, and that fewer of us have to leave a home with unmet needs, because we have other resources to put into the home."[33] When OHKA sent a risk assessor to the home of an Omaha

grandfather and found flaking and peeling lead-based paint, the organization was able to not only address the lead threat but also refer him to the nonprofit partner Rebuilding Together, which addressed additional health hazards by repairing his roof, gutters, ceiling, and plumbing.[34]

Healthy Homes Coalition of West Michigan

Founded in 2006, the Healthy Homes Coalition of West Michigan (HHC) grew out of the Get the Lead Out! campaign, which began in Grand Rapids in 2001 after a high number of children, many of them low-income and minority, were found to have elevated levels of lead in their blood.[35] Harnessing the power of a community galvanized against one environmental health threat, community members began asking what could be done to address other home health hazards.[36] HHC executive director Paul Haan remembers one voice in particular: that of a woman named Adriana, whose home had been made lead safe for her adopted child and visiting grandchildren and who urged him to think more broadly about the environmental threats affecting children in Grand Rapids. HHC took the lessons learned from the lead safety campaign and began applying them to other home health concerns — initially,

Appropriate precautions must be taken when working with lead-based paint. Here a worker uses a sander attached to a high-efficiency particulate air-filtered vacuum.

Centers for Disease Control and Prevention Public Health Image Library

The Healthy Homes Coalition of West Michigan partners with families to combat home health threats such as water leaks and high levels of lead dust. However, when landlords are uncooperative, the best option may be to move to a healthier environment (as did the Deavers family, pictured here).

radon and carbon monoxide.[37] HHC has since expanded its mission to combat additional health threats such as fire hazards and asthma triggers.[38]

Healthy Homes for Healthy Kids, HHC's primary program, conducts one-on-one home assessments to identify and address home health hazards for low- to moderate-income households (those earning less than 80 percent of the area median income) with children aged 5 and under who live in homes built before 1978.[39] HHC staff members provide each family with an assessment report and a plan and connect the family with appropriate remediation services, such as lead control or pest management.[40] When needed, HHC also installs smoke alarms and carbon monoxide detectors, which are free for qualifying households through funding from the Federal Emergency Management Agency.[41] Families in need connect with HHC through informal referrals from other community organizations and participants, including the local Head Start program, Cherry Street

Health Services, and Home Repair Services.[42] This referral system is how Grand Rapids parent Londi Santos Porres was able to obtain urgently needed services through HHC. Cherry Street Health Services referred Porres to HHC after detecting an elevated level of lead in her daughter's blood. HHC assessed Porres' home for lead and other health threats, connected her with the Get the Lead Out! program, installed smoke and carbon monoxide alarms, and lowered the maximum water temperature on her hot water heater to reduce the risk of scalding.[43]

HHC is exploring ways to partner with additional programs, systems, and initiatives to reach more households, particularly before problems develop. Among the potential new partnerships are those with health care providers (with the possibility of tapping into Medicare and Medicaid reimbursement for housing services with a health impact), early childhood education programs, and early childhood home visitation programs. Collaborating with

programs and systems that already interface with children — in some cases in their homes — will allow HHC to more efficiently identify and target high-need households.[44] One example of a fruitful community collaboration is HHC's work with Bethany Christian Services to obtain required radon tests and smoke and carbon monoxide detectors for refugee women seeking licenses to start in-home child care businesses. The partnership affords HHC the opportunity to intervene in potential at-risk environments where children might spend considerable time and promote healthy homes awareness among childcare workers.[45]

Working with community health workers, early childhood educators and childcare providers, nurses, and others who have regular contact with children is one important way in which HHC increases awareness about common home health hazards and strategies to combat them.[46] HHC provides healthy homes training for parents and professionals and is a member of the National

Healthy Homes Training Network, an NHCC project jointly funded by CDC, EPA, and HUD.[47] HHC distributes a newsletter, attends community events, and partners with local media to raise public awareness of home health issues.[48] HHC disseminates the latest relevant research on its website, such as information about an evaluation of a Seattle-area intervention that combines home repairs with in-home education to control childhood asthma.[49] HHC draws from the body of established healthy homes research to ensure that its programs are evidence based.[50] For example, HHC's use of home assessments to guide its multifaceted, tailored asthma interventions is based on a body of clinical evidence of their effectiveness. A review of evidence by NCHH, which HHC uses as a guide whenever possible, classifies this and other interventions as demonstrating "sufficient evidence" of success.[51] The organization also advocates for relevant policies at the federal, state, and local levels. For example, HHC staff have testified before the state legislature regarding funding for lead hazard control.[52]

Challenges

OHKA and HHC face common challenges, such as limited and unstable funding as well as landlords who are unwilling to comply with the law or participate in remediation programs. However, the two organizations also face challenges specific to their local contexts, such as OHKA's struggle to convince residents that EPA-required soil replacement does not remove all lead threats from their home environment.[53] Both organizations have received service from AmeriCorps members in the past but have since lost that support, which has significantly limited HHC's ability to offer hands-on remediation services.[54]

The greatest challenge that organizations like OHKA and HHC face when remediating unhealthy homes, however, is the sheer scope of the problem; the Federal Healthy Homes Work Group notes that

millions of homes in the United States have moderate to severe physical issues.[55] "We can't programmatically work our way out of this problem," Haan says. "We can go door by door, and that's good, because people need that help, but while we are doing that work we ought to be looking for the broader, more systemic solutions," such as more proactive code enforcement for rental housing and other efforts to ensure that affordable housing is *quality* affordable housing. Haan argues that creating healthy homes must be considered a public health issue, not just a matter of individual responsibility.[56] Both the home-by-home interventions and the education and advocacy work of local organizations such as OHKA and HHC are critical steps in the pursuit of healthier homes for children.

Housing Instability and Youth Homelessness

Just as the presence of various health hazards within the home puts children at risk, evidence links housing instability with a range of negative outcomes for children. Because the children who become homeless are part of a larger set who experience housing instability and poor-quality housing, they exhibit many of the problems associated with children living in unhealthy homes such as asthma and lead poisoning, among others.[57] A 2013 point-in-time (PIT) national estimate found nearly 200,000 homeless children and youth, including 61,000 between the ages of 18 and 24.[58] Other estimates, employing broader definitions of homelessness that include doubling up or couch surfing and covering a longer period, find that each year as many as 1.7 million youth under 18 experience homelessness for at least one night, and approximately 550,000 youth and young adults up to age 24

experience homelessness for more than a week.[59] In addition to economic circumstances and a lack of affordable housing, family conflict and trauma are common causes of youth homelessness, and certain subpopulations are overrepresented among homeless youth, such as those who are pregnant or parenting, LGBTQ, or exiting the juvenile justice or foster care systems.[60] Youth experiencing homelessness exhibit high levels of physical, emotional, and mental health problems, are prone to engaging in risky behaviors, and are vulnerable to various dangers.[61]

In response to the problem of youth homelessness, the U.S. Interagency Council on Homelessness (USICH) has developed a "Framework to End Youth Homelessness," identified youth experiencing homelessness as a priority population, and set a goal of ending youth homelessness by 2020. The framework, an outgrowth of USICH's 2010 federal strategic plan to end

The greatest challenge that organizations like OHKA and HHC face is the sheer scope of the problem of unhealthy homes.

homelessness, *Opening Doors*, and its 2012 amendment, is led by USICH and the Administration on Children, Youth, and Families at the U.S. Department of Health and Human Services. The framework outlines a two-part strategy to address youth homelessness: get better data and strengthen capacity at the federal, state, and local levels. Fuller, more accurate data are necessary to understand the scale and nature of youth homelessness — including the overrepresentation of LGBTQ youth among the homeless population — to advocate for resources and foster collaboration, and "to inform smarter, more targeted strategies to tackle tough problems."[62] To improve data on youth homelessness, USICH developed new youth-specific strategies for PIT counts

through its Youth Count! interagency initiative, and the organization is working to better coordinate federal data systems. Obtaining more accurate data will allow agencies, researchers, and service providers to monitor changes and measure progress.

To build capacity, the USICH framework outlines a three-phase plan. The first phase, which is already underway, involves disseminating a preliminary evidence-based youth intervention model to service providers; this model outlines client- and system-level strategies designed to improve the four core outcomes of stable housing, education or employment, permanent relationships, and socioemotional well-being. The model also emphasizes planning interventions based on risk and protective factors that will be tailored to serve vulnerable subpopulations (LGBTQ youth, pregnant and parenting youth, youth exiting foster care, youth involved with the juvenile justice system, and victims of sexual exploitation). During the second phase, USICH will evaluate and revise the preliminary intervention model. Finally, in the plan's third phase, USICH will build capacity at federal, state, and local levels, scaling up effective interventions and discarding ineffective ones based on the lessons learned from the second phase (although evaluation will be ongoing).

Houston Coalition for the Homeless: Getting Better Data

One local organization implementing the USICH's data strategy is the Coalition for the Homeless of Houston/Harris County. The Coalition — a private, nonprofit organization founded in 1982 — is the lead agency in the area's continuum of care (CoC), the group of service providers that provide a full range of housing and supportive services for people experiencing homelessness. The Coalition manages a Homeless Management Information System, which tracks where youth are accessing homeless response services and examines the characteristics of homeless

youth, and leads the CoC's annual PIT count. In 2013, the Coalition participated in Youth Count! to obtain a more accurate estimate of youth in the PIT count, and its community was one of the nine sites evaluated in an Urban Institute study of the initiative.[63]

Youth experiencing homelessness are notoriously difficult to count.[64] The differing definitions of homelessness among federal and community agencies and organizations, the difficulty of locating youth in a wide range of housing situations such as couch surfing or doubling up, the ethical and legal questions involved in engaging with minors, and the reluctance of youth to self-identify as homeless complicate efforts to obtain an accurate estimate. Among the challenges specific to Houston, according to Gary Grier, a Coalition project manager, are the city's lack of youth shelters and large geographic area. Youth Count! addresses some of these challenges by fostering collaboration among the involved federal and local parties including academics and grassroots volunteers. Youth Count! also employs youth-specific methods such as identifying "homeless

hotspots" where otherwise hidden youth might gather, using nontraditional tools such as social media, employing respondent-driven sampling — using information from respondents to identify additional youth — and deploying specialized outreach teams composed of veteran service providers and current or former homeless youth.[65]

For the 2013 PIT and its added youth component, the Coalition partnered with the University of Texas at Houston's School of Public Health, which developed a 17-question, youth-specific survey. To encourage participation, respondents received a $5 fast food gift card. The Coalition worked with an LGBTQ-focused service center to better reach LGBTQ youth and targeted other hard-to-count youth such as those doubling up or couch surfing. Coalition staff trained a team of volunteers from the school of public health, local homeless and youth organizations, and an area youth shelter for 18- to 21-year-olds, Covenant House Texas, to carry out the survey.[66] Altogether, more than 30 state and local agencies participated in the planning and execution of the

Food insecurity is among the many vulnerabilities faced by youth experiencing homelessness.

count. Past and present residents of Covenant House helped special outreach teams identify and survey areas that they knew to be common destinations for unaccompanied homeless youth. Alongside these efforts, schools with high numbers of at-risk students conducted a more limited survey.[67]

The findings from the 2013 count support the general statistics regarding high-risk groups. Among the youth surveyed, 2 out of every 5 had aged out of foster care, 1 in 5 identified as gay or bisexual, 17 percent of females were pregnant, 1 in 3 had been in the correctional system during the past year, and 11 of 160 identified as transgender. Three-quarters of those surveyed had not worked in the previous week.[68] Along with the data gathered, some lessons learned from the pilot include the need for peer participation in planning and administering surveys, youth-centric language, respondent-driven sampling, and a data collection period that is longer than the standard 6 hours for PIT counts.[69] The Coalition also hopes to improve the school-based survey, which was of limited value because of restrictions on the information surveyors were allowed to collect.[70]

Grier says that the improved count will help the Coalition and youth homeless service providers to better understand the nature of the problem they face. He adds that data that go beyond the scope of the PIT and CoC needs assessments — such as information about other kinds of housing instability among youth as well as the needs and wants of respondents — will help stakeholders develop systems that youth will want to access.[71] Finally, says Grier, more accurate data are essential for establishing a baseline from which to measure progress and evaluate the efficacy of intervention models.[72]

Hollywood Homeless Youth Partnership: Building Capacity

The Hollywood Homeless Youth Partnership (HHYP), a strategic partnership of youth-serving agencies in

Los Angeles, is deeply engaged with USICH's capacity-building strategy. HHYP was founded in 1992 to formalize the longstanding collaboration of its member organizations. Six local agencies are currently members of HHYP: the Division of Adolescent and Young Adult Medicine at Children's Hospital Los Angeles, Covenant House California, Los Angeles LGBT Center, Los Angeles Youth Network, My Friend's Place, and Step Up on Second. HHYP does not provide services directly to youth experiencing homelessness; rather, it enhances the service capacity of its members by fostering peer-to-peer collaboration, sharing best practices,

providing training and professional development, and increasing leverage for advocacy and fundraising, among other benefits.[73] As Heather Carmichael, executive director of My Friend's Place, puts it, HHYP "amplifies the amount of work that we could do as one organization; it really gives us a deeper well to work from."[74]

The member agencies share a commitment to trauma-informed care, a longtime value that was more formally articulated in the mid-2000s with support from the National Child Traumatic Stress Network. A trauma-informed approach recognizes the prevalence of trauma among youth experiencing homelessness and adjusts understandings of behaviors, expectations, and interventions accordingly.[75] The trauma-informed approach is consistent with the USICH framework's focus on risk factors, of which trauma is one.[76] HHYP also adopted the Attachment, Self-Regulation, and Competency framework, which Boston researchers developed to guide interventions with

children who have experienced physical or emotional trauma.[77] The common approach fosters professional trust among the agencies. As Carmichael says, when someone calls from a member organization, "we know that they're using trauma-informed practices, [and] we understand their models, which really helps our clinical social workers do better matching of housing programs where a young person might thrive and [achieve] better outcomes."[78]

HHYP is currently forming a strategic plan that, among other goals, will align its program priorities — service impact, training and capacity building,

research and evaluation, and policy and advocacy — with the four core youth outcomes in the USICH framework. HHYP has formally adopted the framework outcomes with some modifications; for example, broadening the outcome for socioemotional well-being to include physical well-being to better reflect the range of traumas that homeless youth may experience.[79] Carmichael notes that "the [USICH] outcomes are not defined in a very operational way yet," adding that USICH may need to develop intermediate benchmarks and measures in addition to core outcomes to incorporate the process-oriented work done by many providers serving homeless youth.[80] HYPP's critical engagement with the USICH outcomes and preliminary intervention model promises to advance the national dialogue about youth experiencing homelessness and assist USICH's efforts to refine the model.[81]

In various ways, HHYP is already participating in metropolitan, regional,

and national outreach and discussion. HHYP's emphasis on and experience with trauma-informed care makes the organization particularly well-suited to inform the national discussion about intervention models and service delivery. HHYP has developed policy briefs and, with funding from the National Child Traumatic Stress Network, a series of 11 online training modules on various topics related to direct service for youth, all framed by a trauma-informed approach. On a regional level, HHYP and King County's Homeless Youth and Young Adult Initiative co-led a west coast convening of service providers. Such forums encourage the productive exchange of ideas — allowing HHYP, for example, to share its expertise on trauma while learning from groups with strengths in other areas, such as education.[82] Locally, HHYP has started the Los Angeles Coalition to End Youth Homelessness, through which HHYP can promote trauma-informed care, and the coalition as a whole is pushing the Los Angeles CoC to include a youth survey in the next PIT count. The collaboration at each of these levels ultimately serves to increase the service quality and capacity of HHYP member agencies.[83]

Unique Needs of Youth Experiencing Homelessness

Arlene Schneir, associate director of the Division of Adolescent and Young Adult Medicine at Children's Hospital Los Angeles and a member of the HHYP executive team, notes that youth experiencing homelessness "look different, act different, [and] are visible in the community differently."[84] Youth have different needs from adults and may need different outcomes. Likewise, assessments of vulnerability, definitions of homelessness, and interventions for youth may need to be tailored for youth. The USICH framework accounts for the need for youth-specific interventions, and HUD's move to require CoCs to estimate youth as a distinct category in PIT counts recognizes the unique needs and circumstances of youth in order to better incorporate them into the general count of people experiencing homelessness. These efforts will be further advanced as more organizations adopt the youth-specific methodologies developed through Youth Count!

Collaboration Is Key

Anything that stands in the way of access to safe, quality housing threatens children's health and well-being. Housing instability, up to and including homelessness, and unhealthy homes deny children the home environments that best equip them for positive life outcomes. Both federal programs and local initiatives are directed toward reducing barriers to safe, stable, healthy housing for all, but significant challenges remain. The local organizations profiled above work with limited and unstable funding; interface with various federal, state, and local programs and agencies with differing rules, definitions, and requirements; and face problems daunting in their scope and complexity.

Collaboration, both at the federal and local levels, is a critical tool for organizations seeking to make the most of limited resources. "Collaboration with the wider community is key to our success," says HHC's Haan.

The Coalition for the Homeless of Houston/Harris County is working to improve methods for counting youth in annual point-in-time counts.

Coalition for the Homeless of Houston/Harris County

"It just doesn't make any sense not to be collaborative."[85] Federal initiatives such as USICH and the Federal Healthy Homes Work Group recognize the need to break down traditional silos and work in concert, and these promising starts can filter down throughout the respective agencies to better align definitions, restrictions, and regulations. The differing definitions of homelessness that HUD and the U.S. Department of Education use, for example, result in dramatically different estimates of youth homelessness; these differences can damage the credibility of an organization like the Houston Coalition that cites a HUD-defined statistic when the media or another organization might cite a conflicting statistic that relies on the U.S. Department of Education's definition.[86] Ann Oliva, HUD's Deputy Assistant Secretary for Special Needs, explains that this issue is difficult in part because of varying forms of homelessness and need for services: "Ending homelessness among youth is a priority for HUD and its federal partners. The greatest challenge that we face is that the number of homeless youth and their needs are not well understood. For HUD it is important to understand how many youth need housing assistance and would likely be on the streets without it, and we try to learn that through annual point-in-time counts in every community. This is challenging in part because youth often avoid traditional homeless services, choosing instead to stay with friends or remain hidden out of fear of being returned to abusive situations. Other federal agencies have to assess the need for their services, such as education and employment, which is usually involves using a broader definition of homelessness. Homeless youth also have unique developmental needs that need to be taken into account. To end youth homelessness, CoCs should partner with schools, the child welfare system, and Runaway and Homeless Youth providers to implement a youth-informed system of care that includes developmentally appropriate services and housing programs for youth."

The United States Interagency Council on Homelessness has set a goal to end youth homelessness by 2020.

At the local level, collaboration among service providers, academics, and governments can enhance the capacity of providers. Partnership with the University of Texas at Houston has aided the Houston Coalition for the Homeless' youth counts, and OHKA's funding of a healthy homes code inspector and participation in the One Touch program promise a more systematic approach to advancing healthy homes in Omaha compared with relying on resident requests and limited referrals. Strategic partnerships such as these leverage expertise, resources, and contacts to broaden these organizations' impact, advancing children's health and well-being by more effectively promoting healthy homes and housing stability. EM

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Additional Resources

- *Choosing Homes, Choosing Schools* (2014), by Annette Lareau and Kimberly Goyette, eds., examines school choices, how American parents choose where to live and send their children to school, and how these choices and decisions shape opportunities for families and children. **www.russellsage.org/publications/ choosing-homes-choosing-schools**.

- *Neighbourhood Effects Research: New Perspectives* (2012), by Maarten van Ham et al., eds., offers new perspectives on how neighborhoods shape the life chances of individuals. **www.springer.com/ social+sciences/population+studies/ book/978-94-007-2308-5**.

- "'Living Here Has Changed My Whole Perspective': How Escaping Inner-City Poverty Shapes Neighborhood and Housing Choice" (2014), by Jennifer Darrah and Stefanie DeLuca, describes research on an assisted mobility voucher program that finds that living in higher-opportunity neighborhoods caused participants' residential preferences to shift over time. **onlinelibrary.wiley.com/doi/10.1002/ pam.21758/abstract**.

- "A Brief Look at the Early Implementation of Choice Neighborhoods" (2013), by Rolf Pendall and Leah Hendey, focuses on background information about the first five Choice Neighborhoods implementation sites and their transformation plans and highlights early observations about progress and challenges in launching the program. **www.urban.org/UploadedPDF/412940- A-Brief-Look-at-the-Early-Implementa- tion-of-Choice-Neighborhoods.pdf**.

- "Family Poverty Affects the Rate of Human Infant Brain Growth" (2013), by Jamie L. Hanson et al., examined changes in human brain structure from birth through age four, a period during which a high rate of brain development normally occurs. Trajectories of brain growth in children from economically diverse backgrounds indicated that low socioeconomic environments were related to slower brain development and to higher rates of behavior problems. **www.plosone.org/arti- cle/info%3Adoi%2F10.1371%2Fjournal. pone.0080954**.

- "The Social Genome Project: Mapping Pathways to the Middle Class" (ongoing), in development by the Center on Children and Families at the Brookings Institution, is a model of social mobility over the life cycle with data and tools for policy analysis. **www.brookings.edu/about/centers/ ccf/social-genome-project**.

- "Factors Contributing to the Receipt of Housing Assistance by Low-Income Families with Children in Twenty American Cities" (2014), by Jung Min Park et al., tracks a large sample of low-income families over a 9-year period to discover which families ultimately receive housing assistance. **www.jstor.org/discover/10.1086/67535 3?uid=3739704&uid=2129&uid=2134& uid=2&uid=70&uid=4&uid=3739256&s id=21104391038137**.

- "An Examination of the Efficacy of INSIGHTS in Enhancing the Academic and Behavioral Development of Children in Early Grades," (2014), by Erin E. O'Connor et al., studies INSIGHTS, a program designed to facilitate learning by appropriately aligning educational experiences with a child's temperament, and evaluates its impact on the academic skill development of children in low-income schools. **psycnet.apa.org/index.cfm?fa=buy. optionToBuy&id=2014-14386-001**.

- The National Center for Healthy Housing hosts a range of healthy homes resources including NCHH publications and a bibliographic database, the Healthy Housing Clearinghouse. **www.nchh.org/**.

- The Green & Healthy Homes Initiative's website contains information for parents and caregivers as well as policymakers about common home health hazards and available resources to combat them. **www.greenandhealthyhomes.org/**.

For additional resources archive, go to **www.huduser.org/portal/periodicals/ em/additional_resources_2014.html**.

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