

While many factors influence our health (smoking, exercise, family history of disease, etc.), the social, physical and economic conditions in which we are born, live, and grow – known as the social determinants of health¹ – profoundly affect a wide range of health risks and outcomes. Access to safe, quality, affordable housing constitutes one of the most basic and powerful social determinants of health. Mayors and city leaders have long had a role in building code enforcement and housing inspection, among other efforts to ensure healthy housing. Now, in the context of ongoing national and state efforts to implement health reform through the Affordable Care Act,² it is important for municipal leaders to further leverage new partnerships and pathways through which housing affects health. City leaders can further augment their efforts by supporting and advancing healthy housing for their residents in a variety of ways that harness data, advance equity and result in sustainable improvements.

INTERSECTIONS BETWEEN HOUSING AND HEALTH

HOUSING AND ITS CONNECTIONS TO HEALTH. Decades of research¹ have consistently demonstrated that housing quality, affordability and neighborhood conditions shape many aspects of the physical, mental, and social health and well-being of city residents:



HOUSING QUALITY & HEALTH: Extensive research demonstrates the linkage between poor quality housing conditions and negative health and wellness outcomes such as infectious and chronic diseases (e.g. asthma), injuries and disruption to brain development:

- Substandard housing conditions such as water leaks, poor ventilation, lack of proper weatherization, and pest infestations can lead to an increase in moisture, mold, mites and other allergens associated with respiratory conditions including asthma.
- Lead poisoning due to ingestion of paint chips or inhalation of paint dust in older homes can affect every system in the body, including causing irreversible brain damage in children.
- Serious injuries occurring in the home can result from factors such as unsafe staircases and balconies, and lack of safety devices such as smoke and carbon monoxide detectors.

¹ According to the World Health Organization, the social determinants of health are defined as the “conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status.” (Source-http://www.who.int/social_determinants/sdh_definition/en/)

² The Affordable Care Act (ACA) significantly changes health coverage and care by expanding Medicaid to more low-income Americans; establishing health insurance marketplaces (also known as “exchanges”) where consumers can buy high-quality, affordable private plans; increasing consumer protections; improving quality and system performance; and emphasizing prevention and wellness across all aspects of care.

Poor indoor air quality, lead paint and other housing hazards often coexist in homes, compounding the health risks of poor housing conditions. The older and inadequately maintained homes found in many urban areas only magnify these problems. These housing hazards and associated harmful health consequences disproportionately affect low-income families and vulnerable populations who lack access to financial resources to remedy hazards in their homes or who, as renters, have limited ability to improve their housing conditions. Chronic disease and injuries resulting from unhealthy and unsafe living conditions reduce productivity among residents, at significant cost to society. Researchers estimate that childhood lead exposure in homes costs society over \$50 billion per year due to lost economic productivity resulting from reduced cognitive potential.ⁱⁱ Pediatric asthma is often exacerbated by poor housing conditions, resulting in significant school absenteeism. In 2011, kids with asthma missed 14.4 million days of school and their caretakers missed 14.2 million days of work.^{iii,iv}



HOUSING AFFORDABILITY & HEALTH: Lack of affordable housing limits the resources families have available to address health hazards in their homes, to move when housing conditions are unsafe, and to afford other basic needs that contribute to good health, such as paying for transportation to doctor visits and purchasing nutritious

food. Residents who lack affordable housing are more likely to suffer from malnutrition, anxiety, depression and chronic disease. Stable and affordable housing supports mental health by limiting stressors related to financial burden or frequent moves. Affordable housing can also serve as a platform for providing supportive services to improve the health of vulnerable populations, including people with disabilities, persons with chronic health conditions such as asthma, and elderly family members. Not only does affordable housing impact health, it also impacts economic growth in cities: where households spend more than 30 percent of their income on housing, this amounts to unrealized spending in other areas of the economy, and lost wages and productivity due to residents being unable to live in proximity to good jobs.^v



NEIGHBORHOOD CONDITIONS & HEALTH: Along with conditions inside homes, surrounding neighborhood conditions have a tremendous impact on individual health and well-being, and on the economy. For example, researchers estimate that air pollution in certain neighborhoods in the City of Los Angeles (e.g., where residents live near major highways) causes \$441 million in costs to families of children with asthma

each year (air pollution exposure exacerbates asthma symptoms); as one-third of these children are covered by public health insurance, an equivalent proportion of those direct costs are borne by taxpayers.^{vi} In addition to environmental factors, easy access to public transportation, safe public parks, quality schools, healthy foods, and medical care can also help reduce the incidence of chronic disease, injury, respiratory disease, and poor mental health. Healthy neighborhoods yield healthy residents: as a result, students can be better prepared to learn and employees can be more productive which ultimately leads to better outcomes for individuals and the cities they reside in. But the reality is that many low income and minority populations do not live in communities that provide access to supportive community resources needed to ensure overall wellness and good health.

CITY SPOTLIGHTS: A SNAPSHOT OF HEALTHY HOUSING EFFORTS

Mayors and city leaders play a pivotal role in the overall health and well-being of the cities and towns they serve. As health care professionals and policymakers rethink the healthcare system to include the factors that influence health, municipal leaders have also begun to rethink how city policies and

programs can support healthy housing. Cities can support healthy housing interventions through policies that:

- Augment building code enforcement and housing inspection efforts to better leverage the role of other key city stakeholders including hospitals;
- Use data to better tailor and target interventions to the city’s most vulnerable populations;
- Raise awareness about the linkages between housing and health through various platforms/channels to spur deeper engagement of partners and residents;
- Support innovative financing approaches of healthy housing interventions;
- Facilitate the data collection needed to best deploy existing assets and resources; and
- Foster stronger partnerships between the health and housing sectors.

**Promoting
Housing
Equity**

The City of **Oakland, California** is piloting an effort to transform housing code enforcement services to proactively address major public safety and health problems among low-income residents. Traditionally, code enforcement operations in the city depend on tenants filing a complaint to notify officials of violations and risks to health. Many code violations are never reported, however, because navigating the code enforcement system is challenging for vulnerable populations (including poor, elderly, disabled or non-English speaking residents) and because some populations (e.g., undocumented residents) may fear landlord retaliation. As an alternative approach, Oakland’s code enforcement pilot creates a proactive referral pipeline from medical providers directly to county public health case managers and city code enforcement inspectors.^{vii} When a medical provider suspects that a patient is living in unsafe housing – for example, due to exposure to pests, mold and other asthma triggers in their home – the provider refers the patient to county case managers who then refer cases to city code enforcement inspections and healthy homes services provided at the county level. Such a proactive approach reduces disparities in access to healthy homes services, ensuring that residents who most need these resources have direct access to them. This effort involves partnerships between the City of Oakland, the Alameda County health department, an area medical-legal partnership and other community-based organizations.^{viii} The city is also developing a strategy to adopt a rental inspection policy, which would require rental housing inspections on a regular basis even without tenant complaint or medical referral.^{ix}

**Supporting
Innovative
Financing**

City leadership can also lead to enhanced financing of healthy homes interventions. The **District of Columbia**’s Department of Health Care Finance (DHCF) convened a multi-year Chronic Condition Collaborative (Collaborative) for all Medicaid Managed Care Organizations (MCOs)³ operating in the city. The Collaborative has served as an invaluable forum to facilitate partnerships and information sharing between MCOs, the DHCF, the DC Medicaid office and community-based stakeholders. Through this City-championed effort, community providers have been able to reach decision-makers at MCOs in DC and provide data on the importance of home-based interventions for individuals with high-risk asthma. As a result, all MCOs in the City have pledged to finance in-home asthma management services provided by community organizations.^x

³ Most states contract with managed care organizations (MCOs) to administer health benefits and services to Medicaid beneficiaries. In general, MCOs are responsible for providing the benefits and services covered under the state Medicaid program. Through their contracts with MCOs, states can also require that MCOs offer additional services, such as community-based asthma interventions, to persons eligible for Medicaid.

Other cities are testing alternative financing models such as social impact bonds, which raise capital from private investors to pay the upfront costs for providing social services (such as home visits and remediation to address asthma) and provide the prospect of returns on those investments by sharing a portion of any savings generated in the health sector (typically an insurer or a hospital system) as a result of decreased healthcare expenditures.^{xi}

Facilitating Data Collection

Targeted data collection strategies can help cities make the best use of limited healthy housing resources. For example, cities can use data to map the geographic location of housing hazards. **Detroit, Michigan** has used data mapping techniques to better understand the distribution of abandoned and blighted properties in the city, using these data to help target its scarce resources for addressing the related housing and health concerns. This effort is led by the Detroit Blight Removal Task Force, a community-based organization, in partnership with the City's Blight Strike Task Force with representatives from the City departments of law enforcement, public works, building authority, planning and development, among others.^{xii,xiii} In **Omaha, Nebraska**, the Omaha Lead Registry harnesses data from city programs to better understand lead hazards in their community. The registry is regularly updated with information from the City of Omaha, community groups, and private citizens and it helps pinpoint where lead abatement activities are underway and where gaps exist.^{xiv} Cities can also require public health departments to collect data on housing and health, as is the case in Boston.^{xv} When made available to residents, data can help the public determine where safe housing may exist. For example, **Minneapolis'** Lead Safe Housing Registry is a listing that provides information to the public of which housing units have been made safe from lead-based paint hazards.^{xvi}

Finally, some cities actively engage in a health impact assessment (HIA) process to determine the potential effects of a proposed action and identify practical options for maximizing health benefits and risks. An HIA is a systematic process that uses an array of data sources and considers input from stakeholders to evaluate the potential health effects of a plan, project or policy before it is adopted. Both **Columbus, Ohio** and **Denver, Colorado** actively engage in an HIA process in community design and development plans.^{xvii,xviii}

Fostering Partnerships

Innovations in healthy housing require collaboration and dialogue across sectors. City initiatives that foster partnerships between public agencies and community-based organizations in the housing and health sectors are important for enhancing access to healthy housing services and for deploying resources efficiently. The "One Touch" program in **Omaha, Nebraska** serves as a tool to connect the varied public and private city programs and services that "touch" housing issues (e.g., health, housing, and energy efficiency programs), enabling coordinated and efficient intake, service delivery and referrals.^{xix} In its first two years, the program visited over 2,000 families using a common electronic intake and home auditing protocol; nearly 50 percent of those families were connected with services previously not available to them.^{xx} The program has enhanced collaborations between healthy housing partners that have been successful in securing added funding and in-kind services, further benefiting residents in need. The program is led by Omaha Healthy Kids Alliance, in partnership with the

Omaha Housing Authority, City of Omaha Lead Hazard Control, City of Omaha Rehab and Handyman, the Omaha Housing Authority, the Omaha Public Power District, and other community-based organizations.

Similarly, **Baltimore, Maryland's** LIGHT (“Leading Innovation for a Green and Healthy Tomorrow”) Program serves as a central point of intake for residents to access the many public and private healthy housing services available through city programs or from LIGHT partner organizations. The program is led by the City’s Department of Housing and Community Development and made possible by recent city efforts to reorganize the housing department to better deploy healthy homes strategies in the city and to work more seamlessly with partner programs.^{xxi}

THE CHANGING HEALTH LANDSCAPE – NEW OPPORTUNITIES WITHIN THE FIELD TO ADVANCE HEALTHY HOUSING EFFORTS

THE AFFORDABLE CARE ACT AND CONNECTION TO THE FACTORS THAT INFLUENCE HEALTH, SPECIFICALLY HEALTHY HOUSING. With the recent implementation of the Affordable Care Act (ACA), health plans, hospitals and other medical providers are engaged in improving the health and well-being of the people they serve in new ways. Emerging models for how patients are treated and how doctors are paid – such as accountable care organizations and value-based purchasing models – provide incentives to and set expectations on health plans, hospitals and healthcare practices to consider their patients non-medical needs, including their housing conditions. The aim is to broaden access to care outside of the clinical (e.g., hospital) setting, to reach patients in their homes and communities, and to better address patients’ overall needs in ways that keep people healthier and reduces the need for medical intervention in the first place. To do this efficiently and effectively, the health system must take a comprehensive approach that includes a connection to public health and alignment with necessary social services and supports for vulnerable residents, including healthy housing.

NEW PARTNERSHIP OPPORTNITIES FOR CITIES AND HEALTH SYSTEMS. As health care entities shift their focus into the community to better meet patient needs, there is a tremendous opportunity to bridge gaps in care for patients and families. For example, non-profit, tax-exempt hospitals have a new requirement under the ACA to conduct a community health needs assessment (CHNA). CHNAs are part of their community benefit process to determine ways hospitals can provide services that address the most pressing needs of their communities. The CHNA process provides an opportunity to better align coordination of hospital programs with other local efforts to improve community health. In addition, after identifying needs through the CHNA, hospitals may respond by deploying resources into healthy homes activities. For example, Yale-New Haven Hospital’s Regional Lead Treatment Center screens local homes for lead hazards in response to local need.^{xxii}

These initiatives bring new opportunities to attract healthcare dollars to healthy housing efforts. Because healthcare organizations participating in new models to provide patient care (such as accountable care organizations) now have financial incentives to reduce costs by delivering more preventive health services, healthcare entities may be looking to partner with local public and private programs that already do this work. In return, these healthcare entities may provide reimbursement for services rendered to their patients in homes and community settings. For example, through the IMPACT DC Asthma Clinic at the Children’s National Health System in Washington, DC refers patients who have recently visited the hospital for their asthma symptoms to services offered by Breathe DC, a community-

based organization. Breathe DC provides home environmental assessment, education and supplies to these patients to help them keep their asthma under control, and receives reimbursement from health insurers for providing these services.^{xxiii}

THE WORK AHEAD

Policy decisions that affect housing quality, affordability and healthy neighborhoods play a significant role in reducing or even preventing many of our nation's most pressing – and expensive – public health problems, such as asthma, depression, diabetes and obesity. Evidence suggests when these conditions go unaddressed they significantly contribute to chronic absenteeism in schools and at work. Municipal governments typically have the responsibility for enforcing local building codes and inspecting properties for health-related code violations, but, as the above examples demonstrate, city leaders can play a key role in designing city policies and programs that support healthy housing. City leaders have a unique opportunity to leverage the changing landscape to better partner with the health system and key stakeholders to adopt an integrated approach to healthy housing efforts that is driven by data and guided by equity.

RESOURCES

The National League of Cities (NLC), through its Institute for Youth, Education and Families and in coordination with the U.S. Department of Housing and Urban Development (HUD), is working to help cities share best practices and lessons learned regarding city-led efforts to promote healthy housing. As part of NLC's new Culture of Health initiative, launched in June 2016 with generous support from the Robert Wood Johnson Foundation, NLC will further advance these efforts by convening a Mayors' Institute on Children and Families (MICF) in December 2016. For further information, please contact Sue Polis at Polis@nlc.org or Anthony Santiago at Santiago@nlc.org.

TOOLS YOU CAN USE:

HUD's Healthy Homes Program:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/hhi

CDC's Healthy Homes/ Lead Poisoning Prevention Program:

https://www.cdc.gov/nceh/information/healthy_homes_lead.htm

The Community Guide: What Works to Promote Health - Asthma Control: Home-Based Multi Trigger, Multicomponent Environmental Interventions:

<https://www.thecommunityguide.org/asthma/multicomponent.html>

Housing Interventions and Control of Asthma-Related Indoor Biologic Agents: A Review of the Evidence:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3934496/>

RWJF Culture of Health – Housing & Health Issue Brief:

http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf70451

County Health Rankings & Roadmaps: <http://www.countyhealthrankings.org/>

Community Commons: <http://www.communitycommons.org/>

Case Studies: The Benefits of Home Visits for Children with Asthma. National Center for Healthy Housing. 2014. Available at: http://www.nchh.org/Portals/0/Contents/Asthma-Home-Visits--Case-Studies_%20July-2014.pdf.

Green and Healthy Homes Initiative: <http://www.greenandhealthyhomes.org/>

Encouraging Hospitals to Invest in Community Building:
<http://healthaffairs.org/blog/2014/02/11/encouraging-nonprofit-hospitals-to-invest-in-community-building-the-role-of-irs-safe-harbors/>

ⁱ Krieger J & Higgins D. Housing and Health: Time Again for Public Health Action. *Am J Public Health*. 2002 May; 92(5): 758–768.

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ⁱⁱⁱ Centers for Disease Control and Prevention: National Center for Health Statistics, National Hospital Discharge Survey, 1995-2010. *Analysis by the American Lung Association Research and Health Education Division*. Available at: <http://www.lung.org/lung-disease/asthma/resources/facts-and-figures/asthma-children-fact-sheet.html#4>. Accessed: January 4, 2013.

^{iv} Barnett SB, Nurmagambetov TA. Costs of Asthma in the United States: 2002-2007. *Journal of Allergy and Clinical Immunology*, 2011; 127(1):145-52.

^v Housing for Inclusive Cities: the economic impact of high housing costs. Global Cities Business Alliance. April 2016. Available at: <https://www.businessincities.com/wp-content/uploads/2016/04/GCBA-Housing-Economic-Impact-Study.pdf>.

^{vi} Brandt S et al. Cost of near-roadway and regional air pollution–attributable childhood asthma in Los Angeles County. *Journal of Allergy and Clinical Immunology*. 2014;134(5): 1028–1035.

^{vii} City of Oakland Office of Planning, Building & Neighborhood Preservation Proposed Program Design for Proactive Code Enforcement Operations. Available at:

<http://www2.oaklandnet.com/oakca/groups/ceda/documents/report/oak033410.pdf>.

^{viii} City of Oakland Office of Planning, Building & Neighborhood Preservation Proposed Program Design for Proactive Code Enforcement Operations. Available at:

<http://www2.oaklandnet.com/oakca/groups/ceda/documents/report/oak033410.pdf>.

^{ix} A Roadmap Toward Equity: Housing Solutions for Oakland, California. 2015. Available at:

<http://www.policylink.org/sites/default/files/pl-report-oak-housing-070715.pdf>.

^x Case Studies in Healthcare Financing of Healthy Homes Services: Medicaid Reimbursement for Home-Based Asthma Services in the District of Columbia. National Center for Healthy Housing. Available at:

http://www.nchh.org/Portals/0/Contents/Case-Study_Asthma_DC_Final.pdf.

^{xi} Using Social Impact Financing to Improve Asthma Outcomes. Childhood Asthma Leadership Coalition. October 2014. Available at: <http://www.childhoodasthma.org/resources/2015/10/28/social-impact-bonds>.

^{xii} Detroit Blight Removal Task Force. Available at: <http://www.timetoendblight.com/>

^{xiii} Who is Leading the Fight on Blight? Available at: <http://report.timetoendblight.org/leaders/>

^{xiv} Omaha Lead Registry. Available at: <http://omahalead.org/>.

^{xv} Health and Public Housing Data, Oral Health, Boston, 2001-2005. Boston Public Health Commission. Available at: <http://www.bphc.org/whatwedo/physical-health/oral-health/PublishingImages/Pages/Oral-Health-Resources/Health%20and%20Public%20Housing%20Data.pdf>.

^{xvi} Minneapolis Lead Safe Housing Registry. Minneapolis Health Department. Available at: <http://www.minneapolismn.gov/health/homes/lead/WCMS1P-125641>.

^{xvii} Health Impact Assessment at CPH. City of Columbus. Available at:

<https://www.columbus.gov/publichealth/programs/Healthy-Places/Health-Impact-Assessment/>.

^{xviii} Denver Department of Environmental Health. Health Impact Assessment. Available at:

<https://www.denvergov.org/content/denvergov/en/environmental-health/community-health/health-impact-assessment.html>.

^{xix} Omaha One Touch. Available at: <http://omahahealthykids.org/resources/omaha-one-touch>.

^{xx} OneTouch: Omaha Nebraska. Available at: <http://onetouchhousing.com/locations/omaha-ne/>.

^{xxi} About Us. Baltimore Housing. Available at: http://www.baltimorehousing.org/about_us.

^{xxii} Community Health Services. Yale New Haven Hospital. Available at:

<https://www.ynhh.org/about/community/health-services.aspx>.

^{xxiii} Case Studies in Healthcare Financing of Healthy Homes Services:

Medicaid Reimbursement for Home-Based Asthma Services in the District of Columbia. National Center for Healthy Housing. 2016. Available at: http://www.nchh.org/Portals/0/Contents/Case-Study_Asthma_DC_Final.pdf.