National Center for Healthy Housing

Housing and Health: New Opportunities for Dialogue and Action

Prepared by: Jeffrey Lubell, Executive Director, Center for Housing Policy; Rebecca Morley, Executive Director, National Center for Healthy Housing; Marice Ashe, Executive Director and Linda Merola, Senior Staff Attorney, ChangeLab Solutions; and Jeff Levi, Executive Director, Trust for America's Health.

Renowned community developer and philanthropist Jim Rouse once said, "For many years, I have lived uncomfortably with the belief that most planning and architectural design suffers for lack of real and basic purpose. The ultimate purpose, it seems to me, must be the improvement of mankind."

The adoption of a new "health in all policies" approach by the federal government provides an historic opportunity to extend Jim Rouse's advice to the nexus of health and housing and foster a dialogue that can lead to new partnerships and stronger policies that advance health and housing objectives in equal measure. By developing a framework for improving those aspects of housing that impact health, this dialogue could help ensure that housing policy and neighborhood design make the maximum possible contribution to the health of children, older adults, and other community members.

To facilitate this dialogue, we have prepared a concept paper documenting the many ways in which housing affects health and outlining potential next steps for fostering greater collaboration between the public health and housing policy communities to advance shared goals.

I. Summary and Recommendations

Housing affects health in multiple ways:

- *Housing quality* can impact physiological health (e.g., lead, radon, mold, extreme temperatures), psychological health (e.g., noise, inadequate light), and safety (e.g., falls, fires).
- *Unaffordable housing costs* affect health by reducing the income that a household has available for nutritious

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food and necessary health care expenses, as well by causing stress, residential instability, and crowding. In extreme cases, residential instability affects health through the physical and mental deprivations of homelessness. Crowding also has a negative impact on mental health and may increase susceptibility to disease.

- *Physical neighborhood attributes* affect health by facilitating (or impairing) walkability/bikeability, proximity to traffic, and access to public transportation, parks and fresh fruits and vegetables.

- *Social and community attributes*, such as segregation and the concentration of poverty, also have an impact on health.

Despite the many connections between health and housing, the two policy sectors mostly operate on parallel tracks without sufficient interconnection and collaboration. A notable exception – and perhaps a model for collaboration in other areas – is in homelessness policy, where housing and health practitioners, policymakers and advocates have worked together to craft interdisciplinary solutions that have proven effective in reducing chronic homelessness.

We believe there is a need to extend this interdisciplinary approach to other areas of intersection between health and housing goals to engage a broad array of constituencies in developing and supporting more effective and coordinated policies to achieve shared objectives. To this end, we recommend convening key actors in the health and housing fields to hold a dialogue aimed at clarifying what we know, identifying research gaps, developing common measures of success and useful tools, highlighting promising approaches, and developing actionable steps for taking these approaches to scale.

In addition to homelessness, there are a number of specific areas of intersection between health and housing that could form the basis for further focused dialogue. Here are four examples:

- **Housing for Older Adults.** Some good work has already been done to identify ways to bridge the health and housing silos to ensure that older adults have access to safe and healthy housing as well as the services they need to live independent lives and avoid costly nursing home care. But with the aging of the baby boomers now upon us, this issue will quickly grow in size and significance and needs sustained attention to ensure that the health care savings associated with minimizing hospitalizations and unnecessary entry into nursing homes can be captured to support effective housing and services solutions.

- **Affordable, Walkable Communities.** To reduce obesity and diabetes, the public health field has focused on fostering walkable communities with good access to parks and fresh fruits and vegetables. There is reason to be concerned, however that we may become victims of our own success. Many of the same changes that make neighborhoods healthier increase demand for housing by affluent households, causing rents and home prices to rise and forcing low- and moderate-income families to relocate to more dispersed areas. Some communities are integrating their public health efforts with policies to preserve existing affordable housing and ensure that a share of newly developed housing is affordable. These examples should be lifted up as models capable of attracting support from broad coalitions with shared visions for bringing together the smart growth, public health, affordable housing, community development, and energy-efficiency communities.

- **Residential Stability.** There is no question that extreme residential instability—homelessness—has a negative impact on health. But frequent moves, eviction, foreclosure, and living in doubled-up housing are also related to elevated stress levels, depression, and hopelessness. A dialogue focused on the impact of residential instability on health could lay the groundwork for renewed focus on helping individuals stay stably housed and make well-planned transitions—a policy objective that has come to the fore in the foreclosure crisis but has not yet received the attention it deserves in other contexts (e.g., for renters). Interestingly, this dialogue could also extend to the education policy community, as excessive mobility appears to undermine school achievement.

- **Healthy Housing in Healthy Neighborhoods.** Neighborhoods go through cycles of investment and disinvestment. Although the consequences of these

cycles for safety and community development outcomes are well recognized, the health implications merit greater attention. Decisions by property owners to stop investing in their properties can contribute to the decline of a neighborhood and the concentration of poverty, which has negative impacts on health. Conversely, the upgrading and repair of homes as they age can—when done at a neighborhood scale—contribute to positive neighborhood effects that facilitate safety and walkability and reduce stress.

II. Health in All Policies

In recent years, the health policy community has broadened its focus beyond traditional health services and health-specific programs to consider the full range of factors and policies that affect health, including housing, transportation, education and other social factors. With the creation of the National Prevention, Health Promotion, and Public Health Council, the federal government now embraces the concept that where we live, learn, work and play all have an impact on our health. Comprised of 17 federal agencies and offices, including the Department of Housing and Urban Development (HUD), the Council, in June 2011, issued a *National Prevention Strategy*[1] *(Strategy)* that identified "Healthy and Safe Community Environments," as one of its four strategic directions. Specifically, the document calls for the design and promotion of affordable, accessible, safe and healthy housing.

According to the *Strategy:*

> *"Living environments, including housing and institutional settings, can support health.*[2] *Quality housing is associated with positive physical and mental well-being.*[3] *How homes are designed, constructed, and maintained, their physical characteristics, and the presence or absence of safety devices have many effects on injury, illness, and mental health.*[4] *Housing free of hazards, such as secondhand smoke, pests, carbon monoxide, allergens, lead, and toxic chemicals, helps prevent disease and other health problems.*[5] *Housing that meets universal design standards allows people, including those with disabilities and older adults, to live safely in their homes."*[6]

The Strategy commits the federal government to:

- Support healthy housing while addressing unsafe housing conditions and health-related hazards, including injury hazards, asthma triggers, and lead-based paint hazards.
- Use housing development subsidies to promote mixed-income neighborhoods and access to safe and healthy housing.[7]

This "health in all policies" approach provides a new lens through which both health and housing policies can be assessed—a "win-win" situation, in which improving housing conditions and opportunities advances the housing agenda, while stable housing and sustainable communities enhance public health.

Sections III through V of this paper review the research base documenting the many connections between housing conditions and health outcomes:

- Section III focuses on housing quality, with particular emphasis on its role in safety, and physiological and psychological health.
- Section IV focuses on the linked issues of housing affordability, residential stability, and crowding.
- Section V focuses on those attributes of neighborhood and community that impact health, including the physical layout of the community and the concentration of poverty.

The paper concludes with observations about the institutional obstacles that need to be addressed in order to effectively integrate health and housing policy.

III. Housing Quality

Investment in housing can be more than an investment in bricks and mortar—it can also form a foundation for the health and well-being of populations.[8] On June 9, 2009, the U.S. Surgeon General released a *Call to Action To Promote Healthy Homes*, underscoring the public health import of housing. The report defines a healthy home as one that is "sited, designed, built, renovated, and maintained in ways that support the health of residents."[9]

This section reviews the literature on how ***housing quality*** impacts safety (e.g., falls, fires); physiological health (e.g., lead, radon, mold, extreme temperatures); and psychological health (e.g., noise, inadequate light, security).

Safety

The chances of an injury at home are much higher than at work or school. Approximately 18,000 injury deaths and another 12 million non-fatal injuries occur each year in homes.[10 11] The leading causes of death in the home are falls, drowning, fires, poisoning, suffocation, choking, and guns. Falls alone account for over half of all unintentional home injury deaths.[12] Very young children and adults over age 70 are the most likely to be hurt at home.

Poorly designed homes can also provide an unsafe or unsuitable environment for older adults and people with a disability. Because of falls, many elders experience devastating consequences such as broken bones and head injuries.[13] Housing features such as nonslip floor surfaces and handrails help make homes safe for older adults. Programs to retrofit existing homes with these and other accessibility features can help older adults and people with a disability remain in their homes and avoid unnecessary and expensive nursing home care. Premature assignment to nursing homes can also be avoided through programs to develop multifamily housing with services and programs to bring services to residents in their existing homes. The use of universal design principles in the development of new homes can help ensure that homes provide suitable living environments for people of all ages and abilities. Universal design principles include: Equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and size and space for approach and use.

Physiological Health

Multiple aspects of housing have an impact on physiological health, including the following:

Pesticide exposure interferes with brain development and causes cancer. According to the U.S. Environmental Protection Agency (EPA), 75 percent of U.S. households used at least one pesticide indoors during the past year, and 80 percent of most people's exposure to pesticides occurs indoors.[14]

Lead is a powerful neurotoxicant that causes a wide range of behavioral and cognitive problems among children. The most important sources of lead exposure to children and others today are lead-based paint and the contaminated soil and dust it generates, food (which can be contaminated by lead in the air or in food containers), drinking water (from corrosion of plumbing systems), and occupational exposure or hobbies.[15] Children are more vulnerable to lead poisoning than adults because of their developing brains and hand-to-mouth behavior.

Radon is the leading cause of lung cancer among nonsmokers, causing an estimated 15,000–21,000 lung cancer deaths annually. Nearly one in 15 homes in the United States have radon levels above 4 picocuries per liter (pCi/L), the level at which the EPA recommends taking specific steps to reduce radon levels in the home.[16] Radon is a naturally occurring radioactive gas emitted by the normal decay of uranium, which is found in most soils; some soils have higher levels than others. It enters the home through structural deficiencies, such as gaps between basement walls or large cracks in the foundation, and its presence can be detected through a simple test.

Carbon Monoxide (CO) is a significant combustion pollutant in the United States and a leading cause of poisoning deaths.[17] CO is an odorless, colorless gas that can cause sudden illness and death. It is a result of the incomplete combustion of carbon. Headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion are the most frequent symptoms of CO poisoning. Lower levels of CO can cause flulike symptoms in healthy people. The leading specific types of equipment blamed for CO-related deaths include gas-fueled space heaters, furnaces and ranges; charcoal grills; portable kerosene heaters; and wood stoves. The risk for unintentional CO death is highest for the very young (ages 4 years and younger) and the very old (ages 75 years and older).

Moisture and mold. Damp housing conditions can lead to insomnia, respiratory ailments, cough, headache, allergies, asthma.[18] Common moisture sources include water leaks from the outside or inside. Water leaks are

one of the most common housing problems in the U.S. with 11 percent of homes experiencing leaks from the outside and eight percent of homes having leaks on the inside.[19] Moisture problems can also be due to uneven indoor temperatures, poor air circulation, and excess moisture from humidifiers, unvented clothes dryers, and overcrowding.[20] Keeping homes dry prevents an array of housing problems including pest infestations and mold.

Ventilation and climate control. Higher rates of respiratory irritation and illness occur in housing with poor ventilation, including common colds, influenza, pneumonia, and bronchitis. Bathrooms, clothes dryers, kitchen ranges, boilers, furnaces, hot water heaters, fireplaces, and wood burning stoves all need to be vented properly to avoid the buildup of harmful chemicals in homes. As homes are built tighter to improve energy efficiency, the introduction of fresh air becomes all the more important. Temperatures that are too high (causing heat stress) or too cool (causing cold stress) also pose a health threat. The death toll in France from a 2003 heat wave reached nearly 15,000.[21] A study of the 1995 Chicago heat wave found that those at greatest risk of dying from the heat were people with medical illnesses who were socially isolated and did not have access to air conditioning.[22]

Maintenance. Because there are nearly 100 million existing homes, maintenance plays a key role in whether homes are healthy and safe. Deferred maintenance accounts for the lion's share of unhealthy housing conditions. According to the American Housing Survey, 5.8 million homes have severe or moderate hazards such as unsafe wiring, presence of rats, inadequate plumbing, failed heating systems and other substandard conditions.[23] The enactment and enforcement of housing codes can improve the condition of individual homes and contribute to the reduction of neighborhood blight.

Psychological Health

Lighting. Good lighting is known to increase productivity and treat sleep disorders, while poor lighting has been linked with depression and mood disorders, such as seasonal affective disorder. Research has revealed a strong relationship between light and human physiology. The effects of light on both the human eye and human skin are notable. One of the physiologic responses of the skin to sunlight is the production of vitamin D. Light allows us to see. It also affects body rhythms and psychological health.[24] Individuals are affected daily by both natural and artificial lighting levels in their homes. Adequate lighting is important in allowing people to see unsanitary conditions and to prevent injury, thus contributing to a healthier and safer environment. Improper indoor lighting can also contribute to eyestrain from inadequate illumination, glare, and flicker.[25]

Noise. Noise can cause hearing impairment, sleep disturbance, negative cardiovascular and psycho-physiologic effects, psychiatric symptoms, and poor fetal development.[26] In addition, noise can reduce attention to tasks and impede speech communication. Finally, noise can hamper performance of daily tasks, increase fatigue, and cause irritability.[27] To prevent measurable hearing loss, the EPA recommends limiting environmental noise to 70 decibels or lower over a 24-hour period. Likewise, levels of 55 decibels outdoors and 45 decibels indoors are identified as preventing activity interference and annoyance. Exposure to noise disproportionately affects low-income children and is often caused by poor urban planning that places homes adjacent to airports, railroad yards, highways, and other sources of noise. Living in crowded neighborhoods and in substandard or poorly designed homes have also been implicated as contributing to noise in homes.[28]

IV. Housing Affordability, Residential Stability, and Crowding[29]

Housing affordability, residential stability and crowding are three additional dimensions of housing that have significant health implications. *Housing affordability* refers to a household's ability to afford its housing costs, such as rent, mortgage payments, property insurance, and utilities. *Residential stability* refers to a household's ability to control when and under what circumstances it moves to a new dwelling unit. *Crowding* is the condition of too many people living in one dwelling.

These three dimensions are interrelated, as households paying more than they can afford for housing often have

less residential stability; for such households, even a brief period of unemployment or a large unexpected bill (such as for health care) can lead to eviction or even homelessness. Similarly, the high cost of housing relative to incomes is a major cause of crowding.

As discussed below, unaffordable housing costs affect health by reducing the income that a household has available for nutritious food and necessary health care expenses, as well by causing stress, residential instability, and crowding. In extreme cases, residential instability affects health through the physical and mental deprivations of homelessness, which also undermines the ability of individuals with chronic health problems to maintain a consistent treatment regime. However, even less extreme instability may impact mental health and child well-being negatively. Crowding also has a negative impact on mental health and may increase susceptibility to infectious diseases.

Housing Affordability

Families paying excessive amounts of their income for housing often have insufficient funds remaining to meet other essential needs, including food, transportation, medical insurance, and health care. These tradeoffs threaten the health of their children. Researchers have found children in low-income families that receive housing subsidies are more likely to have access to an adequate amount of nutritious food and to meet "well child" criteria—including the absence of developmental concerns, maintenance of a healthy weight, and classification as being in good or excellent health—than children in similar families on the waiting list for housing assistance.[30] While housing assistance may not be enough to enable poor families to weather all price shocks, this evidence suggests it can have a measurable impact on expenditures related to child well-being.[31]

The connection between unaffordable housing, strained budgets, and health outcomes is not limited to children. For example, adults living in unaffordable housing are more likely to describe themselves as being in fair or poor health than similar individuals living in affordable housing, as well as to report a failure to fill a prescription or to adhere to healthcare treatments as a result of cost.[32] Similarly, adults undergoing a foreclosure have a significantly higher likelihood of failing to fill a prescription due to cost and are less likely to have health insurance coverage than the general population.[33]

In addition to depleting families' incomes, high housing costs can cause stress. An emerging body of evidence suggests that difficulty keeping up with utility bills, mortgage payments, or home repairs, may be linked to lower levels of psychological well-being and a greater likelihood of seeing a doctor.[34]

Residential Stability

At the extreme, there is little question that residential instability has adverse health impacts. For example, studies continually show that homeless children are more vulnerable to mental health problems, developmental delays, and depression than children who are stably housed, and that stable housing is strongly associated with improved mental health outcomes and a reduction in the number of days hospitalized among formerly homeless adults.[35] Frequent moves, living in doubled-up housing, eviction, and foreclosure are also related to elevated stress levels, depression, and hopelessness. Emerging research on the impacts of the foreclosure crisis points to linkages between home foreclosures and an array of negative psychological and physical health problems, including hypertension, heart disease, and anxiety or depression.[36]

Youth transitioning out of the foster care system may be particularly at risk of housing instability and negative health outcomes, including difficulty maintaining access to and continuity of care.[37] On a smaller scale, among some segments of the population, researchers have found evidence of a connection between the length of tenure in a residential building and the likelihood that residents report experiencing depression, with longer stays associated with lower levels of depression.[38]

Residential instability poses another challenge for individuals living with chronic diseases such as HIV/AIDS, diabetes, and hypertension, who may have difficulty maintaining their treatment regimens due to the lack of a stable residence.[39] Homeless patients in particular may

have difficulty properly storing medication and syringes, maintaining a recommended diet, and going to follow-up appointments when faced with urgent competing demands, such as finding a place to stay for the night. The challenges posed by homelessness also may increase the likelihood that individuals who struggle with drug abuse and addiction will engage in risky behavior, such as sharing needles or exchanging sexual favors for shelter, further jeopardizing their health.[40]

Crowding

When housing is not affordable, families may be forced to double-up with others or to live in homes that are too small. Although some families may prefer to live in larger households and extended families can sometimes provide important social supports, there is also evidence that individuals who live in a crowded setting may have a diminished ability to manage daily stressors and successfully maintain supportive relationships, which can lead to increased levels of psychological distress, helplessness, and even higher blood pressure.[41] Physical violence towards partners and children may also increase in crowded home environments.[42] In addition, studies have demonstrated that crowding can negatively impact physical health through increased exposure to respiratory and other infectious diseases.[43]

Further research is needed to better define crowding and distinguish situations in which individuals choose to live in larger households comprised of multiple family sub-units from those in which individuals live in multiple-family households because they lack meaningful choices to live apart. Of note in this regard, a randomized study found that the receipt of a housing voucher that helped families afford their housing costs greatly reduced the likelihood of crowding – in other words, when presented with the means to establish smaller households, many individuals chose to do so.[44] Other assisted housing programs that increase the availability of affordable housing also may help to alleviate crowding.

While the overall incidence of crowding remains relatively low, the mortgage foreclosure crisis may have led to increased rates of crowding through doubling-up, as displaced homeowners lacking the financial resources or credit to rent their own apartment move in with family members and friends.[45]

V. Neighborhood Effects

Homes are situated within neighborhoods, which also have attributes that impact health. This section reviews the research documenting the impacts on health of *physical neighborhood attributes*, such as walkability and proximity to motor vehicle traffic, as well as *social and community attributes*, such as social cohesion, segregation and the concentration of poverty. The complex interplay between the quality of housing, the physical condition of neighborhoods and social and community characteristics can create either a series of barriers to improved health or the very conditions in which individual and community health can thrive.

Physical Neighborhood Attributes[46]

A host of physical neighborhood attributes play a significant role in fostering individual and community health, including proximity to traffic, access to parks, walkability, mixed-use development, and availability of healthy food. These attributes are interconnected and mutually reinforcing; one good attribute begets the next, and in neighborhoods that foster the conditions that promote good health, one often sees a cascading series of mutually reinforcing attributes that together create prime conditions for health:

- Pedestrian-friendly neighborhood design reduces car usage, supports transit ridership, and improves air quality.
- Good outdoor air quality supports healthy physical activity.
- Mixed-use development increases the likelihood of locating healthy food and retail within neighborhoods while also encouraging walking as a mode of transportation.

The balance of this section discusses the impact on health of each of these physical neighborhood attributes:

Proximity to motor vehicle traffic. Living in close proximity to high-traffic roadways and associated air pollution exposure can result in reduced lung function, increased rates of asthma and chronic bronchitis, and increased hospital visits.[47] Proximity to other significant sources of emissions, such as distribution centers, warehouses, rail yards, ports, and refineries, also has negative health impacts.[48] As proximity to these sources increase, exposure levels increase as well. For example, California freeway studies show that exposure levels are significantly higher within 300 feet of freeways, but drop off 70 percent after 500 feet.[49] Similarly, residents of homes within 1,000 feet of busy streets suffer greater risk of exposure to air pollution.[50]

Access to parks. Lack of physical activity is a central risk factor for obesity and diabetes, as well as heart disease, cancer, and stroke.[51] But residents who live in close proximity to parks and recreational spaces are much more likely to engage in regular physical activity, reducing their risk of these negative health outcomes.[52] Even as low-income communities suffer disproportionately from many of these diseases, they are also the very communities that are most likely to lack parks and other recreational spaces.[53] In addition, parks in lower income neighborhoods are less likely to have well-designed and maintained equipment.[54] These factors represent significant barriers to physical activity in low-income communities.

Walkability. While parks and playgrounds provide needed opportunities for physical activity, the design of a neighborhood itself also plays a central role in ensuring—or discouraging—opportunities for physical activity of residents. Compact communities that include a mix of uses within close proximity encourage residents to walk by clustering destinations and housing close together. Higher-density neighborhoods lead to greater physical activity by residents and have been demonstrated to reduce obesity by promoting walking and public transit use.[55] In addition, in areas with increased density, there are fewer per capita traffic casualties, fewer vehicle miles traveled, and less total air pollution.[56] The walkability of a neighborhood is also affected significantly by road design. Road designs that support increased traffic—for example, high-speed, unobstructed, and wide multilane roadways—present important safety risks to pedestrians. By contrast, narrower roads significantly slow traffic flow and reduce pedestrian fatalities.[57]

Mixed-use development. In tandem with compact neighborhood design, mixed-use and transit-oriented development increases opportunities for walking and bicycling, transit ridership, and overall physical activity.[58] In particular, clustering housing, educational facilities, office buildings, restaurants and taverns, parks, neighborhood-scale retail establishments, civic uses, and grocery stores within neighborhoods results in increased pedestrian activity and reduced obesity.[59]

Access to healthy food. Lack of access to healthy food is also a central risk factor for a host of health problems, including obesity, diabetes, and cardiovascular disease. Yet convenience stores, gas stations, and fast food outlets are often the only food retailers available in low-income neighborhoods.[60] As a result, residents who cannot afford the time or expense of driving, or taking the bus or a taxi to a grocery store outside the neighborhood, may be unable to buy fresh fruits and vegetables and other healthy foods. Residents in these *food deserts* suffer greater health problems and mortality than those in areas with greater availability of grocery stores.[61]

Policies that ensure neighborhoods possess these positive physical attributes are critical to promoting individual and community health. But there are important challenges that must be addressed to ensure these neighborhood improvements do not price out low- and moderate-income families who could benefit from them. When successful, steps to increase neighborhood walkability and access to fresh food and green space can lead to higher housing prices that cause the displacement of existing low- and moderate-income families who can no longer afford the rents and property taxes, and to the development of new housing that is priced out of reach of such families. In addition to denying access to health-promoting amenities by the families who might benefit the most, this displacement can undercut residential stability and social cohesion, which are also tightly linked to resident health outcomes. To combat these effects, neighborhood improvements should be paired with policies—for example, rental housing preservation, inclusionary zoning, community benefits agreements, and community land

trusts—aimed at preserving the affordability of existing high-quality housing units and ensuring that low- and moderate-income families can afford a share of newly development housing in improved neighborhoods.

Social and Community Attributes

Just like the physical features of neighborhoods, the social and community attributes of neighborhoods can have important health impacts on residents. Social and community attributes also can play an important role in either reinforcing or undermining healthy physical neighborhood conditions.

Neighborhood security. Fear of crime and lack of security can play an important role in discouraging physical activity in a neighborhood, negatively affecting health. Security plays a central factor in determining where parents allow their children to play, but parks and recreational areas in low-income neighborhoods are less likely to be secure from crime than recreational areas in higher-income communities.62 And residents who fear violent crime in their neighborhoods walk less.63 However, as noted below, social cohesion can help improve neighborhood security.

Social cohesion. Social cohesion provides mental and physical health benefits for residents. Studies have shown that social ties can buffer people from acute and chronic stress, protect against chronic disease, and improve pregnancy outcomes for babies and mothers.[64] A California study found that individuals who lacked ties to others were approximately 2–3 times more likely to die during the study period than those who had robust ties.[65] Studies have linked specific health conditions—from severe conditions such as strokes and cardiovascular disease, to mundane conditions such as the common cold—to having fewer social ties.[66]

In addition to benefitting individual health, social cohesion can foster community health by building community trust. Community trust has been associated with increased neighborhood safety, reduced crime, and increased pedestrian activity, contributing to some of the positive physical attributes discussed above.[67] In addition, social cohesion fosters community empowerment and capacity building, which are important tools for improving access to neighborhood resources and policies to attain the physical neighborhood attributes outlined above that are known to be supportive of health.[68] But concentrated poverty (see below) can diminish social cohesion,[69] forming a barrier to health-promoting improvements in the neighborhoods that need them most.

Residential segregation and concentrated poverty. Residential segregation and concentrated poverty are both associated with significant negative impacts on health. It has been widely documented that residents of low income, segregated neighborhoods suffer disparate health consequences – for example, asthma and obesity.[70] The negative health effects operate through a number of pathways. Low-income communities are more likely to be sites of unhealthy and undesirable land uses (such as power plants and factories), sources of toxins, and bus yards and freeways. Often, these communities are also less likely to have good access to quality housing, adequate parks and recreational areas, well-funded schools, and public transit that effectively connects residents to available job opportunities.[71] Magnifying these problems, historically segregated neighborhoods often suffer from exclusion from political and economic systems that would allow them to improve unhealthy neighborhood conditions. Likewise, residential segregation is closely linked to school segregation, further perpetuating academic and professional underachievement and concentrated poverty.[72]

HUD's Moving to Opportunity (MTO) underscored the effects of concentrated poverty on health. The MTO study examined the social, economic, and health effects on households of moving from concentrated areas of high poverty to lower-poverty neighborhoods.[73] Moves to lower-poverty communities led to sustained improvements in housing quality and many associated neighborhood attributes,[74] as well as improvements in mental and physical health for adults, including lower rates of extreme obesity, diabetes, psychological distress, and major depression. Female youth also experienced mental health benefits, including lower prevalence of mood disorders, fewer serious emotional or behavioral difficulties and decreased psychological distress; however, moving to areas of higher opportunity may have increased the prevalence of lifetime post-traumatic stress disorder for male youth.[75]

To combat the health consequences of concentrated poverty, efforts to improve low-income neighborhoods should be paired with policies that afford families opportunities to move to higher-resource neighborhoods, such as inclusionary housing policies that ensure that a share of new development in higher opportunity areas are affordable to low- and moderate-income families and Housing Choice Vouchers paired with effective mobility counseling to help families access opportunities in higher-opportunity areas.

Conclusion

Many aspects of community planning and design are aimed at improving individual components of human experience—for example by making it easier for people to use public transportation, to access services, or to live in affordable neighborhoods. Unfortunately, this work often takes place among siloed government agencies that do not fully consider the interrelationship of the different policies and thus miss important opportunities to strengthen mutual goals and sometimes even act at cross-purposes. For example, local and regional transportation planning often fails to consider the changes to land use and zoning regulations that may be needed to maximize opportunities for walkability and transit-oriented development; and efforts to promote walkability and transit-oriented development sometimes lead to housing cost increases that price out the low- and moderate-income families who would most benefit from the health and economic effects.

A more coordinated and integrated approach among housing, environmental health, and public health agencies could maximize the impact of available funding and lead to better housing and health outcomes. Federal agencies, philanthropy, and non-governmental organizations can lead by example through modeling cross-disciplinary initiatives, aligning funding and programs with an eye toward their mutual goals, and broadly disseminating lessons learned. We look forward to continuing the dialogue and identifying actionable steps for bringing these sectors into closer alignment.

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Endnotes

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