



HOUSING, HEALTH & HOPE

A White Paper
by Jeff Singer

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“The connection between the health and the dwelling of the population is one of the most important that exists.”

Florence Nightingale

“Medicine is a social science, and politics nothing but medicine at a larger scale.”

Rudolf Virchow

Ernest saw dead bodies and blood in the streets – or at least he thought he did. Homeless for several decades, he was often a gentle and generous man, readily sharing whatever came his way. When, however, he was in thrall to the hallucinations, his 300-pound frame would shake with fright and rage. “Take me to the morgue. I need to see the dead bodies,” he would plead, as if the experience of the verifiably real bodies would overwhelm the virtual corpses scattered about him.

After he was finally coaxed into undergoing a physical examination and mental health assessment, Ernest discovered that the blood and dead bodies were a manifestation of untreated schizophrenia and wild fluctuations in blood sugar from diabetes; in addition, he had developed the hypertension so common among African American adults. Eventually he agreed to accept psychotropic, diabetic, and anti-hypertensive medications - a small cupful was given to him each day at the homeless health care clinic. Still, his outlook was dismal; continued homelessness, constant use of heroin, alcohol, and tobacco, and his enormous weight were likely to lead him to a premature demise.

Finally, after years of advocacy, disability benefits arrived and a precious subsidized apartment followed. The housing made all the difference: with this new stability, Ernest stopped using heroin and alcohol. Quitting cigarettes, he said, was harder yet – but he succeeded after several years of fits and starts. He began an exercise regimen, awaking each day at 5:00AM to walk four miles. He shrank to 190 pounds and wondered if he should continue losing weight. The transformation was complete when he telephoned his friend, the health care clinic’s telephone operator, to inquire about the proper technique for cooking his first Thanksgiving turkey.

¹ This White Paper is generously sponsored by Jane Harrison.

² The author is a former social worker at the Baltimore City Department of Social Services and Health Care for the Homeless, where he also served as President and CEO from 1998 to 2011; he currently teaches and learns at the University of Maryland School of Social Work.

I. Introduction

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."³ In the context of this positive definition of health, the relationship between housing and health must be understood as complicated, bi-directional, much-researched, and too little addressed. Among the fundamental problems inherent to the housing/health dialectic are the quality of housing, which too often for the poor is so dreadful that it causes and exacerbates physical and psychological health problems; the affordability of housing, which is inextricably involved in homelessness, frequent relocation, and stress and its sequelae; neighborhood attributes that impact upon health, including segregation by race and class, access to transportation, to supermarkets and healthful food, and to exercise opportunities, safety and security, access to medical and social services, and impoverished educational and cultural opportunities; and the public policy context in which housing and neighborhoods are constructed, maintained, or deconstructed.

In sum, too many of our neighbors are ill because of poor housing, or have poor housing because they are ill. There is an ever-increasing body of compelling research, both clinical and epidemiologic, that documents the nexus of housing and health: the manner in which debilitated housing permits physical, chemical, and biologic exposures to compromise the health of residents; the deleterious impact of crowding, instability, and inadequate incomes; and the role of impoverished (and disempowered) neighborhoods in reducing life expectancy and increasing morbidity among inhabitants.⁴ This research, of course, is most important as it informs and inspires our action in shaping public policies that improve housing and health.

One of the fundamental issues upon which any housing and health discussion must focus is the role of income (or class), a "confounding factor" from the perspective of the researcher, a bedrock matter for social justice advocates. For the most part, individuals and families who live in inadequate housing – or who have none at all – are impoverished. In no jurisdiction in the United States can a minimum wage earner afford housing at the Fair Market Rate: at \$7.25/hour, the minimum wage yields an annual income of \$15,080, while a renter must earn \$18.25/hour or an annual income of \$37,960 to afford a two bedroom apartment (HUD determines that affordable rent is no more than 30% of income).⁵ In Baltimore, the Fair Market Rent for an efficiency apartment is \$907/month⁶; the SSI payment available to a totally disabled individual from the Social Security Administration is \$698/month, or 77% of what is required to rent an

³ World Health Organization (WHO): Constitution, in Basic Documents, 36th ed., Geneva, 1986.

⁴ See, for example Esme Fuller-Thomson, J. David Hulchanski, Stephen Hwang, "The Housing / Health Relationship: What Do We Know?", *Reviews on Environmental Health*, January 2000, http://action.web.ca/home/housing/resources.shtml?x=66845&AA_EX_Session=169283e9679d3845541102b949f54aef; Kreutzer, Richard "Understanding The Relationship Between Public Health And The Built Environment: A Report Prepared For The LEED-ND Core Committee", Ewing, Frank & Company, May 2006; Newman, Sandra J., Reschovsky, James D., Kaneda, Keith and Hendrick, Anne M., "The Effects of Independent Living on Persons with Chronic Mental Illness: An Assessment of the Section 8 Certificate" *The Milbank Quarterly*, Vol. 72, No. 1, pp. 171-198; Cummins, S.K. and Jackson, R.J., "The built environment and children's health", *Pediatric Clinics of North America* 2001, Vol. 48, pp. 1241-52; Breyse, Patrick, Farr, Nick, Galke, Warren, Lanphear, Bruce, Morley, Rebecca, and Bergofsky, Linda, "The Relationship Between Housing and Health: Children at Risk", *Environmental Health Perspectives*, Vol. 112, No. 15, pp. 1583-1588; Sandel, Megan and Sharfstein, Joshua, "Not Safe at Home: How America's Housing Crisis Threatens the Health of Its Children", Boston, Children's Hospital Medical Center, The Doc4Kids Project; and Wilkinson, Diana, "Poor Housing and Ill Health: A Summary of Research Evidence", The Scottish Office Central Research Unit, Crown Copyright, 1999, pp. 2-3.

⁵ Bravve, Elina, Bolton, Megan, Couch, Linda, and Crowley, Sheila, *Out of Reach 2012*, National Low Income Housing Coalition, Washington, D.C. 2012 accessed at http://nlihc.org/oor/2012_on_9/24/12_at_3:42_PM.

⁶ http://www.huduser.org/portal/datasets/fmr/fmrs/fy2012_code/2012summary.odn?INPUTNAME=METRO12580M12580*BaltimoreTowson,+MD+HUD+Metro+FMR+Area&data=2012&year=2012&fmrtype=%24fmrtype%24&incpath=C:\HUDUSER\www\Main\datasets\fmr\fmrs\FY2012_Code&selection_type=hmfa&path=%24path%24.

efficiency apartment. It appears that our national policies assure that low-wage workers and people with severe disabilities are priced out of housing.

There are three obvious methods of addressing this problem: income could be redistributed to those who actually produce it and to those whose disabilities prevent employment; governmental housing subsidies could be shifted from the upper and middle classes to those in greater need⁷; and the proportion of housing in the public sector could be expanded^{8/9}. These issues will be examined at greater length in a companion paper.

This paper focuses on the complex relationship between housing and health. Four strata will be explored: housing and the health of its occupants; homelessness (essentially poverty without a key - to a house, apartment, or even a room) and health; the association between neighborhood characteristics and health; and the nexus of housing, health, and public policy – the arena in which we can transform our world. In the same speech in which Dr. King asserted that the arc of the moral universe bends toward justice, he also taught us, “Power properly understood is nothing but the ability to achieve purpose. It is the strength required to bring about social, political, and economic change.”¹⁰ The information offered below should serve that power and that purpose.

⁷ The Center for Budget and Policy Priorities reports that more than half of Federal housing expenditures benefit households with incomes above \$100,000 (Sard and Fischer, 2012). This point is expanded below.

⁸ “The absence of a viable preservation strategy has led to the loss of 150,000 units through demolition or sale over the last 15 years.” Written Testimony of Shaun Donovan, Secretary of the U.S. Department of Housing and Urban Development, “Transforming Rental Assistance Hearing” before the House Financial Services Committee, May 25, 2010.

⁹ In the U.S., 1% of the housing stock is owned by the public sector; by way of comparison, in the United Kingdom, the social housing sector accounts for 25% of all housing [*Shelter Poverty and Social Housing in the UK and US*, 2003, London, Atlantic Fellowships in Public Policy, the Foreign and Commonwealth Office]; in France, 17% of housing is in the public sector, and in the Netherlands, 35% of housing is publicly owned [*Social Housing in Europe*, ed. by Christine Whitehead and Kathleen Scanlon, London School of Economics and Political Science, July 2007].

¹⁰ King, Martin Luther, Jr., “Where Do We Go From Here?” Annual Report Delivered at the 11th Convention of the Southern Christian Leadership Conference, 8/16/67, Atlanta, GA, at www-personal.umich.edu/~gmarkus/MLK_WhereDoWeGo.pdf, accessed 9/20/12 at 11:25AM.

II. Housing and the Health of Its Occupants

“...unhealthy and unsafe housing continues to affect the health of millions of people of all income levels, geographic areas, and walks of life in the United States.”

Surgeon General of the United States, 2009

The American Housing Survey’s latest iteration (2009)¹¹ reported that there are 130,112,000 housing units in the United States. 16,535,000 of these units are vacant (12.7%)¹² and 7,840,000 units are owned by individuals with a different residence - only 1% of these units are properties that are unable to be sold.¹³ Herein lies an obvious solution to the homelessness problem; as a treasured bumper sticker reads: “Everyone should have one house before anyone has two.”

Of the 130 million residences in the U.S., 111,806,000 are occupied year round. 1,753,000 of these units have holes in the floor, 6,698,000 have open cracks, 185,000 have no electrical wiring, and 536,000 have exposed electrical wiring – all of these conditions, of course, are serious safety and health hazards.

In 2009, the Acting Surgeon General of the United States, Steven K. Galson, released *The Surgeon General’s Call to Action To Promote Healthy Homes*¹⁴ in recognition of the intimate relationship between health and housing. The recognition that housing impacts the health of its occupants is centuries, if not millennia, old¹⁵; the relationship became especially prominent as early capitalism disrupted rural life and transformed tens of thousands of peasants into urban slum dwellers, laboring in Blake’s “dark Satanic Mills.”¹⁶

In the early 19th Century, sympathetic observers in England began recording the evident connection between health issues such as cholera, tuberculosis, and premature death on the one hand, and the dreadful housing conditions that had developed in urban areas on the other hand. Dickens¹⁷, Mayhew¹⁸, Snow¹⁹, and Engels²⁰ are only the best known of these commentators. In the United States, Jane Addams²¹ and Jacob Riis²² were among the most prominent, but certainly not the only, critics of slum housing who noted the relationship between the built environment and the health of its inhabitants.

¹¹ U.S. Census Bureau, Current Housing Reports, Series H150/09, *American Housing Survey for the United States: 2009*, U.S. Government Printing Office, Washington, DC, 20401. Printed in 2011.

¹² Given that an estimated 3.5 million individuals experience homelessness in the U.S. each year, there are approximately 4.7 vacant units for each person who is homeless.

¹³ Thus there are more than two “extra” units of housing for each individual experiencing homelessness.

¹⁴ U.S. Department of Health and Human Services, “The Surgeon General’s Call to Action To Promote Healthy Homes”, Office of the Surgeon General, 2009.

¹⁵ See, for example, Chapter 10: Crassus, *Plutarch’s Lives. The Translation called Dryden’s*, Corrected from the Greek and Revised by A.H. Clough, in 5 volumes, Boston, Little Brown and Co., 1906.

¹⁶ Blake, William, Preface to “Milton, A Poem in Two Books”, in Bronowski, J., ed., *William Blake*, Penguin Books, Harmondsworth, Great Britain, 1958, p. 162.

¹⁷ Dickens, Charles, “Gin Shops”, *The Evening Chronicle*, February 19, 1835, http://charlesdickenspage.com/gin_shops.html accessed 9/5/12 at 1:14PM.

¹⁸ Mayhew, Henry, “A Visit to the Cholera District of Bermondsey”, *The Morning Chronicle: Labour and Poor, 1849-50* <http://www.victorianlondon.org/houses/slums.htm>, accessed 9/5/12 at 1:17PM.

¹⁹ Snow, John, *On the Mode of Communication of Cholera*, London, J. Churchill, 1849, in U.S. National Library of Medicine, <http://collections.nlm.nih.gov/muradora/objectView.action?pid=nlm%3Anlmuid-0050707-bk>, accessed 9/5/12 at 1:38PM

²⁰ Engels, Frederick, *The Condition of the Working-Class in England: From Personal Observation and Authentic Sources*, Moscow, Progress Publishers, 1975.

²¹ Addams, Jane, *Twenty Years at Hull-House: With Autobiographical Notes*, New York, Macmillan, 1910.

²² Riis, Jacob, *How the Other Half Lives*, ReadAClassic.com, 2010.

In January 2000, a meta-analysis by Esme Fuller-Thomson, J. David Hulchanski, and Stephen Hwang²³ titled “The Housing / Health Relationship: What Do We Know?” and published in *Reviews on Environmental Health* found more than 2000 articles in the English language on this topic. They developed a taxonomy comprised of four categories:

- 1) Specific physical or chemical exposures (e.g., lead, radon, asbestos, electromagnetic fields, and urea formaldehyde insulation);
- 2) Specific biological exposures (e.g., dampness and mould, dust mites, and cockroaches);
- 3) Physical characteristics of the house (e.g., housing design, overcrowding, density, and indoor air quality);
- 4) Social, economic, and cultural characteristics of housing (e.g., housing tenure, housing satisfaction, and housing affordability).

This classification scheme is not dissimilar from those of other reviews and taxonomies; however, it does not include the crucial category of health problems that are exacerbated by housing instability, such as HIV disease and diabetes. A representative sample of studies exploring first three areas of health and safety is found in Appendix A: among the specific physical or chemical exposures are carbon monoxide, drinking water, lead exposure, and radiation; the biologic exposures include dampness, mold, dust, and allergens; and the problematic physical characteristics of the house entail crowding, falls, and heat.²⁴ Disease interactions and social, economic, and cultural characteristics are explored below.

Disease Interactions

Asthma: The primary environmental factors that cause asthma attacks include dust mites, molds, and cockroaches²⁵, all of which are closely associated with housing for the poor. The Centers for Disease Control and Prevention reports that an estimated 25 million people, including 7 million children, in the U.S. have asthma, and that the prevalence is higher among those with incomes below the Federal Poverty Guidelines; while 8.2% of the general population has asthma, 11.6% of individuals living in poverty have asthma.²⁶ Asthma prevalence is also stratified by race and ethnicity, with far higher rates among African Americans (11.1%), and Puerto Ricans (16.6%).²⁷ Although the asthma death rate in the general population is relatively low, it is 190% higher in the African American population. Asthma is the example par excellence of a disease that has its roots in the intersection of poverty and housing, and it cannot be addressed effectively without attending to these socio-economic issues.

Diabetes: Much of the research on the intersection between diabetes and housing has focused on homelessness. Diabetes is much more difficult to manage among people experiencing homelessness than

²³ Hwang, currently at the Center for Research on Inner City Health in Toronto, Canada, was formerly associated with the Health Care for the Homeless project in Boston and has become one of the foremost authorities on morbidity and mortality among individuals experiencing homelessness – cf. “Mortality among residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study”, *British Medical Journal*, 2009, Vol. 339, b4036.

²⁴ See Eric Klinenberg, *Heat Wave: A Social Autopsy of Disaster in Chicago*, University of Chicago Press, 2002 for a trenchant analysis of the political and social factors leading to the death of 700 people - a large number of whom were impoverished and lived alone – who died during the 1995 Chicago heat wave.

²⁵ “Asthma Facts”, Environmental Protection Agency, April 2012.

²⁶ “Asthma in the U.S.”, *CDC Vital Signs*, May 2011; Akinbami, L., Moorman, Jeanne, and Liu, Xiang, “Asthma Prevalence, Health Care Use, and Mortality: United States, 2005-2009”, *National Health Statistics Report*, Centers for Disease Control and Prevention, Number 32, January 12, 2011.

²⁷ *Ibid.*

among the housed population: maintaining access to insulin and syringes is extremely difficult for those living on the street or in shelters (e.g. insulin should be refrigerated and syringes have monetary value on the street) and eating a low-carbohydrate diet is quite challenging, given the prevalence of starch-laden meals at soup kitchens.²⁸

A 2007 study published in the *American Journal of Epidemiology* discovered a strong correlation between poor housing and the development of diabetes among adult African American males. “Of 644 subjects without self-reported diabetes, 10.3% reported having diabetes at the 3-year follow-up. Every housing condition rated as fair-poor was associated with an increased risk of diabetes.” The authors were not certain of the causal mechanisms.²⁹

HIV: The relationship between housing and HIV transmission and treatment has been the subject of research for several decades. Interest in this matter in part derives from the very high incidence of HIV among individuals experiencing homelessness³⁰, as well as the complexity of anti-retroviral therapy. In the past, individuals with unstable housing had been screened out for HIV treatment because it was feared that they would be unable to comply with the demanding regimen and would thus produce drug resistant strains of the disease. Studies by researchers such as Aidala, et al., Bamberger, et al., Riley, et al., and Ledergerber, et al. have found that stable and adequate housing are extremely important in the successful treatment of HIV-related illness.³¹

Hypertension: Researchers have discerned a strong relationship between high blood pressure and housing. Cozier, et al. (2007) found that the lower the monetary value of housing, the more likely are Black women residents to have hypertension.³² Concomitantly, Vijayaraghavan, et al. have associated hypertension with white women who are unstably housed: in a study of 4,300 women, those who were white and unstably housed were found to have an incidence rate of hypertension 4.7 times the rate of those who were white but stably housed.³³

Among individuals experiencing homelessness, the prevalence of hypertension has been estimated to be as high as 29%, compared to the general population’s rate of 16.5%.³⁴ Managing hypertension among this population is extremely challenging. For those living on the streets, maintaining an appropriate diet

²⁸ See Hwang, Stephen W. and Bugeja, Ann L., “Barriers to Appropriate Diabetes Management Among Homeless People in Toronto”, *Canadian Medical Association Journal*, 2000, Vol. 163, No. 2, pp. 161-165; also, National Health Care for the Homeless Council, “Core Competencies in the HCH Setting: A Guide for Administrators”, <http://www.nhchc.org/?s=diabetes>, accessed 9/7/12 at 11:31AM.

²⁹ Schootman, Mario, et al., “The Effect of Adverse Housing and Neighborhood Conditions on the Development of Diabetes Mellitus among Middle-aged African Americans”, *American Journal of Epidemiology*, 2007, Vol. 166, No. 4, pp. 379-387.

³⁰ Beijer, Ulla, Wolf, Achim, and Fazel, Seena, “Prevalence of tuberculosis, hepatitis C virus, and HIV in homeless people: a systematic review and meta-analysis”, *Lancet Infectious Diseases*, 08/12, found studies reporting HIV+ rates of up to 21% among people experiencing homelessness. A HUD-funded study by Health Care for the Homeless in Baltimore found a prevalence of 39% among homeless IV drug users.

³¹ Aidala, Angela A., Messeri, Peter, Abramson, David, and Lee, Gunjeong, “Housing and Health Care Among Persons Living with HIV/AIDS”, *Update Report #37*, Columbia University, 2001; Bamberger, Joshua D., Unick, Jay, Klein, Pamela, Fraser, Marcy, Chesney, Margaret, and Katz, Mitchell, “Helping the Urban Poor Stay with Antiretroviral HIV Drug Therapy”, *American Journal of Public Health* Vol. 90, No. 5, pp. 699-701; National AIDS Housing Coalition, “Housing Is the Foundation of HIV Prevention and Treatment: Results of the National Housing and HIV/AIDS Research Summit”, 2005, Washington, D.C.; Riley, Elise D., Guzman, David, Perry, Sharon, Bangsberg, David, and Moss, Andrew, “Antiretroviral Therapy, Hepatitis C, and AIDS Mortality Among San Francisco’s Homeless and Marginally Housed”, *Journal of Acquired Immune Deficiency Syndromes*, 2005, Vol. 38, No. 2, pp. 191-195; Ledergerber, Bruce, et al., “Clinical Progression and Virological Failure on Highly Active Antiretroviral Therapy in HIV-1 Patients: A Prospective Cohort Study”, *Lancet*, 1999, Vol. 353, pp. 863-868.

³² Cozier, Y.C., Palmer, J.R., Horton, N.J., Fredman, L., Wise LA, and Rosenberg, L., “Relation between neighborhood median housing value and hypertension risk among black women in the United States”, *American Journal of Public Health*, April 2007, Vol. 97, No. 4, pp. 718-24.

³³ Vijayaraghavan, M, Kushel, M.B., Vittinghoff, E., Kertesz, S., Jacobs, D., Lewis, C.E., Sidney, S., and Bibbins-Domingo, K., “Housing Instability and Incident Hypertension in the CARDIA Cohort”, *Journal of Urban Health*, published online June 2012.

³⁴ Savage, Christine and Lee, Roberta, “Caring for a homeless adult with a chronic disease”, *American Nurse Today*, March 2010, Vol. 5, No. 3, <http://www.americannursetoday.com/article.aspx?id=6414&fid=627>, accessed 9/17/12 at 4:55PM.

is quite difficult, as is taking medication as prescribed. Most importantly, as Kinchen and Wright observe, “[t]he biggest barrier to treatment of homeless hypertensives, of course, is that their overall physical and mental well-being is threatened by much more pressing concerns than elevated blood pressure. Given their lack of food, clothing, shelter, and money, there is little concern among the homeless with preventive health measures or health maintenance.”³⁵

Social, Economic, and Cultural Characteristics of Housing

Domestic Violence: Housing is intimately related to domestic violence, especially because the ability of survivors to find safe housing is so problematic. In the words of Correia and Rubin (2001), “[s]ecuring housing may be a critical element in a safety plan. Domestic violence advocates report that sometimes battered women return to an abusive partner when a viable option for permanent housing cannot be found...An abusive partner creates barriers to securing affordable housing when he wreaks havoc on a battered woman's credit history, leaves her with poor landlord references, and impedes access to the joint financial resources of the relationship (if there were any) for security or utility deposits.”³⁶ Eisenstat and Bancroft also note that perpetrators of domestic violence often interfere with the ability of the survivor to follow medical treatment plans.³⁷ In its 2011 report on hunger and homelessness, the U.S. Conference of Mayors found that 13% of those experiencing homelessness were victims of domestic violence.³⁸

Psychological well-being: 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.³⁹ Johns Hopkins University Professor Craig Pollack and his colleagues have studied individuals aged fifty or older with delinquent mortgages and found that their incidence of depressive symptoms is elevated (in addition to having generally worse health status and less access to health-related resources including prescriptions).⁴⁰

Affordability, nutrition, and health: Income and housing have an intimate relationship; generally, the lower one's income, the worse the housing one is able to secure – and as we have seen, having deteriorated housing, unaffordable housing, or no housing at all are situations strongly associated with compromised health. Yet another aspect of the relationship between housing and income has been explored by researchers: as the proportion of one's income devoted to housing increases, the more difficulty one has in meeting other needs. This situation not only causes stress, but actually contributes

³⁵ Kinchen, Kraig and Wright, James, “Hypertension management in health care for the homeless clinics: results from a survey”, *American Journal of Public Health*, September, 1991, Vol. 81, No. 9, p. 1165.

³⁶ Correia, Amy and Rubin, Jen, “Housing and Battered Women”, National Resource Center on Domestic Violence, www.vawnet.org/DomesticViolence/Research/VAWnetDocs/AR_housing.pdf, accessed 9/7/12 at 11:54 AM.

³⁷ Eisenstat, Stephanie and Bancroft, Lundy, “Domestic Violence”, *New England Journal of Medicine*, 1999, Vol. 341, pp. 886-892.

³⁸ U.S., Conference of Mayors, “A Status Report on Hunger and Homelessness”, December 2011.

³⁹ Nettleton, S. and Burrows, R. “Mortgage Debt, Insecure Home Ownership and Health: An Exploratory Analysis”, *Sociology of Health and Illness*, 1998, Vol. 20, No. 5, pp. 731–753; Smith, S. J., et al., “Housing as Health Capital: How Health Trajectories and Housing Paths are Linked”, *Journal of Social Issues*, 2002, Vol. 59, No. 3, pp. 501–525; Taylor, M.P., Pevalin, D.J., and Todd, J., “The Psychological Costs of Unsustainable Housing Commitments”, *Institute for Social and Economic Research Working Paper*, University of Essex, 2006; Weich, S. and Lewis, G., “Poverty, Unemployment, and Common Mental Disorders: Population Based Cohort Study”, *British Medical Journal*, 1998, Vol. 317, pp. 115–119.

⁴⁰ Alley, D.E., Lloyd, J., Pagán, J.A., Pollack, C.E., Shardell, M., and Cannuscio, C., “Mortgage delinquency and changes in access to health resources and depressive symptoms in a nationally representative cohort of Americans older than 50 years”, *American Journal of Public Health*, December 2011, Vol. 101, No. 12, pp. 2293-8.

directly to somatic health problems. As the U.S. Centers for Disease Control and Prevention notes: “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. Crowding also has a negative impact on mental health and may increase susceptibility to disease.”⁴¹

Further evidence exists of the relationships among income, poor housing, and ill health: Frank et al. (2006) found that children under the age of three in families receiving a housing-related subsidy (the Low Income Home Energy Assistance Program) were less likely than their peers not receiving this subsidy to be undernourished and to be hospitalized as the result of an emergency room visit.⁴² Meyers, et al. (1993) observed that compared to low income children in families receiving a housing subsidy, low income children in families not receiving housing subsidies had a greater chance of suffering from an iron deficiency (30% v. 19%).⁴³ Lipman (2005) found that working families paying at least 50% of their income for housing are 23% more likely to have difficulty purchasing sufficient food than similar families residing in affordable housing.⁴⁴ Finally, in a 2009 longitudinal study of young families with children published in the *Journal of Children and Poverty*, Fletcher, et al. suggest that for each \$1,000 increase in the annual cost of rent, there is a 27.8% increase in food insecurity. As these researchers observe, “[w]hile 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.”⁴⁵

“To make the best use of available resources, home environmental concerns should be incorporated into larger programs to improve, preserve, and provide affordable housing and into existing public health and housing surveys.”

Of course not only children and nutrition are affected by unaffordable housing costs. In a 2011 study, Pollack, et al. (2011) discerned that hypertension, renal disease, and emergency room visits were more common among people undergoing foreclosure than among a stably housed cohort. The individuals undergoing foreclosure were also less likely to have visited a primary care physician during the six-month period prior to the foreclosure proceedings.⁴⁶

As Matte and Jacobs observed in their 2000 essay on housing and health, “[a]lthough basic living conditions have improved over the past century, the home environment can have an adverse impact on human health in a variety of interrelated ways, some of which remain to be discovered. To address

⁴¹ Centers for Disease Control and Prevention and U.S. Department of Housing and Urban Development, *Healthy Housing Reference Manual*, Atlanta, 2006.

⁴² Frank, Deborah, et al., “Heat or Eat: The Low Income Home Energy Assistance Program and Nutritional and Health Risks Among Children Less Than 3 Years of Age”, *Pediatrics*, November 1, 2006, Vol. 118, No. 5, pp. e1293 -e1302.

⁴³ Meyers, Alan, Rubin, Dana, Napoleone, Maria, and Nichols, Kevin, “Public Housing Subsidies May Improve Poor Children’s Nutrition”, *American Journal of Public Health*, Vol. 83, No. 1, p. 115.

⁴⁴ Lipman, Barbara, “Something’s Gotta Give: Working Families and the Cost of Housing”, *New Century Housing*, Vol. 5, Issue 2, Center for Housing Policy, Washington, DC, April 2005.

⁴⁵ Fletcher, J.M., Andreyeva, T., and Busch, S.H., “Assessing the Effect of Changes in Housing Costs on Food Insecurity,” *Journal of Children and Poverty*, 2009, Vol. 15, No. 2, pp. 79–93.

⁴⁶ Pollack, C.E., Kurd, S.K., Livshits, A., Weiner, M., and Lynch, J., “A case-control study of home foreclosure, health conditions, and health care utilization”, *Journal of Urban Health*, June 2011, Vol. 88, No. 3, pp. 469-78.

housing-related health concerns, integrated approaches that can address multiple hazards at the levels of the community, the individual dwelling, and the occupants need to be developed and tested. To make the best use of available resources, home environmental concerns should be incorporated into larger programs to improve, preserve, and provide affordable housing and into existing public health and housing surveys.”⁴⁷ In section II below, the relationship between homelessness and health is explicated. Section III explores housing and health in the context of the neighborhood or community. Finally, section IV addresses those broader public policy issues that Matte and Jacobs denote as most crucial: “to improve, preserve, and provide affordable housing.” Without a set of strategies to meet this goal, all other efforts to ameliorate the deleterious impact of housing on health will fall woefully short.

⁴⁷ Matte, Thomas and Jacobs, David, “Housing and health—Current issues and implications for research and programs”, *Journal of Urban Health*, 2000, Vol. 77, No. 1, p. 20.

III. Homelessness and Health

“It is an unfortunate commentary that we invest as much in providing health services for the homeless as we do in eradicating the basic causes of homelessness. People cannot be socially, mentally, or physically healthy without first having a stable and secure place to live. . . . The ultimate folly would be to become so proficient in dealing with the health consequences of homelessness that we lose sight of the fundamental problem of homelessness.”

Kraig Kinchen and James Wright⁴⁸

Homelessness is harmful to one’s health. As Kevin Lindamood, CEO of Maryland’s Health Care for the Homeless observed in *Maryland Medicine*, the experience of homelessness causes health problems, exacerbates existing illnesses, and seriously complicates treatment.⁴⁹ Consequently, people without homes suffer from health problems at rates significantly higher than the general population, and, perhaps unsurprisingly, homeless individuals are three to four times more likely than their housed counterparts to die prematurely.⁵⁰

Beginning in the late 1970s, the United States witnessed a homelessness epidemic of a magnitude not seen since the Great Depression.⁵¹ As increasing numbers of individuals slept in doorways, abandoned cars, and hospital emergency rooms, two sorts of response were generated: the short-term reaction involved developing outreach capacities, establishing emergency and transitional shelters, and creating targeted services such as homeless health care programs; the long-term response focused on expanding the supply of affordable housing, guaranteeing adequate incomes to all, and implementing universal health insurance. Both sets of responses required assertive advocacy nationally and locally. The result has been a homelessness industry now more than thirty years old, and a concomitant reduction in the supply of affordable housing during that period [this dynamic will be examined at greater length in a companion paper].

In 2011, 221 homeless health care clinics served 825,295 different individuals, 55.7% of whom were male. 90.4% had incomes less than or equal to 100% of the Federal Poverty Guidelines (\$10,890 for a single adult; \$18,530 for a family of three); only 2.3% of homeless patients had incomes exceeding 200% of poverty.

The most thorough database on individuals experiencing homelessness is that of the Federally-funded Health Care for the Homeless Program. In 2011, 221 homeless health care clinics served 825,295

⁴⁸ Kinchen, Kraig and Wright, James, “Hypertension management in health care for the homeless clinics: results from a survey”, *American Journal of Public Health*, September 1991, Vol. 81, No. 9, p. 1165.

⁴⁹ Lindamood, Kevin, “Ending Homelessness with Maryland’s Health Care for the Homeless, Inc.”, *Maryland Medicine*, Autumn 2008, Vol. 9 No. 4, pp. 9-12.

⁵⁰ O’Connell, James, “Premature Mortality in Homeless Populations: A review of the literature”, National Health Care for the Homeless Council, 2005; Hwang, Stephen, “Homelessness and Health”, *Canadian Medical Association Journal*, January 23, 2001, Vol. 164, No. 2, pp. 229-233.

⁵¹ cf. Baxter, Ellen and Hopper, Kim, “Private Lives/Public Spaces: Homeless Adults on the Streets of New York City”, Community Service Society, New York, 1981.

different individuals, 55.7% of whom were male. 90.4% had incomes less than or equal to 100% of the Federal Poverty Guidelines (\$10,890 for a single adult; \$18,530 for a family of three); only 2.3% of homeless patients had incomes exceeding 200% of poverty.⁵²

Maintaining and improving health is extraordinarily challenging for individuals and families living on the streets. For example, there is extremely limited access to adequate nutrition; commensurate with their review of the literature on hunger and analysis of data from the National Survey of Homeless Assistance Providers and Clients⁵³, Lee and Grief observe of people experiencing homelessness, “their levels of food insecurity far exceed those of the domiciled public. That they are also more food-insecure than the poverty population underscores their tenuous circumstances.”⁵⁴

The management of diabetes offers an instructive example. Limiting the intake of carbohydrates is an important element of diabetes control, yet without access to an adequate income and cooking facilities, people experiencing homelessness often eat at soup kitchens where baking large trays of macaroni and cheese or tuna casserole permit volunteers to feed the many hungry guests. In concert with the dietary issues, where does an individual experiencing homelessness store insulin (which ought to be refrigerated) and syringes (which have monetary value on the street)?

Those without homes are also heir to hypothermia⁵⁵ and hyperthermia⁵⁶, seasonal problems which may be fatal. Communicable diseases, which move quickly through shelters, are all too common.⁵⁷ The prevalence of tuberculosis among people experiencing homelessness has been found to be 1.2%-6.8%⁵⁸, 1000 times the rate in the general population.⁵⁹ For example, Baltimore has had two outbreaks of tuberculosis in the past decade, both centered in the Baltimore City Jail and the Health Care for the Homeless waiting room.

The prevalence of other infectious diseases is also much higher among people experiencing homelessness: 17%-30% for hepatitis B and 12%-30% for hepatitis C⁶⁰, 2%-30% for *Bartonella quintana* infection (associated with lice)⁶¹, and 3.8%-56% for scabies⁶² - all of these rates far exceeding those for the general population.

⁵² <http://bphc.hrsa.gov/uds/view.aspx?fd=ho&year=2011>.

⁵³ Burt, Martha R., Aron, Laudan, and Lee, Edgar, *Helping America's Homeless: Emergency Shelter or Affordable Housing?*, 2001, Washington, DC: Urban Institute Press, 2001.

⁵⁴ Lee, Barrett and Greif, Meredith, “Homelessness and Hunger”, *Journal of Health and Social Behavior*, 2008, Vol 49, March, p. 12.

⁵⁵ “Hypothermia-Related Deaths” Centers for Disease Control and Prevention, March 17, 2006, Vol. 55, No. 10, pp. 282-284.

⁵⁶ Rampulla, Joseph, “Hyperthermia & Heat Stroke: Heat-Related Conditions”, in O’Connell, James, ed., *The Health Care of Homeless Persons*, National Health Care for the Homeless Council, Nashville, 2004.

⁵⁷ Harding, M., and Brown, N., “Tuberculosis among homeless people at a temporary shelter in London”, *Journal of Epidemiology and Community Health*, April 1997, Vol. 51, No. 2, p. 211.

⁵⁸ Raoult, D., Foucault, C., and Brouqui, P., “Infections in the homeless”, *Lancet Infectious Diseases*, 2001, Vol. 1, pp. 77-84; Haddad, M.B., Wilson, T.W., Ijaz, K., Marks, S.M., and Moore, M., “Tuberculosis and the homelessness in the United States, 1993-2003”, *Journal of the American Medical Association*, 2005, Vol. 293, pp. 2762-6.

⁵⁹ CDC Tuberculosis Fact Sheet, <http://www.cdc.gov/tb/publications/factsheets/statistics/TBTrends.htm>, accessed 9/22/12 at 10:13AM.

⁶⁰ Klinkenberg, W.D., et al., “Prevalence of human immunodeficiency virus, hepatitis B, and hepatitis C among homeless persons with co-occurring severe mental illness and substance use disorders”, *Comprehensive Psychiatry*, 2003, Vol. 44, pp. 293-302; Beech, B.M., Myers, L., Beech, D.J., and Kernick, N.S., “Human immunodeficiency syndrome and hepatitis B and C infections among homeless adolescents”, *Seminars in Pediatric Infectious Diseases*, 2003, Vol. 14, No. 12, p. 9.

⁶¹ Brouqui, P., Stein, A., Tissot Dupont, H., Gallian, P., Badiaga, S., and Rolain, J.M., “Ectoparasitism and vector-borne diseases in 930 homeless people from Marseilles”, *Medicine*, 2005, Vol. 84, pp. 61-8; Brouqui, P., Lascola, B., Roux, V., and Raoult, D., “Chronic Bartonella quintana bacteremia in homeless patients”, *New England Journal of Medicine*, 1999, Vol. 340, pp. 184-9.

⁶² Badiaga, S, Menard, A., Tissot Dupont, H., Ravaux, I., Chouquet, D., and Graveriau, C., “Prevalence of skin infections in sheltered homeless”, *European Journal of Dermatology*, 2005, Vol. 15, pp. 382-6.

Not only do those without homes experience illness and disease at exacerbated rates, but treating these conditions is far more complicated. The common prescription of “drink plenty of fluids and get some rest” is often unavailable to people living on the streets, with nowhere safe to rest and little access to fluids.

Concomitantly, the availability of health care and medication is attenuated; homeless individuals are most often uninsured (70% of the thousands of individuals served at Maryland’s Health Care for the Homeless Program have no health insurance). Mainstream providers usually do not have the necessary infrastructure to meet the unique needs of homeless patients

(outreach, food, clothing, showers, transportation, social workers, integrated medical/mental health/addiction treatment).

Nor have mainstream providers been trained in “culturally-competent” homeless medicine. An example will illustrate the problem: an outreach worker encountered a gentleman at a bus stop in midtown Baltimore. The individual had extremely swollen legs and could not ambulate;

he also had a hospital band on his wrist and a prescription in his pocket for antibiotics. The homeless gentleman had no means to fill the prescription or to secure a bed where he could elevate his infected legs in a clean environment. The prescribed antibiotic was to be taken three times per day with food. Not only had the hospital failed to find appropriate shelter for the individual, but the prescribed antibiotic could have been replaced with a medication that was taken once per day (more appropriate for someone without regular access to fluids). Without the intervention of the outreach worker, this gentleman would most likely have been returned to the hospital emergency room by ambulance. Thus the inadequate treatment was also unnecessarily expensive and wasteful of health-related resources.

Each year, 3.5 million Americans experience homelessness, while in 2011 the Federal Health Care for the Homeless Program reached 825,295, or 23.6% of those requiring such services.

In an attempt to address the severe health problems of individuals experiencing homelessness, a national health care for the homeless program has been developed. Privately funded between 1985 and 1987, the program is now financed in part by the Federal Department of Health and Human Services (at a level of \$231 million in FY2012). The 221 projects in all fifty States, the District of Columbia, and Puerto Rico are predominately private nonprofit agencies or sponsored by hospitals and community health centers. They are required to deliver outreach, primary medical care, mental health services, and addiction treatment; some projects, such as Maryland’s Health Care for the Homeless, offer dental care, pediatric services, housing, and case management, as well as consumer participation and public policy advocacy. Respite care services – short-term shelter with nursing services – are increasingly available as well (there are twenty-five respite beds in Baltimore City).

The Health Care for the Homeless Program, much like the Ryan White HIV/AIDS Program, the Women, Infants, and Children Program, and other targeted public programs, delivers valuable health services to a very vulnerable population. Yet these programs reach a minority of the individuals and families eligible for their assistance – each year, 3.5 million Americans experience homelessness, while in 2011 the Federal Health Care for the Homeless Program reached 825,295, or 23.6% of those requiring such services. There is no effective substitute for universal programs; homelessness and its health sequelae - e.g. premature death at rates 3-4 times as high as the housed population! - will only be abolished by policies that guarantee health care, housing, and adequate incomes for all.

Mental Illness, Homelessness, and Housing

Since the advent of mass homelessness in the late 20th Century, much research, service, and advocacy have been focused on the intersection of homelessness and mental illness. The concern with mental illness relates, in part, to the visibility of individuals with florid psychoses (e.g. people with schizophrenia suffering from auditory and visual hallucinations; people with the schizoaffective diagnosis who dress and act bizarrely). Entangled with this visibility is the notion that the closing of state-funded psychiatric institutions – deinstitutionalization – was a significant contributor to homelessness. Estimates of the prevalence of mental illness among people experiencing homelessness have varied widely (and wildly) from 2% to 90%⁶³, with seminal work in this regard carried out by William Breakey and Pamela Fischer of The Johns Hopkins University.⁶⁴

Without regard to the merit of the deinstitutionalization argument, it is certainly the case that people with serious mental illness are often too disorganized or disabled to secure emergency shelter or permanent housing and to use homeless-related services. Consequently, they are too often arrested or briefly hospitalized, before returning to a most difficult existence on the streets – the International Association for Correctional and Forensic Psychology claims that Rikers Island in New York, the Los Angeles County Jail, and Chicago’s Cook County Jail are the three largest psychiatric institutions in the U.S.⁶⁵

Incarcerating people because they are mentally ill and homeless is tragic; however, it is the exorbitant cost of this practice that has led to incremental change. In 2002, the University of Pennsylvania researchers (Dennis Culhane, Stephen Metreaux, and Trevor Hadley) concluded a study of the New York/New York housing program, wherein the City and State of New York collaborated in providing housing and supportive services to homeless mentally ill individuals in New York City. Culhane, Metreaux, and Hadley demonstrated that housing with supportive services consumed far fewer public resources than does homelessness. On average, people living on the streets with serious mental illness cost **\$40,451** per person per year (in 1999 dollars). Providing housing and supportive services to members of the same population cost an average of **\$24,170** per person per year. Thus ending homelessness for people with serious mental illness yielded a net saving of **\$16,281** per person per year. **Good economic policy can be good social policy!**

Housing First initiatives, first implemented in Baltimore and New York City, complement the supportive housing model. Individuals with serious mental illness (and/or addictions) are placed from the streets into their own apartment and offered a cornucopia of services on a voluntary basis. 85% of program participants in both cities have maintained housing for more than one year.⁶⁶ The supportive housing model coupled with the Housing First approach promises to reduce homelessness among individuals with serious behavioral health problems, although funding remains woefully inadequate.

⁶³ Fazel, Seena, Khosla, Vivek, Doll, Helen, and Geddes, John, “The Prevalence of Mental Disorders among the Homeless in Western Countries: Systematic Review and Meta-Regression Analysis”, *PLOS Medicine*, <http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.0050225>, accessed 9/22/12 at 2:14PM; Fischer, Pamela and Breakey, William, “The Epidemiology of Alcohol, Drug, and Mental Disorders Among Homeless Persons”, *American Psychologist*, November 1991, Vol. 46, p. 1115.

⁶⁴ Fischer, Pamela and Breakey, William, "Homelessness and Mental Health: An Overview", *International Journal of Mental Health*, 1986, 14, no. 4, pp. 6-41.

⁶⁵ IACFP Practice Standards Committee, “Standards for Psychology Services in Jails, Prisons, Correctional Facilities, and Agencies”, *Criminal Justice and Behavior*, International Association for Correctional and Forensic Psychology, July 2010, p. 755.

⁶⁶ Tsemberis, Sam and Asmussen, Sara, "From Streets to Homes: The Pathways to Housing Consumer Preference Supported Housing Model" *Alcoholism Treatment Quarterly*, 1999, Vol. 17, 1/2, pp. 113-131; Corporation for Supportive Housing, “Baltimore Health Care for the Homeless”, www.csh.org/wp-content/uploads/2012/05/CSH-Baltimore-Healthcare-for-the-Homeless.pdf.

IV. Neighborhood Characteristics and Health

“Of all the preposterous assumptions of humanity over humanity, nothing exceeds most of the criticisms made on the habits of the poor by the well-housed, well-warmed, and well-fed.”

Herman Melville

In addition to the micro-social, direct impact of housing conditions on the health of the individuals who inhabit these units (or upon those who have no access to housing), neighborhoods have important and complex relationships to health. In the first instance, access to “desirable” neighborhoods with sound housing, good schools, amenities such as libraries and recreation centers, grocery stores, public transportation, and safe streets is determined in large measure by income (and to some extent by race, ethnicity, and religion). In 2000, 3.5 million poor people across the United States lived in neighborhoods with poverty concentrations in excess of 40 percent.⁶⁷ The correlation of income and health, although not the focus of this paper, is very strong: “We are rightly concerned about poverty because we do not think that people should have too little income to meet basic necessities or to live a decent life. But the poor not only do not have enough money, they also have shorter lives, and lives that are more often diminished by sickness. They are poor not only in money, but also in health.”⁶⁸

Neighborhood factors, i.e. the characteristics of where housing is located, have complicated relationships to health. In a 2011 review of research on health and communities, Dr. Craig Pollack of The Johns Hopkins University and several colleagues found that “[t]he physical, social, and economic environments of local communities affect residents’ health and exacerbate health disparities” and that community-based interventions should be incorporated in health improvement strategies.⁶⁹

A number of social scientists (including LaVeist and DeLuca) have posited that “place matters” and that neighborhoods either can make people ill, or prevent people from being healthy. Often high concentrations of poverty are implicated – cf. Wilson’s *The Truly Disadvantaged*⁷⁰, Jencks and Mayer’s “The Social Consequences of Growing Up in a Poor Neighborhood”⁷¹, and Ellen and Turner, “Does Neighborhood Matter? Assessing Recent Evidence”⁷².

The American Civil Liberties Union has made the de-concentration of public housing the focus of its efforts to address poverty; its 1995 Baltimore City lawsuit, *Thompson v. HUD*, is grounded in the notion that segregated, impoverished neighborhoods are inherently unhealthy. As the *Thompson* briefing document observes: “HOUSING POLICY IS HEALTH POLICY. More and more scientific studies support the idea that people’s lives and health are shaped by things going on in their streets and communities. Concentrations of poverty are easy to ignore, but poor areas hurt everyone in Baltimore

⁶⁷ U.S. Department of Housing and Urban Development, “Moving to Opportunity Interim Impacts Evaluation: Final Report”, June 2003, p. 9.

⁶⁸ Deaton, Angus, “The Health and Wealth of Nations”, University of Rome, 2007, p. 1.

⁶⁹ Miller, W., Pollack C., and Williams D., “Healthy homes and communities: putting the pieces together”, *American Journal of Preventive Medicine*, 2011 January, 40(1 Suppl 1): S48-57.

⁷⁰ Wilson, William Julius, *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*, Illinois: University of Chicago Press, 1987.

⁷¹ Jencks, Christopher and Mayer, Susan, “The Social Consequences of Growing Up in a Poor Neighborhood,” in Laurence Lynn and Michael McGeary, eds., *Inner-City Poverty in the United States*, National Academy Press, 1990, pp 111-186.

⁷² Ellen, Ingrid and Turner, Margery, “Does neighborhood matter: Assessing recent evidence”, *Housing Policy Debate*, 8, no. 4 (2001), pp. 833-866.

and the surrounding region Sick neighborhoods suffering from concentrated poverty demand expensive social services and increase the risk of depression, asthma, and other chronic diseases, which, in turn, require late-stage medical services for which all of us pay For many, the best prescription for better health may be moving to a healthier neighborhood.”⁷³ As of 2009, a Partial Consent Decree within the *Thompson* lawsuit led to 1,522 families relocating to low-poverty, integrated neighborhoods.⁷⁴

The impact of neighborhood on health may be most clearly delineated by the Baltimore City Health Department’s Neighborhood Health Profiles, originally published in December 2011 and revised in March 2012. Life expectancy in Baltimore is 71.8 years; in the U.S., life expectancy is 78.7 years⁷⁵, ranking 50th in the world.⁷⁶ The disparities among Baltimore neighborhoods, however, is astonishing, with affluent neighborhoods demonstrating health outcomes similar to advanced industrial nations such as France and Sweden, but impoverished neighborhoods appearing to be similar to third world countries, such as Haiti and Sudan. A sample of this data is found below:

Comparative Life Expectancy: Baltimore Neighborhoods and Selected Countries*

Upton/Druid Heights	62.9 years	Eritrea	62.9 years
Midway/Coldstream	63.7 years	Togo	63.2 years
Downtown-Seton Hill	63.9 years	Gambia	63.8 years
Poppleton/The Terraces/Hollins Market	64 years	Madagascar	64 years
Madison/East End	64.8 years	Yemen	64.1 years
Clifton-Berea	64.9 years	Kiribati	64.8 years
Southwest Baltimore	65 years	Vanuatu	65 years
Sandtown-Winchester/ Harlem Park	65.3 years	Burma	65.2 years
Greenmount East	65.9 years	Pakistan	66.3 years

*Data derived from “Neighborhood Health Profiles”, Baltimore City Health Department, <http://www.baltimorehealth.org/neighborhoodmap.html> and from Central Intelligence Agency, “The World Factbook”, <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html>.

⁷³ THE CASE OF THOMPSON V. HUD: A Briefing on Segregation and Public Housing in Baltimore, ACLU of Maryland, n.d.

⁷⁴ Engdahl, Lora, “New Homes, New Neighborhoods, New Schools: A Progress Report on the Baltimore Housing Mobility Program”, Poverty and Race Research Action Council and The Baltimore Regional Housing Campaign, 2009.

⁷⁵ Murphy, Sherry, Xu, Jiaquan, and Kochanek, Kenneth, “Deaths: Preliminary Data for 2010”, *National Vital Statistics Reports*, Vol. 60, No. 4, January 11, 2012.

⁷⁶ <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html>, accessed 9/19/12 at 10:25PM.

Comparative Life Expectancy: Impoverished Baltimore Neighborhoods and Wealthier Counterparts*

Upton/Druid Heights	62.9 years	Greater Roland Park/Poplar Hill	83.1 years
Midway/Coldstream	63.7 years	Cross-Country/Cheswolde	82.9 years
Downtown-Seton Hill	63.9 years	North Baltimore/Guilford/Homeland	81.1 years
Poppleton/The Terraces/Hollins Market	64 years	Mt. Washington/Coldspring	79.4 years
Madison/East End	64.8 years	Glen-Fallstaff	77.6 years
Clifton-Berea	64.9 years	Inner Harbor/Federal Hill	77.1 years
Southwest Baltimore	65 years	Canton	76.9 years
Sandtown-Winchester/Harlem Park	65.3 years	Midtown	75.5 years
Greenmount East	65.9 years	Northwood	75.4 years

*Data derived from “*Neighborhood Health Profiles*”, Baltimore City Health Department, <http://www.baltimorehealth.org/neighborhoodmap.html>.

These data demonstrate the vast disparities among Baltimore neighborhoods: individuals residing in Upton/Druid Heights live, on average, 20.2 fewer years than those individuals who reside in Greater Roland Park/Poplar Hill. Certainly a plethora of variables are subsumed under “life expectancy”, but housing and income are prominent.

In addition to life expectancy data, the Baltimore City Health Department collects data on avertable deaths, or “deaths that could have been avoided if all Baltimore communities had the same opportunity at health.”⁷⁷ The same magnitude of disparity is found between impoverished and advantaged neighborhoods. For example, City-wide avertable deaths are calculated at 36.1%; Upton/Druid Heights, the neighborhood with the lowest life expectancy, had 63.1% avertable deaths, while the Greater Roland Park/Poplar Hill neighborhood had -26.5% avertable deaths. The difference in life chances of individuals residing in these disparate neighborhoods is so marked as to be nearly unfathomable in an advanced industrialized society.

The work of The Johns Hopkins University professor Thomas LaVeist and his collaborators in the Exploring Health Disparities in Integrated Communities (EHDIC) study also has focused on the characteristics of neighborhood – or “place” – that impact upon health. LaVeist’s work suggests that place and class may be even more powerful than race in determining health disparities. LaVeist and his colleagues surveyed the residents of an impoverished, integrated neighborhood (Pigtown) in southwest Baltimore to replicate the much larger National Health Interview Survey conducted by the Federal government since the 1980s. In a racially diverse, but not yet gentrified neighborhood, the EHDIC researchers found that the rates of diseases such as diabetes and hypertension were high, but roughly equivalent among African American and white residents. It appeared that neighborhood circumstances (widespread poverty, lack of healthy food availability, high rates of addiction, dilapidated housing) were more responsible than race for the high disease burden.⁷⁸

⁷⁷ Ames, A., Evans, M., Fox, L., Milam, A., Petteway, R., Rutledge, R., “2011 Neighborhood Health Profile: Baltimore City”. Baltimore City Health Department, December 2011.

⁷⁸ Gary T.L., Stark S.A., LaVeist T.A., “Neighborhood Characteristics and Mental Health among African Americans and Whites living in an Racially Integrated Urban Community”, *Health and Place*, June 2007, Vol. 13, No. 2, pp. 569-75; Casagrande, S.S., Gary, T.L., LaVeist, T.A., Gaskin, D.J., and Cooper, L.A., “Perceived Discrimination and Adherence to Medical Care in a Racially Integrated Community”, *Journal of General Internal Medicine*, March 2007, Vol. 22, No. 3, pp. 389-95; LaVeist, T., Bowen-Reid, T., Jackson, J., Gary, T., Thorpe, R., Gaskin, D., Browne, D., “Exploring Health Disparities in Integrated Communities: Overview of the EHDIC Study” *Journal of Urban Health*, January 2008, Vol. 85, No. 1, pp. 11-21.

Moving to Opportunity

The potential import of “place” or neighborhood is also the focus of a series of studies on the Federal “Moving to Opportunity” project. In 1994, the Federal Department of Housing and Urban Development funded a research demonstration project that provided housing vouchers to public housing residents, requiring some participants to move into low-poverty neighborhoods. 3,169 households with children under the age of 18 living in public housing in Baltimore, Boston, Chicago, Los Angeles, and New York were given these rent-subsidy vouchers. This “experimental” group, selected by lottery, could only use their vouchers in neighborhoods with poverty rates less than 10% [perhaps unsurprisingly, only 52.8% (1,675 families) were able to secure housing in eligible neighborhoods].⁷⁹ Two comparison groups were created, one of which was provided with housing vouchers but not required to use them in low-poverty neighborhoods. The other group remained in public housing.

Data collected at the initiation of the project has been supplemented with data collected more recently, and a number of evaluative studies have been published. The findings have been decidedly mixed; although improved mental health for adults and female youth⁸⁰ and reductions in diabetes and obesity⁸¹ have been discerned, researchers such as Dr. Stefanie DeLuca of Johns Hopkins University also found that the economic and educational benefits expected for those families moving into low-poverty neighborhoods did not materialize.⁸² Dr. DeLuca, a sociologist, has written extensively on the Gautreaux experience (relocating families from public housing in Chicago in the late 1970s), as well as on Moving to Opportunity.⁸³ She defends the Mobility Paradigm not as the sole solution to extremely challenging urban problems, but as one method of facilitating choice and securing access to safety and improved mental health for residents of exceptionally stressed neighborhoods. The model of mobility to address neighborhood distress will be explored at greater length in the companion paper on housing and housing policy.

⁷⁹ Discrimination against holders of Federal housing vouchers is a significant problem: “nationwide, about 30% of all vouchers are now returned to the PHA unused because families cannot find housing within the voucher subsidy and time limits. For these families, the program has become increasingly ineffective.” [Public Housing Authorities Directors Association, “The Section 8 Housing Choice Voucher Program: Making Housing Markets Work for Low-income Families”, March 2002, p. 3].

⁸⁰ Kling, Jeffrey, Liebman, Jeffrey, and Katz, Lawrence, “Experimental Analysis of Neighborhood Effects”, *Econometrica*, Vol. 75, Issue 1, pp. 83–119.

⁸¹ Ludwig, Jens, Sanbonmatsu, Lisa, Gennetian, Lisa, Adam, Emma, Duncan, Greg, Katz, Lawrence, Kessler, Ronald, Kling, Jeffrey, Lindau, Stacy, Whitaker, Robert, and McDade, Thomas, “Neighborhoods, Obesity, and Diabetes: A Randomized Social Experiment”, *New England Journal of Medicine*, 2011, Vol. 365, pp. 1509-1519.

⁸² DeLuca, Stefanie, “What is the Role of Housing Policy: Considering Choice and Social Science Evidence”, *Journal of Urban Affairs*, Vol. 34, Issue 1, pp. 23.

⁸³ Rosenbaum, James E., Reynolds, Lisa, and DeLuca, Stefanie, “How Do Places Matter? The Geography of Opportunity, Self-Efficacy, and a Look Inside the Black Box of Residential Mobility”, *Housing Studies*, 2002, 17:71-82; DeLuca, Stefanie, Greg Duncan, Ruby Mendenhall and Micere Keels. Forthcoming, 2010. “Gautreaux Mothers and Their Children: An Update”, *Housing Policy Debate*, Vol. 20, pp. 7-25; DeLuca, Stefanie, “What is the Role of Housing Policy: Considering Choice and Social Science Evidence”, *Journal of Urban Affairs*, Vol. 34, Issue 1, p. 21.

V. The Housing/Health/Public Policy Nexus

“In a word, we must confess that in the working-men's dwellings of Manchester, no cleanliness, no convenience, and consequently no comfortable family life is possible; that in such dwellings only a physically degenerate race, robbed of all humanity, degraded, reduced morally and physically to bestiality, could feel comfortable and at home. And I am not alone in making this assertion.”

F. Engels, The Condition of the Working Class in England

Recognition of the relationship between housing and health is found only fitfully in national public policy. The forces that impact upon the activities of the Federal government often have a broader (the total Federal budget, tax and monetary policy) or narrower (Departmental budgets, policies, and programs) focus. Generally, Federal policies that integrate housing and health concerns are small initiatives or demonstration projects that are most often forgotten after their time-limited existence – the public policy equivalent of mayflies.

Public policy impacting upon housing and health may be divided into three categories: Federal policies and programs of a national scope that fund housing and health care; Federal projects implemented in a limited number of jurisdictions for specified periods of time; and State or local policies and programs (generally beyond the scope of this paper). A companion paper will focus on national housing programs and relevant tax and incomes policies.

Housing Policies and Programs

The Federal Department of Housing and Urban Development is the second largest component of Federal housing policy. The largest component is the tax expenditure for homeowners: the Congressional Joint Committee on Taxation estimates that in Fiscal Year (FY) 2012, HUD outlays for housing assistance will be \$26,963,000, while tax expenditures for homeowners will be \$229,650,000⁸⁴; 75% of Federal housing expenditures benefit homeowners and more than half of these expenditures benefit individuals with incomes above \$100,000, with the five million families having incomes of \$200,000 or more receiving more subsidies than the 20 million families with incomes of \$20,000 or less.⁸⁵

75% of Federal housing expenditures benefit homeowners and more than half of these expenditures benefit individuals with incomes above \$100,000, with the five million families having incomes of \$200,000 or more receiving more subsidies than the 20 million families with incomes of \$20,000 or less.

⁸⁴ Joint Committee on Taxation, “Estimates of Federal Tax Expenditures for Fiscal years 2008-2012”, Washington, D.C., 10/31, 2008 www.jct.gov/publications.html?func=startdown&id=1192, accessed 8/30/12 at 5:22 PM.

⁸⁵ Sard, Barbara and Fischer, Will, “Renters’ Tax Credit Would Promote Equity and Advance Balanced Housing Policy”, Center on Budget and Policy Priorities, Washington, D.C., July 25, 2012.

Funding for some of the largest nationwide housing programs are depicted in the table below:

HUD Programs	FY12 Enacted
Vouchers (TBRA)	18,914,000,000
Project Based	9,340,000,000
Public Housing Capital Funds	1,875,000,000
Public Housing Operating Funds	3,962,000,000
HOPWA (AIDS)	332,000,000
HOME	100,000,000
Homeless Assistance Grants	1,901,000,000
Section 202 Housing for the Elderly	375,000,000
Section 811 Housing for Persons with Disabilities	165,000,000

USDA Programs	FY12 Enacted
Section 514 Farm Labor Housing	21,000,000
Section 515 Rental Housing Direct	65,000,000
Section 516 Farm Labor Housing	7,000,000
Section 521 Rental Assistance	905,000,000

VA Programs	FY12 Enacted
VA Supportive Housing Vouchers	75,000,000
Grant and Per Diem Program	224,000,000

Note: most of these programs received decreases in funding between FY10 and FY12; for example, Public Housing operating dollars declined from \$4.617 billion in FY10 to \$3.962 billion in FY12, a 16.4% decrease. This appropriation provides approximately 80% of the amount public housing authorities need to operate their agencies.⁸⁶ The appropriation for Public Housing capital funds, \$1.875 billion, is even more mismatched to the need: HUD estimates that there is a backlog of \$26 billion in public housing capital needs⁸⁷ (witness the many abandoned units of public housing in Baltimore).

These programs, in total, assist 5 million households; yet, in 2009 HUD reported that 7.1 million U.S. households have “worst case housing needs”, i.e. they are low-income households paying more than 50% of their monthly income for rent, living in severely substandard housing, or meeting both criteria.⁸⁸ Thus in order to be adequate to the task, the HUD subsidized housing budget of \$26 billion would need to be increased to \$63 billion, rather than facing promised reductions (one Presidential candidate has suggested that he would eliminate HUD).

⁸⁶ New York City Housing Authority, “Five Year Operating Plan: Calendar Years 2012-2016”, www.nyc.gov/html/.../Five_Year_Operating_Plan_2012_2016.pdf, accessed 9/24/12 at 4:11PM.

⁸⁷ Rice, Douglas, “Senate Funding Bill Improves on President’s Budget Request for Rental Assistance”, Center on Budget and Policy Priorities, May 2012.

⁸⁸ Steffen, Barry L., Fudge, Keith, Martin, Marge, Souza, Maria Teresa, Vandenbroucke, David, Yao, Yung Gann David “Worst Case Housing Needs 2009: A Report to Congress”, HUD, 2011.

Health Care Policies and Programs

The four major health care programs operated by the Federal government are Medicaid, Medicare, VA Health Care, and the plethora of programs funded through the Health Resources and Services Administration of the Department of Health and Human Services:

- Medicaid, established in 1965, is a health care program designed to serve low-income families with dependent children, individuals with severe disabilities, and nursing home residents. With 62,594,979 enrollees nationwide⁸⁹ and a FY2012 Federal budget allocation of \$269 billion⁹⁰, total spending is \$389 billion⁹¹ as States must match the Federal allocation – the Federal participation rate varies between 50% and 72%.⁹² In Maryland there are 862,385 beneficiaries and the State budget allocation is \$3.5 billion. In only nine States (and Maryland is not among them) can low-income adults receive full Medicaid coverage.⁹³
- Medicare, also established in 1965, is a health care program for individuals at least 65 years of age or who have received Social Security Disability Insurance payments for at least two years (curiously, these individuals are generally uninsured for their first two years of severe disability). The FY2012 budget for Medicare is \$475 billion to serve 49,435,610 beneficiaries nationally.⁹⁴
- The Health Resources and Services Administration [HRSA] of the Federal Department of Health and Human Services funds primary care programs including community, migrant, and homeless health centers, health centers in public housing, and school-based health centers. The FY2012 budget allocation for these programs is \$3.4 billion. HRSA also funds HIV/AIDS health-related services with an FY2012 budget allocation of \$2.3 billion.
- The FY2012 budget allocation for medical services provided by the Federal Department of Veterans Affairs is \$50.6 billion, including \$4.4 billion for direct medical care for homeless veterans.⁹⁵

The housing and health care programs described above are problematic in three fundamental ways:

- 1) These programs are designed and funded to serve only a portion of those in need. As noted above, at least 7.1 million low-income U.S. households needing rent subsidies are unable to secure them from HUD – indeed HUD serves only 41% of its targeted population. Nor are those receiving assistance always well served, witness the \$26 billion backlog in unfunded public housing repairs. Given the data in section I regarding the dangers of dilapidated housing, many current residents are at risk for falls, allergens, radon, carbon monoxide, and other health-related issues. The underfunding of Federal medical care programs is

At least 7.1 million low-income U.S. households needing rent subsidies are unable to secure them from HUD – indeed HUD serves only 41% of its targeted population.

⁸⁹ The Henry J. Kaiser Family Foundation, <http://www.statehealthfacts.org/comparecat.jsp?cat=4&rgn=22&rgn=1>, accessed 10/3/12 at 10:19PM.

⁹⁰ U.S. Department of Health and Human Services, “Advancing the Health, Safety, and Well-Being of Our People: The President’s FY2012 Budget”, <http://www.hhs.gov/about/hhsbudget.html#HHSBudgetingBriefandPerformanceHighlights>, accessed 9/25/12 at 9:43AM.

⁹¹ The Henry J. Kaiser Family Foundation, <http://www.statehealthfacts.org/comparemaptable.jsp?ind=290&cat=6>, accessed 9/25/12 at 9:54AM.

⁹² Federal Register Volume 75, Number 217 (Wednesday, November 10, 2010).

⁹³ “Where are States Today: Medicaid and CHIP Eligibility Levels for Children and Non-Disabled Adults”, Kaiser Commission on Medicaid and the Uninsured, July 2012, www.kff.org/medicaid/upload/7993-02.pdf, accessed 9/25/12 at 4:30 PM.

⁹⁴ Kaiser Family Foundation, op. cit.

⁹⁵ U. S. Department of Veterans Affairs, “FY 2013 President’s Budget”, February 13, 2012, www.va.gov/budget/docs/summary/Fy2013_Budget_Rollout.pdf.

similarly problematic. Despite spending \$744 billion on health services (\$864 billion including States' Medicaid contributions), millions of Americans have no health insurance and attenuated access to care.

2) Health is crucially dependent upon factors not addressed, or only partially addressed, by these programs. For example, a large body of research implicates inadequate incomes and income inequality in poor health outcomes.⁹⁶ Although rent subsidies ameliorate this problem to some extent, the magnitude of poverty⁹⁷ and income inequality⁹⁸ in the U.S. is so severe that a set of policies and programs to impact directly upon income and inequality ought to be implemented in order to improve health outcomes for the majority of the population.

Real Income Growth by Groups, 1993-2010				
	Average Income Real Growth	Top 1% Incomes Real Growth	Bottom 99% Incomes Real Growth	Growth or loss captured by top 1%
Full period 1993-2010	13.8%	58.0%	6.4%	52%
Clinton Expansion 1993-2000	31.5%	98.7%	20.3%	45%
Bush Expansion 2002-2007	16.1%	61.8%	6.8%	65%
Obama Recovery 2009-2010	2.3%	11.6%	0.2%	93%

Saez, Emmanuel and Piketty, Thomas, "Income Inequality in the United States, 1913-1998"⁹⁷

As can be observed in the table above, between 1993 and 2010, income disparities between the top 1% and the bottom 99% grew during each successive period; inequality in income growth, while high (45%) during the Clinton Administration, was even higher during the Bush Administration (65%) and astronomical during the first two years of the Obama Administration (93%). In the words of Kawachi and Kennedy, "the greater the gap between the incomes of the rich and poor, the worse the health status of citizens Beyond well-established determinants of well-being, such as access to affordable and effective health care, emerging evidence suggests that policymakers should pay attention to broader economic forces in order to improve the nation's health."⁹⁹

3) There is far too little collaboration and integration of housing and programs. This problem is highlighted in the monograph "Making Subsidized Rental Housing a Platform for Improved Health for

⁹⁶ cf. Wilkinson RG, Pickett KE. , "Income inequality and population health: a review and explanation of the evidence", *Social Science & Medicine*, 2006 Vol. 62, No. 7, pp. 1768-84; Kawachi, Ichiro, and Kennedy, Bruce, "Income Inequality and Health: Pathways and Mechanisms", *Health Services Research*, Vol. 34, No. 1, pp. 215-227; Kaplan, George, Pamuk, Elsie, Lynch, John, Cohen, Richard, and Balfour, Jennifer, "Inequality In Income And Mortality In The United States: Analysis Of Mortality And Potential Pathways", *British Medical Journal*, Vol. 312, No. 7037, pp. 999-1003.

⁹⁷ U.S. Census Bureau, Current Population Survey (CPS), 2012 "Annual Social and Economic Supplement", <http://www.census.gov/hhes/www/poverty/about/overview/index.html>, accessed 9/25/12, 11:16 AM.

⁹⁸ "Based on the Gini index, income inequality increased by 1.6 percent between 2010 and 2011; this represents the first time the Gini index has shown an annual increase since 1993, the earliest year available for comparable measures of income inequality. The Gini index was 0.477 in 2011. (The Gini index is a measure of household income inequality; zero represents perfect income equality and 1 perfect inequality.)", U.S. Census Bureau, "Income, Poverty and Health Insurance Coverage in the United States: 2011"; see also Saez, Emmanuel and Piketty, Thomas, "Income Inequality in the United States, 1913-1998", *Quarterly Journal of Economics*, Vol. 118, No. 1, pp. 1-39, updated to 2010, and Wolff, Richard, "Rising Income Inequality in the US: Divisive, Depressing, and Dangerous", <http://rdwolff.com/content/rising-income-inequality-us-divisive-depressing-and-dangerous>, accessed 9/25/12 at 12:15PM.

⁹⁹ Kawachi and Kennedy, op. cit., pp. 215, 224.

Vulnerable Populations” by Jill Khadduri and Gretchen Locke.¹⁰⁰ Recognizing that housing and health care programs are too infrequently coordinated to assist those most in need, these authors provided nine policy recommendations to enhance the effectiveness of these programs:

- *Target the Section 202 “Supportive Housing for the Elderly” projects to individuals with the greatest need and integrate it with other Federal and State programs such as the HHS Money Follows the Person Initiative (which supports community-based services for nursing home residents).*

- *Assure that HUD and USDA units with special adaptation actually are used for people with relevant disabilities.*

- *Target a larger proportion of subsidized housing to individuals who would benefit from supportive housing.* This recommendation is a version of the “queue-jumping” strategy popularized during the 1980s and 1990s: giving priority for public housing to homeless families, and thus permitting them to jump to the head of the queue. In cities where tens of thousands of households were on waiting lists, this queue-jumping strategy provided a significant advantage to those currently experiencing homelessness. Unfortunately, it accelerated homelessness for many households in untenable housing situations, whose wait for public housing was lengthened. Some advocates viewed queue-jumping as a distraction from the more fundamental issue: our nation lacks sufficient affordable housing.

- *Make HUD admission policies consistent with the Fair Housing Act, the Rehabilitation Act, and the Americans with Disabilities Act.* This recommendation illustrates a significant public policy contradiction: HUD and the U.S. Department of Justice have refused to enforce Federal legislation that prohibits discrimination in housing and emergency shelter against people with disabilities (especially physical disabilities, mental illness, and addictions). For example, the continuum of care (or coercion) model of homelessness services has permitted shelter and housing providers to require that tenants demonstrate sobriety, even though people suffering from alcoholism are a protected class under the Federal law.¹⁰¹ Similarly, a former Baltimore City Housing Commissioner referred to people experiencing homelessness as “garbage and human trash” and refused to admit them to public housing.

- *Target the Low Income Housing Tax Credit to projects for people who would benefit from supportive housing.*

- *Increase the availability of Medicaid and other targeted health programs for people who would benefit from supportive housing.* Unfortunately, full Medicaid coverage is available to low-income adults in only nine states. In Maryland, only primary care, addiction treatment, and mental health services are available through Medicaid to low-income adults. The recent Supreme Court decision in *National Federation Of Independent Business, et al. v Sebelius, Secretary Of Health And Human Services, et al.*¹⁰² [the Obamacare decision] struck down the requirement that States expand Medicaid to single non-disabled adults. Consequently, many vulnerable individuals who could benefit from supportive housing are likely to remain without health insurance, including Medicaid, and thus without the services required to maintain housing.

- *Increase access to Federally Qualified Health Centers [FQHCs] and expand reimbursable services.* This is an excellent suggestion; however, too many existing FQHCs do not provide the outreach, case

¹⁰⁰ Khadduri, Jill and Locke, Gretchen, “Making Subsidized Rental Housing a Platform for Improved Health for Vulnerable Populations”, Abt Associates, Bethesda, Maryland, 2012.

¹⁰¹ “No otherwise qualified handicapped individual in the United States, as defined in Section 7 (6), shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” – see 29 U.S.C. § 794e.

¹⁰² See <http://www.scribd.com/doc/98542275/Scotus-opinion-for-Justice-Roberts-majority-opinion>.

management, and integrated somatic and behavioral health services necessary for supportive housing to be effective. Without increased resources, including the expansion of Medicaid to this vulnerable population, many FQHCs are unable to afford such services.

- *Assure that Medicaid Managed Care Plans have incentives to serve people who would benefit from supportive housing.* Medicaid Managed Care Plans, frequently operated by for-profit companies, too often provide inaccessible or inappropriate services. For example, many individuals are assigned to primary care providers whom they have never met and whom they have no idea how to contact; “case management” is often delivered via telephone by individuals without sufficient knowledge of the unique needs of people experiencing homelessness or people with serious mental illness; frequently pre-authorization rules for services such as inpatient addiction detoxification are opaque and made by individuals without proper training. This, while incentives might be helpful, States and the Federal government ought to be scrutinizing the more fundamental issue of assuring access to mandatory services by Medicaid Managed Care Plans. If Medicaid was not providing a profit to these MCOs, more dollars would be able to fund health-related services.

- *Increase the availability of substance abuse services and the integration of behavioral health and somatic health.* Maryland has been working on this goal since at least 1996 with some advances and some retreats; for example, the implementation of Maryland’s Medicaid Managed Care severely restricted access to addiction treatment, not only for individuals with Medicaid, but for all people with addictions.¹⁰³ Currently the Maryland Department of Health and Mental Hygiene is designing and soon implementing a behavioral health integration project that should facilitate access to comprehensive services for vulnerable Marylanders.¹⁰⁴

Thus, although implementation of recommendations by Khadduri and Locke might very well improve the efficacy of supportive housing, access to subsidized housing would be reduced for other low-income individuals desperately in need of this assistance. In the absence of other assistance, these individuals would be forced into substandard and unhealthy housing, or might become homeless. In other cases, the recommendations tinker with ill-conceived policies (e.g. Medicaid Managed Care) that actually require thorough reconstruction.

Zoning

A powerful set of public policies that can impact upon health are zoning codes. These legally-enforceable documents assist cities and neighborhoods to plan for the built environment and availability of services in specific locations. Typically, zoning codes may establish the size and height of buildings, the availability of open land, and the uses to which buildings and land may be put, including the role of transportation.

Baltimore City’s current comprehensive zoning code has been in effect since 1971. Since that time many nonconforming uses have been discovered and the code has become overly complex, with hundreds of overlay districts, Urban Renewal Plans, and Planned Unit Developments. For more than twenty years homelessness advocates have sought to amend the code, which requires homeless shelters to undertake

¹⁰³ Between 1996 and 1999, the percentage of Medicaid participants with addiction diagnoses receiving treatment declined from 51% to 43% and the average units of service received per person plummeted from 55 to 31 - see Singer, Jeff and Lindamood, Kevin, “Crisis of Access II: Fewer Addiction Services Delivered through Managed Care: Medicaid Managed Care Weakens Public Addiction Treatment System”, *The Abell Report*, Vol. 13, No. 5, November/December 2000, pp. 1-12; see also Singer, Jeff and Szanton, Sarah, “Crisis of Access: How to Insure Treatment for Addiction Among Baltimore’s Poor in the Age of Managed Care”, *The Abell Report*, Vol. 12, No. 2, March/April 1999, pp. 1-12.

¹⁰⁴ <http://dhmh.maryland.gov/bhd/SitePages/integrationefforts.aspx>.

the same zoning process as nuclear facilities.¹⁰⁵

In 2008, the City began a process to develop a new comprehensive code, “Transform Baltimore.” Dr. Rachel Johnson Thornton and her colleagues at the Center for Child and Community Health Research of Johns Hopkins University, who identified zoning as “an urban planning tool that significantly influences the character of the neighborhoods in which people live, work, and play,” have sought to facilitate the development of healthy communities by impacting on use, form, and location.¹⁰⁶ The Center for Child and Community Health Research conducted a Health Impact Assessment and has made specific recommendations for “Transform Baltimore” that include preventing the concentration of off-premises alcohol sales outlets, environmental designs that promote pedestrian activity, the facilitation of healthy food stores and community gardens, and promoting community participation in the zoning process.¹⁰⁷ The Baltimore City Health Department is working to implement these recommendations, having developed compelling data that is being shared at community meetings to promote broad participation in the planning process. Opportunities still exist to impact upon the Baltimore Zoning Code, as implementing legislation is just being introduced into Baltimore City Council.

¹⁰⁵ Zoning Code of Baltimore City(As Last Amended By Ord. 12-051), Baltimore City Department Of Legislative Reference, 08/31/12, accessed at <http://www.baltimorecity.gov/Government/CityCharterCodes.aspx> on 9/125/12.

¹⁰⁶ Center for Child and Community Health Research, Johns Hopkins University, Baltimore City 2009-2010 “A Health Impact Assessment of the TransForm Baltimore Comprehensive Zoning Code Rewrite”, 2009-2010, p.5.

¹⁰⁷ *Ibid.*, pp. 7-9.

VI. Conclusion

“A comprehensive, coordinated approach to healthy homes will result in the greatest public health impact. Directing resources toward a single disease or condition rather than working to improve the overall housing environment is inefficient and does not address residents’ health and safety risks holistically.”

The Surgeon General’s Call to Action to Promote Healthy Homes

It is incontrovertible that health and housing are inextricably intertwined. Housing-related threats to health may be found in individual homes from specific physical or chemical exposures; specific biological exposures; the physical characteristics of the house; and social, economic, and cultural characteristics of housing. Neighborhood factors are equally as important: place matters with respect to safety, environmental quality, crowding, and access to services. The neighborhood profiles developed by the Baltimore City Health Department demonstrate the significance of place, as within the city life expectancy varies by more than twenty years depending upon the neighborhood in which one finds and secures a home. Of course homelessness entails the most drastic health/housing dynamic; individuals living on the streets have an average life expectancy of 42-52 years, far less than even residents of Baltimore’s most unhealthy neighborhoods.

Recommendations to improve the housing/health dynamic are legion. They generally entail assessing and managing risk by limiting exposures (e.g. to chemical and biological agents, insects and rodents, cracks and holes, even liquor stores and fast food outlets). For people living in dilapidated residences - or none at all - housing subsidies for safe and decent housing are important; in some cases, especially for vulnerable populations of people with disabilities, housing with supportive services may be essential to maintain tenancy. Implementing these recommendations certainly would improve health outcomes.

In 2009, the Surgeon General called for urgent action to improve the housing environment – and observed, however, that directing resources to distinct diseases or conditions was not an effective strategy. In his first goal, “Ensuring Healthy, Safe, Affordable, and Accessible Homes”, he submits that “[s]teps must be taken to eliminate disparities in housing conditions arising from social and economic disparities so that people in the United States from all walks of life, ages, and racial and ethnic backgrounds will share the opportunity to have homes that promote and protect health.”¹⁰⁸ Indeed, the evidence cited throughout this paper – and the far greater volume of evidence extant – leads inexorably to

In 2009, the Surgeon General insisted “[s]teps must be taken to eliminate disparities in housing conditions arising from social and economic disparities so that people in the United States from all walks of life, ages, and racial and ethnic backgrounds will share the opportunity to have homes that promote and protect health.”

¹⁰⁸ U.S. Department of Health and Human Services. “The Surgeon General’s Call to Action To Promote Healthy Homes”, Office of the Surgeon General, 2009, p. 43.

the same conclusion: although it is necessary to develop and implement programs addressing dampness, falls, radon, rodents, and respiratory problems, it is yet insufficient to do so.

We must strive for an adequate supply of safe and affordable housing for all Americans. The Congress declared this to be our national goal in the Preamble to the National Housing Act of 1949: “The Congress declares that the general welfare and security of the Nation and the health and living standards of its people require housing production and related community development sufficient to remedy the serious housing shortage, the elimination of substandard and other inadequate housing through the clearance of slums and blighted areas, and the realization as soon as feasible of the goal of a decent home and a suitable living environment for every American family, thus contributing to the development and redevelopment of communities and to the advancement of the growth, wealth, and security of the Nation.”¹⁰⁹

Of course the nation never realized that goal. In 1998, just two years after the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 broke a sixty year-old promise that families with dependent children could meet their basic needs, the Quality Housing and Work Responsibility Act of 1998 abolished the goal of decent housing for all. Perhaps during the current explosion of foreclosures, homelessness, and budget cutting, it is time to rededicate ourselves to that old verity: a decent home and a suitable living environment for every American family. Surely we should seek no less.

¹⁰⁹ 42 USC § 1441.

Appendix A

The Health Effects of Specific Housing-Related Exposures

Specific Physical or Chemical Exposures

Carbon Monoxide: 15,200 incidents of non-fatal carbon monoxide poisonings, resulting in 480 deaths annually, were recorded by the Centers for Disease Control between 2001 and 2003. 64.3% of these incidents occurred in homes that were not adequately ventilated or that had defective appliances.¹¹⁰ Graber, et al. (2007) observe that housing age and condition are crucial determinants of carbon monoxide poisoning; thus, impoverished individuals are at greater risk of carbon monoxide poisoning.¹¹¹

Drinking water: “Provision of safe water for drinking and personal hygiene, proper disposal of sewage, and facilities for safe food preparation and the absence of overcrowding are examples of how adequate housing can promote public health.”¹¹² In 2006, Colford et al. estimated that between 4.26 and 11.69 million people in the U.S. suffered from acute gastrointestinal illness as the result of drinking water.¹¹³ Inhabitants of housing without access to safe water are more likely to suffer from this illness; this is especially true for individuals in housing in which the utilities have been disconnected (often for non-payment), for those in rural areas without access to a public water supply, and for people experiencing homelessness.

Lead Exposure: The Centers for Disease Control and Prevention advises that the most important source of childhood lead exposure is lead paint in older houses that are deteriorating.¹¹⁴ This CDC report asserts that families with children under the age of six inhabit 4.2 million housing units with lead-based paint and that 1.2 million of those housing units have significant lead paint hazards.¹¹⁵

Enforcing lead exposure policies is, of course, important; Brown, et al. found that children residing in houses with limited enforcement of lead regulations were four times more likely to have elevated lead blood levels.¹¹⁶ Yet lead abatement after elevated blood levels are found is far less effective than assuring that children are never exposed to lead paint. Housing policies that meet this objective are a distant goal so long as the supply of safe and affordable housing remains far less than the need.

Radiation: The Committee on Health Risks of Exposure to Radiation found that between 1 in 10 and 1 in 7 of all lung-cancer deaths were caused by radon in the home. This is the equivalent of 15,400 to 21,800

¹¹⁰ M. Vajani et al., “Unintentional non-fire-related carbon monoxide exposures—United States, 2001–2003”, *Morbidity and Mortality Weekly Report*, Vol. 54, No. 2, pp. 36–9.

¹¹¹ Graber, Judith, Macdonald, Steven, Kass, Daniel, Smith, Andrew, and Anderson, Henry, “Carbon Monoxide: The Case for Environmental Public Health Surveillance”, *Public Health Reports*, Vol. 122, No. 2, pp. 138-144.

¹¹² Matte, T.D. and Jacobs, D.E., “Housing and health—current issues and implications for research and programs”, *Journal of Urban Health*, 2000, Vol. 77, pp. 7–25.

¹¹³ Colford, John, Roy, Sharon, Beach, Michael, Hightower, Allen, Shaw, Susan, and Wade, Timothy, “A review of household drinking water intervention trials and an approach to the estimation of endemic waterborne gastroenteritis in the United States”, *Journal of Water and Health*, 2006, Vol. 4, Suppl. 2, pp. 71–88.

¹¹⁴ Advisory Committee on Childhood Lead Poisoning Prevention, “Preventing Lead Exposure in Young Children: A Housing-Based Approach to Primary Prevention of Lead Poisoning”, CDC, Atlanta, 2004, p. 18.

¹¹⁵ *Ibid.*, p. 23.

¹¹⁶ Brown, M.J., et al., “Effectiveness of housing policies in reducing children’s lead exposure,” *American Journal of Public Health*, 2001, Vol. 91, pp. 621–4.

deaths.¹¹⁷ Radon exposure in homes can be limited through techniques that include soil suction, sealing, pressurization, heat recovery ventilators, and natural ventilation. These radon-reduction activities may be costly and beyond the reach of low-income individuals.

Specific Biological Exposures

Asthma: See page 6 above.

Dampness: Dampness has long been the scourge of housing for the poor. In *The Condition of the Working Class in England*, Frederick Engels provides pages of observations regarding the waterlogged basements in which many laborers were required to live during the 19th Century in cities throughout England. Gaskell (1833) confirms this problem: “Whole ranges of these houses are either totally undrained or only very partially unsoughed.” In his study *The Manufacturing Population of England: Its Moral, Social, and Physical Conditions, and the Changes Which Have Arisen From the Use of Steam Machinery*, Gaskell incorporates data from a cholera-related survey undertaken by the Special Board of Health in Manchester, finding that of 6,951 houses inspected, 1,435 (20.6%) were damp and 2,221 (31.9%) had no privies.¹¹⁸

More recent research describes the relationship between dampness in buildings and health. In a 2004 Swedish study of 14,077 children, dampness was associated with asthma, allergic symptoms, and airway infections.¹¹⁹ That same year, the U.S. Institute of Medicine released its report *Damp indoor spaces and health*, which concluded that “[d]amp indoor environments favor house dust mites and microbial growth, standing water supports cockroach and rodent infestation, and excessive moisture may initiate chemical emissions from building materials and furnishings” and found statistically significant associations between dampness and upper respiratory tract symptoms, cough, wheeze, and asthma.¹²⁰

Dust and Allergens: As previously noted, damp housing facilitates the growth of dust mites and cockroaches. A representative sample of homes evaluated by R.D. Cohn, et al. in the *Journal of Allergies and Clinical Immunology* found that 22% of U.S. homes had mouse allergens in levels associated with increased sensitization. These concentrations were observed primarily in high-rise apartments and mobile homes, older homes, and low-income homes.¹²¹ In a similar study, high cockroach allergen concentrations were found in 11% of U.S. living room floors and 13% of kitchen floors predominantly in high-rise apartments, urban settings, pre-1940 constructions, and households with incomes < \$20,000.¹²² Once again, poverty and dilapidated housing are found to contribute to poor health.

¹¹⁷ Committee on Health Risks of Exposure to Radiation, “Health effects of exposure to radon”, The National Academies Press, Washington, D.C., 1999.

¹¹⁸ Gaskell, P., *The Manufacturing Population of England: Its Moral, Social, and Physical Conditions, and the Changes Which Have Arisen From the Use of Steam Machinery*, London, Baldwin and Cradock, 1833, p. 134.

¹¹⁹ C-G. Bornehag, J. Sundell, and T. Sigsgaard, “Dampness in buildings and health (DBH): report from an ongoing epidemiological investigation on the association between indoor environmental factors and health effects among children in Sweden,” *Indoor Air*, 2004, Vol. 14, No. 7, pp. 59–66.

¹²⁰ Institute of Medicine, “Damp Indoor Spaces and Health”, The National Academies Press, Washington, D.C., 2004.

¹²¹ Cohn, R.D., Arbes, Samuel, Yin, Ming, Jaramillio, Renee, and Zeldin, Darryl, “National prevalence and exposure risk for mouse allergen in US households”, *Journal of Allergy and Clinical Immunology*, 2004, Vol. 113, Issue 6, pp. 1167-1171.

¹²² Cohn, R.D., Arbes, Samuel, Jaramillio, Renee, Reid, Laura, and Zeldin, Darryl, “National Prevalence and Exposure Risk for Cockroach Allergen in U.S. Households”, *Environmental Health Perspectives*, 2006, Vol. 114, No. 4, pp. 522-526.

Physical Characteristics of The House

Crowding: A plethora of studies relating to the relationship between crowding in housing and health have been published during the past twenty years. Unsurprisingly, crowding is generally found to be associated with the increased prevalence of contagious and infectious disease¹²³, including meningococcal disease¹²⁴ and childhood pneumonia¹²⁵; is related to poor mental health, poor social relationships in and outside the home, poor child care, and poor physical health¹²⁶; and correlates with difficulties at school, “learned helplessness”, hypertension, and “impaired parent-child interpersonal relationships.”¹²⁷

Falls: Unsafe or poorly designed housing can contribute to falls and injuries. The Surgeon General’s document on healthy homes notes that falls are the cause of 53.7% of accidental home injury deaths; 36%–45% of home injuries result from falls and lead to 4 million emergency room visits annually.¹²⁸ Barlow, et al. (1983) found that falls were a significant cause of accidental death children in urban areas. In their study, 77% of falls were accidental.¹²⁹ Runyan, et al. (2005) found that falls are especially hazardous to older individuals, serving as the leading cause of accidental death, 50% more common than poisoning, the second leading cause, and fire/burn injuries, the third leading cause.¹³⁰ Thus, homes in disrepair, often because the residents are too poor to mend them, are especially dangerous to children and older individuals.

Heat: Excessive heat has been found to lead to premature death, at least since 1980. In that year, more than 1,250 died in the U.S. from this cause.¹³¹ During a European heat wave in August 2003, 15,000 excess deaths were reported in France.¹³² The literature suggests that heat deaths result from the interaction between individual’s health and the ability to secure cool surroundings. The Environmental Protection Agency’s “Excessive Heat Events Guide” suggests that portable fans – the device most readily available to impoverished residents - may *increase* the deleterious effects of excessive heat and that air conditioning, generally beyond the reach of most low-income households, is the safe and effective solution.¹³³ During severe heat waves, some cities have opened cooling centers for residents without access to air conditioning; however, there have been instances of homeless individuals being turned away from these facilities (e.g. in Baltimore), a tragedy since excessive heat impacts most drastically on individuals experiencing homelessness.¹³⁴

¹²³ O’Connell, James, ed., *The Health Care of Homeless Persons: A Manual of Communicable Diseases & Common Problems in Shelters & on the Streets*, Boston Health Care for the Homeless Program, n.d.

¹²⁴ Baker, Michael, Anne McNicholas, Nicholas Garrett, Nicholas Jones, Joanna Stewart, Vivien Koberstein, and Diana Lennon, “Household Crowding: A Major Risk Factor for Epidemic Meningococcal Disease in Auckland Children”, *Pediatric Infectious Disease Journal*, 2000, Vol. 19, No. 10, pp. 983-990.

¹²⁵ Fonseca, Walter, Betty R. Kirkwood, Cesar G. Victora, Sandra C. Fuchs, Jose A. M. Flores, and Misago, Chizuru, “Risk Factors for Childhood Pneumonia Among the Urban Poor in Fortaleza, Brazil: A Case-Control Study” *Bulletin of the World Health Organization*, 1996, Vol. 74, No. 2, pp. 199-208.

¹²⁶ Gove, Walter, Hughes, Michael, and Galle, Omer, “Overcrowding in the Home: An Empirical Investigation of Its Possible Pathological Consequences”, *American Sociological Review*, February 1979, Vol. 44, No. 1, pp. 59-80.

¹²⁷ Evans, Gary, Lepore, Stephen, Sheiwal, and Palsane, M.N., “Chronic Residential Crowding and Children’s Well-Being: An Ecological Perspective”, *Child Development*, Vol. 69, No. 6, pp. 1514-1523.

¹²⁸ U.S. Department of Health and Human Services, op. cit., p. 11.

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Homeless Persons Representation Project
201 N. Charles Street, Suite 1104
Baltimore, MD 21201
www.hprplaw.org

Health Care for the Homeless
421 Fallsway
Baltimore, MD 21202
www.hchmd.org