



Safe, stable, and affordable housing can be a platform for better health outcomes. Station Center Family Housing in Union City, California, offers 157 affordable units, green design, walkability, and onsite recreational opportunities and services for residents.

*Bruce Damonte/David Baker Architects*

## In This Issue

1 Leveraging the Health-Housing Nexus

13 Smoke-Free Public Housing: Research and Implementation

19 Financing Effective Housing Interventions With Pay for Success

## Leveraging the Health-Housing Nexus

A well-established and growing body of research shows that social and economic factors substantially influence individual health. According to one estimate, these nonmedical factors can account for up to 40 percent of all health outcomes.<sup>1</sup> Defined by the World Health Organization as “the circumstances in which people are born, grow up, live, work, and age, and the systems put in place to deal with illness,” many of the social determinants of health relate directly or indirectly

to housing.<sup>2</sup> Housing that is expensive, overcrowded, in poor physical condition, or located in a hazardous neighborhood environment can lead to negative health outcomes. Conversely, safe, stable, and affordable housing in an opportunity-rich neighborhood with access to health services can serve as a platform for improved health outcomes. Housing with supportive services and home and community-based services (HCBS) can be especially effective for improving health and

CONTINUED ON PAGE 3



## Message from the Assistant Secretary

The federal government's recognition of the connection between housing and health predates HUD's existence as an agency. The United States Housing Act of 1937 created the United States Housing Authority within the U.S. Department of Interior with a mission "to remedy the unsafe and insanitary housing conditions and the acute shortage of decent, safe, and sanitary dwellings for families of low income, in rural or urban communities, that are injurious to the health, safety, and morals of the citizens of the Nation."

When HUD became a cabinet-level agency in 1965, improving health and sanitary housing conditions was part of its mission. Over the past five decades, the agency has made great progress in reducing the number of Americans living in substandard housing, and HUD's Office of Healthy Homes and Lead Hazard Control supports a wide range of

research and grantmaking to promote health and reduce lead-based paint and other household hazards — the office's great work can be seen throughout this issue.

In the Office of Policy Development and Research (PD&R), our evaluation of the Moving to Opportunity for Fair Housing (MTO) demonstration has been a landmark case in using research to better understand the links connecting housing and neighborhoods with health. MTO was a random assignment study designed to help very low-income families with children in public housing or Section 8 project-based housing in neighborhoods with extremely high poverty rates relocate to "opportunity neighborhoods" with vouchers and additional housing counseling services. Researchers found that 10 to 15 years after moving, adult MTO participants in the treatment group generally lived in better neighborhoods, had a lower prevalence of extreme obesity and diabetes, and had fewer self-reported physical limitations than did those in the control groups, although youth in the treatment group did not show significantly different outcomes in physical health measures. Compared with the control groups, adults in the treatment group had significantly lower levels of psychological distress, anxiety, and depression, and girls in the treatment group experienced significant positive effects on a range of mental health measures. Boys, however, fared worse on several mental health measures, including a higher prevalence of posttraumatic stress disorder.

The MTO demonstration not only taught us critical information about neighborhood mobility that informs HUD's policies, but it also set a precedent that we should consider health outcomes whenever we do research. In the years following the report's release, PD&R has integrated health measures into a wide range of projects and datasets.

To expand our ability to integrate health measures into housing work, HUD has pursued several data matching projects. A particularly fruitful partnership is our recently announced linked data product with the National Center for Health Statistics (NCHS) at the U.S. Department of Health and Human Services. This NCHS-HUD data matching analysis connects data from the National Health Interview Survey and the National Health and Nutrition Examination Survey to HUD's administrative records from its three largest housing assistance programs, which will help researchers explore interactions between housing and health and better understand the social determinants that affect health outcomes. This collaboration took a great deal of staff time and skill and will serve as a model for future efforts to integrate HUD's data with other sources to allow more comprehensive evaluation.

Matched administrative data will be used as part of PD&R's evaluation of the Supportive Services Demonstration for Elderly Households in HUD-Assisted Multifamily Housing Program, a recently announced and very timely topic. These grants make funding available for supportive services in Section 202 multifamily (and other federally assisted) senior housing to examine how a supportive services model can affect the ability to age in place, the transition to institutional care, and the health outcomes and health care utilization of assisted seniors. The supportive services model that will be tested in the demonstration includes a full-time enhanced service coordinator and a part-time, onsite wellness nurse. The evaluation of this demonstration will further our understanding of best practices for assisting the aging at a time when the proportion of senior Americans is growing rapidly.

These are just a few examples of the body of work that PD&R, and HUD as a whole, is building to show the critical connection between housing and health.

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

# Editor's Note

*Evidence Matters* has always been especially interested in the intersection between housing and critical outcomes such as education, public safety, and economic opportunity. As research from the How Housing Matters initiative has shown, one of the most important of these intersections is with health; stable, safe housing is essential to the health outcomes of all people, and its absence can be particularly damaging to children, the elderly, low-income families, and other vulnerable populations. This issue addresses some of the ways in which the links between health and housing are driving policymakers at all levels to develop new strategies to better serve Americans.

The lead article, “Leveraging the Health-Housing Nexus,” discusses the many connections between housing and health proven by research as well as how federal policy is aligning programs and funding in both areas to improve health outcomes. The Research Spotlight piece, “Smoke-Free Public Housing: Research and Implementation,” looks at the research basis underpinning a proposed HUD rule to eliminate smoking in all public housing units. Finally, the In Practice article, “Financing Effective Housing Interventions With Pay for Success,” discusses several examples of interventions that aim to improve housing stability and health using the Pay for Success model, in which the organization providing services is paid only if it achieves positive outcomes.

We hope this edition of *Evidence Matters* provides a helpful overview of this important topic. Our next issue will focus on housing finance and credit. Please provide feedback on any of our issues at [www.huduser.gov/forums](http://www.huduser.gov/forums).

— Rachele Levitt, *Director of Research Utilization Division*

CONTINUED FROM PAGE 1

## Highlights

- Housing aspects, ranging from physical quality to neighborhood conditions, affect health in multiple ways, and research has established links between housing and a range of health outcomes.
- Targeted interventions at the nexus of health and housing, such as addressing asthma triggers and providing supportive housing to those experiencing homelessness, can improve health outcomes while reducing long-term healthcare expenditures.
- The Patient Protection and Affordable Care Act has created new opportunities to combine housing and health funds and test new coordinated models of care.

reducing the number of high-cost visits to emergency departments for health services as well as reducing the need for institutional care among seniors and people with disabilities, including those experiencing chronic homelessness. Recent changes in healthcare policy, many of them associated with the Patient Protection and Affordable Care Act (ACA), have opened up new opportunities to use housing as a platform to achieve desirable health and fiscal outcomes, although some challenges remain.

## The Housing Determinants of Health

Various aspects of housing, ranging from the physical quality of a home to the conditions of the surrounding neighborhood, affect residents' health. Among the social determinants of health, housing is a key lever.<sup>3</sup> A robust body of research has established links between health and housing. For example, Coley et al. find that the physical quality of housing is a strong predictor of emotional and behavioral problems

for low-income children and adolescents, and poor conditions such as the presence of lead, mold, pests, and inadequate heating or cooling adversely affect physical health.<sup>4</sup> Environmental conditions such as clutter, loose rugs, electrical cords, and the absence of railings and grab bars can increase the risk of falls, especially for older people.<sup>5</sup> Although the physical quality of the nation's housing stock has improved substantially over the past several decades, a small but significant stock of severely inadequate housing remains, affecting approximately a half-million households.<sup>6</sup> Physically inadequate housing disproportionately affects poor and minority children.<sup>7</sup>

A lack of affordable housing stock contributes to overcrowding, housing instability, and homelessness.<sup>8</sup> A lack of privacy and control, noise, overstimulation, and other conditions related to overcrowding can cause psychological distress. In 2012, 14 percent of children lived in overcrowded conditions. As with inadequate physical conditions, poor and minority children are disproportionately affected



Brian Rose

Lower housing cost burdens can give families greater flexibility to spend on healthy food and health services. Armstrong Townhomes, developed by BRIDGE Housing, offers 124 housing units in the high-cost housing market of San Francisco.

by overcrowded housing.<sup>9</sup> Increased stress and a lack of adequate sleep can negatively affect mental and behavioral health.<sup>10</sup> Overcrowded housing may also increase the transmission of infectious diseases.<sup>11</sup> An insufficient supply of affordable housing limits residents' ability to live in neighborhoods with beneficial health effects and limits the stock available for conversion to permanent supportive housing. The lack of affordable housing that meets the needs of people with disabilities in community settings, in particular, restricts fulfillment of the *Olmstead* mandate — a 1999 Supreme Court decision that requires public entities to provide the least restrictive care settings for persons with disabilities.<sup>12</sup> Homelessness causes new physical and mental health problems and makes existing problems worse. In addition to stress, living on the street or in shelters can increase exposure to communicable diseases, malnutrition, and harmful weather conditions and make accessing or managing medicine difficult.<sup>13</sup>

The relationship between housing affordability and health outcomes is complex. On one hand, high housing costs may reduce the amount of money available for residents to spend on food or health services. On the other hand, higher-priced housing in an area with beneficial neighborhood effects can improve residents' health.<sup>14</sup> Research shows that high-quality neighborhoods reduce residents' exposure to environmental toxins and stressors such as crime. High-quality neighborhoods can also offer better access to health-related resources such as services, healthy food, medicine, and recreational opportunities.<sup>15</sup>

### The Housing-Health Opportunity

Because the evidence supporting a connection between housing-related factors and resident health is so compelling, considerable potential exists to both improve health and reduce healthcare costs through targeted,

preventive, and low-cost care interventions at the nexus of health and housing. Home modifications such as installing grab bars in a shower, for example, can prevent falls, and interventions such as mold remediation reduce asthma. Evidence shows that these and similar investments that target housing-related social determinants of health not only improve health outcomes but also reduce health expenditures. The potential for gains is especially high for certain subpopulations — children, seniors, low-income households, individuals with disabilities, and individuals experiencing homelessness — particularly those with complex health and social issues who frequently use emergency departments and hospitals. This small, high-cost population has a disproportionate impact on public spending. For example, 5 percent of Medicaid-only enrollees accounted for nearly half of all spending for Medicaid-only enrollees each year from 2009 to

2011.<sup>16</sup> The opportunity to leverage strategic investments into public savings is apparent. As Khadduri and Locke write, “[t]he combination — and coordination — of housing, health care, and supportive services, if effectively delivered and well targeted, can help to achieve savings in health care expenditures, which are major drivers in federal deficit projections.”<sup>17</sup>

Within the literature connecting housing and health, several studies point to areas ripe for targeted interventions and investments to improve health for various subpopulations. Research shows, for example, that multicomponent home interventions aimed at addressing triggers such as mold, rodents, cockroaches, and dust mites are effective at reducing asthma symptoms among children and adolescents. In addition to improved health, successful asthma interventions promise to decrease the estimated 500,000 hospitalizations, 1.8 million emergency department visits, 12.3 million physician office visits, and 10.5 million school days missed each year, all of which amount to an estimated annual cost of \$56 billion in medical expenses and lost productivity.<sup>18</sup> Lead abatement has also proven to be an effective investment with considerable impact; nationwide, the number of children with lead poisoning dropped by approximately 75 percent from 1992 to 2012.<sup>19</sup> Despite this remarkable progress, there is still room for additional gains, particularly among low-income children. The American Healthy Homes Survey finds that an estimated 22 percent of homes have one or more lead-based paint hazards and that low-income households have a higher prevalence of such hazards.<sup>20</sup>

Research suggests that supportive housing is an effective intervention for individuals experiencing chronic homelessness. Several studies find evidence that Housing First and permanent supportive housing interventions for people experiencing homelessness reduce the use of expensive healthcare

services and promote better health. In a groundbreaking 2002 study, Culhane et al. report that a supportive housing intervention in New York City between 1989 and 1997 reduced the utilization of public services such as shelters, hospitals, and correctional facilities, with a corresponding savings of \$16,281 per housing unit at \$17,277 annually for a net cost of \$995.<sup>21</sup> A more recent study by Larimer et al. of a Housing First intervention in Seattle for individuals experiencing chronic homelessness and severe alcohol problems finds that the intervention, which offered participants housing and access to voluntary case management and onsite services, reduced alcohol consumption as well as total costs compared with control groups after 6 months, with monthly costs averaging \$2,449 per person.<sup>22</sup> Research has also found that case management, along with coordinated care, are effective in reducing hospitalizations and emergency department visits by chronically ill adults experiencing homelessness.<sup>23</sup> Many individuals experiencing chronic homelessness are also high-cost, frequent users of health and emergency services for whom supportive housing could be an important health intervention. Individuals experiencing homelessness are three times more likely than those in the general

population to use an emergency department at least once a year.<sup>24</sup>

For seniors and persons with disabilities in institutional long-term care, transitioning to home and community-based settings not only satisfies the *Olmstead* mandate but also is cost effective and the preference of many seniors. Research shows evidence of cost savings from using HCBS rather than institutional long-term care both on a per-person basis and, over the long term, at the state level.<sup>25</sup> Environmental modifications can reduce health risks for seniors aging in their homes. Studies show that environmental assessments and modifications coupled with education and followup reduces falls among older persons; interventions that also add exercise and vision management are particularly effective.<sup>26</sup> The Centers for Disease Control and Prevention estimates that in 2013, falls caused \$34 billion in direct medical costs, indicating that reducing falls could reap substantial savings.<sup>27</sup>

Finally, research has shown health benefits for low-income people who move from high-poverty to low-poverty neighborhoods. An evaluation of the Moving to Opportunity for Fair Housing Demonstration Program, for example, finds that women who moved into lower-poverty



A GHHI hazard reduction worker paints a new lead-free window frame. Although much progress has been made toward reducing instances of lead poisoning, an estimated 22 percent of homes have one or more lead-based paint hazards.

Photo by Andre Chung



April Saul, courtesy of the Camden Coalition of Healthcare Providers

Kenneth, the first of 50 new residents, looks on as movers prepare his unit at the Heights of Collingswood apartments in Collingswood, New Jersey. Led by the Camden Coalition of Healthcare Providers, Heights of Collingswood offers permanent housing and wraparound support services to individuals experiencing chronic homelessness with high-cost medical conditions.

neighborhoods were less likely to be obese and have diabetes, and women and girls who moved into lower-poverty neighborhoods were less likely to have psychological distress and depression compared with the control group.<sup>28</sup>

## The Changing Health Policy Landscape

Recent changes in health policy have created new avenues for capitalizing on the housing-health opportunity. Signed into law in 2010, the Patient Protection and Affordable Care Act (ACA) reshaped the context for investments and interventions that leverage housing as a platform for improved health and fiscal outcomes. ACA places renewed emphasis on preventive, integrated, and holistic care and on the social determinants of health. More specifically, ACA opens new opportunities at the intersection of health and housing by extending Medicaid coverage to previously ineligible individuals, expanding the types of providers eligible for Medicaid reimbursement, and authorizing new coordinated models of care under Medicaid and enhancing existing models.

ACA's emphasis on facilitating community integration and attention to holistic approaches that address the

social determinants of health builds on lessons learned from the Money Follows the Person (MFP) Demonstration program, Real Choice Systems Change Grants for Community Living program, and Section 1915(c) HCBS waivers. Researchers find that under MFP, states that employed housing specialists were more successful at transitioning people from institutional to community-based care than those that did not offer such services.<sup>29</sup> The Real Choice Systems Change program helped states forge and strengthen partnerships between Medicaid agencies and housing organizations to leverage non-Medicaid funding sources for supportive housing; after all, having the ability to offer additional supportive services means little if the supply of housing to be coupled with these services is insufficient.<sup>30</sup> Finally, Section 1915(c) HCBS waivers allowed states to experiment with offering medical and supportive services in home and community settings to people needing institutional-level care. Such waivers remain important for giving states the flexibility to experiment, but ACA has now designated several care models that no longer require waivers.<sup>31</sup>

*Expanded Coverage.* ACA has dramatically increased the number of individuals

eligible to receive Medicaid, expanding the number of opportunities to fund supportive housing. Before ACA, Medicaid eligibility included pregnant women and children under 6 years of age with household incomes below 138 percent of the federal poverty level, children 6 to 18 years of age at or below 100 percent of the federal poverty level through the Children's Health Insurance Program, and disabled adults 65 years of age and older. As interpreted by the U.S. Supreme Court, ACA allows states to voluntarily expand eligibility to all individuals under age 65 with household incomes at or below 133 percent of the federal poverty level.<sup>32</sup> As of September 1, 2015, 30 states and the District of Columbia have opted to expand Medicaid eligibility and 20 have not.<sup>33</sup> Notably, this expansion opens Medicaid eligibility to many of the approximately 83,000 individuals and 13,000 members of families with children experiencing chronic homelessness on a given night nationwide.<sup>34</sup>

*Newly Eligible Providers.* The Centers for Medicare & Medicaid Services (CMS) has also issued rule changes that authorize Medicaid reimbursement to nonmedical providers of services recommended by doctors or other licensed practitioners (previously, only the doctors or licensed practitioners themselves could be reimbursed for providing services). The rule change is aimed at encouraging patients to use preventive services. CMS characterizes the change as "another tool for states to leverage in ensuring robust provision of services designed to assist beneficiaries in maintaining a healthy lifestyle and avoiding unnecessary healthcare costs."<sup>35</sup> Janet Viveiros of the National Housing Conference writes that although the rule change does not authorize activities such as environmental abatement, it does "[open] up more opportunity for activities that address hazards in homes through assessments of asthma and lead poisoning risk in individual homes and the provision of educational materials to families about risks, treatments, and remediation options."<sup>36</sup>

*New Incentives and Requirements.* ACA introduces incentives and penalties that encourage healthcare providers to attend to the social determinants of health. The Hospital Readmissions Reduction Program, for example, reduces payments to hospitals with excess readmissions of patients within 30 days of discharge for designated conditions.<sup>37</sup> Unstable housing is one of many factors that increase the risk of readmission, which motivates hospitals to work with supportive housing providers.<sup>38</sup> Under ACA, tax-exempt nonprofit hospitals are required to conduct a community health needs assessment every three years and adopt an annually updated implementation strategy that addresses barriers to care and community health. The regulations governing community health needs assessments encourage collaboration between a community's hospitals and public health agencies, both in preparing the assessment and in planning its implementation.<sup>39</sup> The

regulations direct hospitals to “address social, behavioral, and environmental factors that influence health in the community.”<sup>40</sup> Nonprofit hospitals are also required to conduct community benefit activities. The Catholic Health Association of the United States, the Association of American Medical Colleges, and the American Hospital Association are pressing the Internal Revenue Service to recognize housing as a community benefit activity, arguing that “[i]t has been demonstrated that providing access to safe, quality and affordable housing can have a greater impact on the health of a community than more traditional clinical modalities.”<sup>41</sup>

*Newly Authorized Housing-Related Activities.* ACA has allowed Medicaid greater flexibility to cover supportive services that could be coupled with housing. CMS issued guidance to clarify which housing-related services can be reimbursed for individuals with disabilities,

older adults who need long-term services and supports, and those experiencing chronic homelessness. The authorized activities fall into three general categories: individual housing transition services (tenant screening, support to address tenancy barriers, assistance with housing searches and applications, move-in assistance), individual housing and tenancy-sustaining services (coaching, training, support, and interventions to maintain tenancy), and state-level collaborative activities related to housing (state agencies partnering with and providing data to housing agencies to plan for housing opportunities for Medicaid populations).<sup>42</sup>

*New Care Models and Initiatives.* ACA endorses and encourages models of care that emphasize holistic, preventive measures that address the social determinants of health. Some of these models have the potential to incorporate housing-related activities or provide



Domus Development

Garden Village in Sacramento, California, is the first property in the nation built under HUD's Section 811 Project Rental Assistance Program. Section 811 provides funding to develop and subsidize rental housing with access to supportive services for very low- and extremely low-income adults with disabilities.

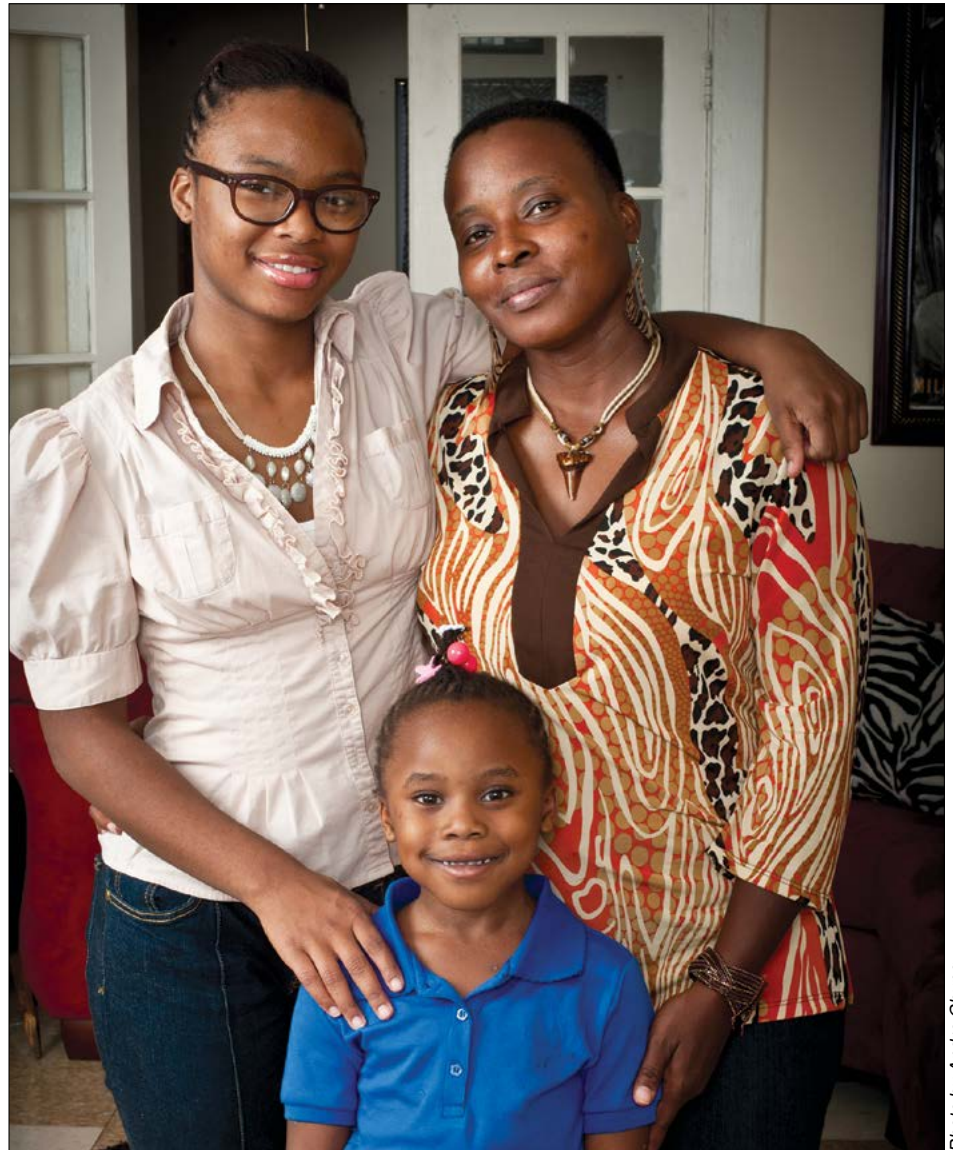
the services of a supportive housing unit or building. Among these new or enhanced models and initiatives are Accountable Care Organizations (ACOs), health homes, community benefit requirements and community health needs assessments for hospitals, the Community First Choice (CFC) Option, and the HCBS State Plan Option.<sup>43</sup> HUD's Section 811 Project Rental Assistance Demonstration program, authorized by the Frank Melville Supportive Housing Investment Act of 2010, also creates opportunities for collaboration to expand the supply of supportive housing.

The ACA recognized ACOs for Medicare patients and authorized a pediatric ACO demonstration for patients participating in Medicaid and the Children's Health Insurance Program. Several states have begun experimenting with ACOs for Medicaid populations. ACOs are voluntary networks of providers that coordinate care from various providers and share the risk and savings associated with the total cost of care for their patient population. Coordination breaks down silos of provider types and reduces the duplication of services and expenditures. ACOs use metrics to evaluate the quality of patient care and receive bonuses for meeting quality standards or meeting savings benchmarks.<sup>44</sup> The 12 states with Medicaid ACOs have used a variety of payment systems. Although all Medicaid ACO-model programs have the same basic structure, they are known by other names in some states; for example, they are called Coordinated Care Organizations in Oregon and Regional Care Collaborative Organizations in Colorado.<sup>45</sup> Viveiros suggests that ACOs have a strong incentive to partner with organizations that can address the social determinants of health such as housing providers, which can offer nonmedical services such as hospital discharge planning and can help residents enroll in Medicaid or an ACO.<sup>46</sup>

Like ACOs, health homes involve one or more healthcare providers or a managed care organization that will coordinate care for an individual, including referrals

to social services. Health homes, however, are designed specifically for people with chronic illnesses, and states can choose to target specific subpopulations. Target populations must meet at least one of three eligibility requirements: having a serious mental illness, having two or more chronic conditions, or having one chronic condition and being at risk of a second. Wisconsin, for example, chose to use health homes in four counties to serve individuals with HIV/AIDS who either have one other chronic condition or are at risk of another.<sup>47</sup> CMS increased the Federal Medical Assistance Percentages (the rates used to calculate matching funds) for the first two years of the program to encourage states to adopt the model. Health homes do not have to be offered

statewide. The 15 states that had health homes in place as of August 2014 vary in the populations they target and in their payment systems, but their programs have generally included people with mental illness and have used a per-member, per-month rate.<sup>48</sup> As with other Medicaid programs, funding for health homes cannot be used directly for housing, but the target populations are likely to overlap with those served by affordable housing programs. The opportunity exists for health home providers to partner with other organizations for activities such as enrollment outreach and referrals to housing providers.<sup>49</sup> States can decide what types of providers can serve as a health home (such as community mental health centers and physicians' offices). The National



GHHI works to improve health by facilitating collaborative efforts to identify and remediate home health hazards.

Photo by Andre Chung



Alliance to End Homelessness points out that behavioral health agencies that already fund supportive housing could integrate health homes into their operations, leveraging their experience with and connection to supportive housing to benefit individuals with serious mental illness or chronic conditions who are experiencing homelessness.<sup>50</sup>

Five states to date have received approval to offer a Community First Choice (CFC) Option in their state plans. The CFC Option, authorized by ACA and added to the Social Security Act as Section 1915(k), reimburses person-centered HCBS such as assistance with activities of daily living and health-related tasks. The option is part of an effort to rebalance Medicaid spending on long-term services and supports. States can also reimburse costs associated with transitioning out of institutional care, including security deposits and first month's rent. CFC Option plans must be offered statewide.<sup>51</sup> Oregon's K Plan provides assistance with daily living activities through an agency-provider model in which the state contracts with providers. Individuals eligible for nursing facility services and needing an institutional level of care as well as those who have an income at or below 150 percent of the federal poverty level who need an institutional level of care are eligible. In addition to personal assistance, the plan allows expenditures of up to \$5,000 per modification for environmental modifications that substitute for human assistance and that are related to the person-centered plan; the plan will also allow expenditures for transition costs, including first month's rent and utilities.<sup>52</sup>

Under the 1915(i) HCBS State Plan Option, states can choose to target a specific population — a group with either certain risk factors or a particular disease.<sup>53</sup> The state of Montana, for example, opted to target HCBS benefits to youth with a serious emotional disturbance who are also eligible for Medicaid. The program provides mental health services in a community setting for youth who might otherwise

be placed in a Psychiatric Residential Treatment Facility, inpatient hospital, or therapeutic group home.<sup>54</sup>

HUD's Section 811 Project Rental Assistance Demonstration program likewise seeks to expand opportunities for individuals to receive needed care outside of costly institutional settings. The program leverages affordable housing resources such as low-income housing tax credits to increase the supply of supportive housing units. HUD awards funds to state housing agencies that then collaborate with state health agencies to create supportive housing.<sup>55</sup> The first property in the nation to implement Section 811 Project Rental Assistance was Garden Village in Sacramento, California. Through a collaborative effort among the state's Housing Finance Agency, Department of Housing and Community Development, Department of Health Care Services, Department of Developmental Services, and Tax Credit Allocation Committee, along with local partner Domus Development, Garden Village offers supportive housing units for 11 extremely low-income people with disabilities.<sup>56</sup> The residents were referred by California Community Transition coordinators or the Department of Developmental Services Regional Center to transition out of an institutional care setting.<sup>57</sup>

## Implementation

State health and housing agencies have a growing number of options and opportunities to meet the needs of residents, and they have considerable flexibility in choosing which programs to implement. Building on Minnesota's recent history of healthcare innovation, four Hennepin County organizations — the county's Human Services and Public Health Department, the Hennepin County Medical Center, Metropolitan Health Plan, and NorthPoint Health and Wellness Center — participate in an ACO called Hennepin Health. Hennepin Health integrates physical and mental health, social, and claims processing services for approximately

10,000 members. The ACO is the default assignment for Medicaid enrollees in the county who do not select an alternative health plan. Community health workers coordinate care and services that address the social determinants of health. Services include job placement supports, case management, and housing navigation.<sup>58</sup> Hennepin Health receives a per-member, per-month payment regardless of the services utilized by members as well as a share of any overall savings. As a result, the ACO has an incentive to avoid unnecessary and expensive care. Because the housing situation of many Hennepin Health members is precarious — 30 to 50 percent are homeless, living in a shelter, or experiencing other housing instability — Hennepin Health uses existing contracts that the county's Human Services and Public Health Department has with housing providers to give Hennepin Health members priority admission to supportive housing. The ACO also employs staff members to provide housing counseling and navigation services along with other social services that might affect members' ability to remain housed. Viveiros notes that not enough affordable housing is available to meet the needs of all Hennepin Health members.<sup>59</sup> The early results for Hennepin Health have been promising; emergency department and inpatient admissions decreased from the ACO's first to second years, and an overwhelming majority of enrollees indicated that they were satisfied with the quality of their care experience.<sup>60</sup>

In New York, the state's Medicaid Redesign Team has identified investment in supportive housing as a critical lever for improving housing and health outcomes as well as realizing Medicaid cost savings. The team recommended allocating funds for capital investment to create supportive housing units, operating expenses, rent subsidies, and supportive services with the aim of targeting patients with high and modifiable costs.<sup>61</sup> The state requested authorization to reinvest a share of projected Medicaid cost savings into supportive housing

capital and operating costs, but CMS rejected the proposal on the grounds that Medicaid is prohibited by law from paying for housing. New York has instead invested state funds to construct supportive housing units and subsidize rent. Jennifer Ho, HUD senior advisor for housing and services, says that the state misdirected its energies by asking CMS to do something it statutorily cannot do. Instead, Ho argues, state plans should focus on having Medicaid pay for all allowed services — a once-murky issue considerably clarified through the CMS informational bulletin delineating

paying for service coordination and other activities that Medicaid covers.<sup>63</sup> HUD, for example, pays more than \$400 million per year for services for individuals experiencing homelessness, a large portion of which could be paid for by Medicaid.<sup>64</sup> Managed care organizations' interest in addressing social determinants of health to improve members' health outcomes, says Bailey, will motivate them to ensure that Medicaid covers more of those services so that housing providers can be free to invest more in housing that ultimately will benefit the care organization's members.<sup>65</sup>

new opportunities. Even if Medicaid paid for all of the supportive services for which it is permitted to pay, the limited supply of affordable housing and the inadequacy of rental assistance will prevent stakeholders from providing enough supportive housing to meet the need. Currently, only about one in four income-eligible households receives federal rental assistance because of funding limitations, and similar shortfalls exist for the other population groups most likely to need housing with supports.<sup>67</sup> For example, in 2011 only 36 percent of income-eligible households aged 62 and over without children received rental assistance.<sup>68</sup> Despite the evidence that permanent supportive housing is a “proven, cost-effective solution to chronic homelessness,” the U.S. Interagency Council on Homelessness says that “[s]hortfalls in the most recent budget passed by Congress have forced us to move the national goal to end chronic homelessness from 2015 to 2017.”<sup>69</sup>

The traditional separation of housing and health policy presents a barrier to coordination. Institutions and interests are entrenched, and the systems are structured differently: Medicaid is administered at the state level, and housing is produced and administered by developers and public housing agencies, usually without coordination at the state level. Both systems are complex, making it difficult for housing providers to navigate Medicaid and vice versa.<sup>70</sup> Efforts to bridge these gaps, however, are emerging, as demonstrated by the Section 811 Project Rental Assistance Demonstration program's partnerships between state health and housing agencies and collaboration and communication among federal agencies.<sup>71</sup> National housing organizations and advocates face the added challenge of adhering to different sets of policies and rules for each state.<sup>72</sup> For example, as the Corporation for Supportive Housing helps housing providers determine whether or not they can be reimbursed for supportive services and, if so, become certified to bill Medicaid, it must make



Corporation for Supportive Housing

A new supportive housing resident accesses her unit for the first time at an apartment building in New Jersey designed to serve youth coming out of homelessness.

which housing-related activities can be covered — and maximizing federal Medicaid matching funds while also investing in housing through other funding streams.<sup>62</sup> Peggy Bailey, director of health systems integration for the Corporation for Supportive Housing, says that the health sector does not understand the extent to which housing providers fund services that could be paid for by Medicaid. Both state and federal governments, she argues, could stretch their non-Medicaid investments in supportive housing if freed from

## Challenges

A growing research base and expanding policy options have created new opportunities to leverage health and fiscal benefits from the nexus of housing and health, but significant challenges remain. Foremost among them, as Ho puts it, is that “[t]he budget environment is such that we’re not doing what we know works, and not doing anything at [a] scale that matches the need.”<sup>66</sup> Congress, state legislatures, and other stakeholders will need to commit more resources to fully capitalize on these

sure it is complying with state-specific regulations.

Although ACA offers many new opportunities, understanding and implementing it will be difficult, and the potential housing implications are just one aspect. Despite the solid evidence base showing that housing is a key determinant of health, getting and maintaining supportive housing as an administrative priority may prove difficult. ACA is still in the early stages of implementation, and states are just beginning to experiment with new models of care delivery and authorized housing-related activities. Already, however, major hurdles are apparent. First, as discussed above, the limited supplies of affordable housing and rental assistance will restrict efforts to use ACA programs to expand permanent supportive housing. Second, states may face challenges in their attempts to target high-cost, high-need individuals and enroll them in Medicaid. Adults experiencing chronic homelessness, for example, face barriers to enrollment and may require targeted outreach.<sup>73</sup> Housing agencies and other housing providers can assist through providing outreach, helping clients navigate the enrollment process, or by becoming certified so that they can enroll clients directly into Medicaid.<sup>74</sup> It may also be difficult to identify high-cost individuals before they incur substantial expenses — people who have high costs one year do not necessarily have similar needs the next year, and most people who experience homelessness do so only temporarily.<sup>75</sup> Bailey notes that, although evidence exists that housing stability reduces the use of health services, less is known about housing stability and specific health outcomes, with the exception of HIV/AIDS. In some cases, managed care providers have incentives based on particular health outcomes, and more research could investigate the impact of supportive housing on specific conditions such as diabetes or heart disease. Such research could shed light on which individuals would be most likely to benefit from

supportive housing.<sup>76</sup> And although many high-cost services are avoidable, the Medicaid and the rental assistance populations include those groups and individuals with the most persistent health disparities.<sup>77</sup> Finally, although most of the new models discussed above are available to states that do not expand Medicaid eligibility, the reach of such programs will be limited compared with states that have expanded eligibility.

## Conclusion

Investment in stable, affordable, healthy housing in safe neighborhoods with access to healthcare services and a variety of amenities promises improved health for residents of all types. Housing that adds supportive services for those who need them, particularly seniors and individuals with disabilities who are experiencing homelessness or who need institutional levels of care, also promises to substantially improve health outcomes. Addressing the social determinants of health that are related to housing — investing “upstream” to prevent and treat health issues before they become more serious — may substantially reduce public and private healthcare costs. Through its expansion of Medicaid eligibility and new models of healthcare service delivery and payment, ACA, along with concurrent changes in healthcare policy, creates numerous opportunities and incentives to pursue targeted investments that leverage housing as a platform for improved health and fiscal outcomes. Capitalizing on this opportunity will require collaboration among healthcare and housing providers, research to identify best practices, and a commitment of the resources needed to take proven models to scale. **EM**

<sup>1</sup> Deborah Bachrach, Helen Pfister, Kier Wallis, and Mindy Lipson. 2014. “Addressing Patients’ Social Needs: An Emerging Business Case for Provider Investment.” The Commonwealth Fund. See also: Alvin R. Tarlov. 1999. “Public Policy Frameworks for Improving Population Health,” *Annals of the New York Academy of Sciences* 896, 281–93.

<sup>2</sup> World Health Organization. “Social Determinants of Health: Key Concepts” ([www.who.int/social\\_determinants/thecommission/finalreport/key\\_concepts/en](http://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en)). Accessed 2 September 2015.

- <sup>3</sup> James Krieger and Donna L. Higgins. 2002. “Housing and Health: Time Again for Public Health Action,” *American Journal of Public Health* 92:5, 758.
- <sup>4</sup> Rebekah Levine Coley, Tama Leventhal, Alicia Doyle Lynch, and Melissa Kull. 2013. “Relations between Housing Characteristics and the Well-Being of Low-Income Children and Adolescents,” *Developmental Psychology* 49:9, 1775–85.
- <sup>5</sup> Mary E. Tinetti. 2003. “Preventing Falls in Elderly Persons,” *New England Journal of Medicine* 348:1, 42.
- <sup>6</sup> Barry L. Steffen, George R. Carter, Marge Martin, Danilo Pelletiere, David A. Vandenbroucke, and Yunn-Gann David Yao. 2015. *Worst Case Housing Needs: 2015 Report to Congress*. Office of Policy Development and Research, U.S. Department of Housing and Urban Development, 3.
- <sup>7</sup> U.S. Department of Housing and Urban Development. 2014. “Housing’s and Neighborhoods’ Role in Shaping Children’s Future,” *Evidence Matters* (Fall), 1.
- <sup>8</sup> Nabihah Maqbool, Janet Viveiros, and Mindy Ault. 2015. “The Impacts of Affordable Housing on Health: A Research Summary,” Center for Housing Policy, 1.
- <sup>9</sup> Claudia D. Solari and Robert D. Mare. 2012. “Housing Crowding Effects on Children’s Wellbeing,” *Social Science Research* 41:2, 464–76; Kids Count Data Center, Annie E. Casey Foundation. 2014. “Children Living in Crowded Housing” ([www.datacenter.kidscount.org/data/tables/67-children-living-in-crowded-housing#detailed/1/any/false/868,867,133,38,35/any/368,369](http://www.datacenter.kidscount.org/data/tables/67-children-living-in-crowded-housing#detailed/1/any/false/868,867,133,38,35/any/368,369)). Accessed 13 January 2016; Econometrica, Inc., Kevin S. Blake, Rebecca L. Kellerson, Aleksandra Simic, and ICF International. 2007. “Measuring Overcrowding in Housing,” U.S. Department of Housing and Urban Development.
- <sup>10</sup> Solari and Mare.
- <sup>11</sup> Wilder Research. 2007. “Homeless and near-homeless people on northern Minnesota Indian reservations,” 3.
- <sup>12</sup> “About *Olmstead*,” Americans with Disabilities Act website ([www.ada.gov/olmstead/olmstead\\_about.htm](http://www.ada.gov/olmstead/olmstead_about.htm)). Accessed 22 October 2015.
- <sup>13</sup> Margot B. Kushel, Sharon Perry, David Bangsberg, Richard Clark, and Andrew R. Moss. 2002. “Emergency Department Use Among the Homeless and Marginally Housed: Results From a Community-Based Study,” *American Journal of Public Health* 92:5, 778.
- <sup>14</sup> Maqbool et al., 2; Tama Leventhal and Sandra Newman. 2010. “Housing and Child Development,” *Children and Youth Services Review* 32:9, 1165–74.
- <sup>15</sup> Commission to Build a Healthier America. 2008. “Where We Live Matters for Our Health: Neighborhoods and Health,” Robert Wood Johnson Foundation.
- <sup>16</sup> U.S. Government Accountability Office. 2015. “Medicaid: A Small Share of Enrollees Consistently Accounted for a Large Share of Expenditures.”
- <sup>17</sup> Jill Khadduri and Gretchen Locke. 2012. “Making Subsidized Rental Housing a Platform for Improved Health for Vulnerable Populations,” Abt Associates.
- <sup>18</sup> Deidre D. Crocker, Stella Kinyota, Gema G. Dumitru, Colin B. Ligon, Elizabeth J. Herman, Jill M. Ferdinands, David P. Hopkins, Briana M. Lawrence, and Theresa A. Sipe. 2011. “Effectiveness of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity: A Community Guide Systematic Review,” *American Journal of Preventative Medicine* 41:2S1, S5–S32; Jack Meyer, Gaylee Morgan, and Mike Nardone. 2015. “Sustainable Funding and Business Case for GHHI Home Interventions for Asthma Patients,” Health Management Associates; Ruth Ann Norton and Brendan Wade Brown. 2014. “Green & Healthy Homes Initiative: Improving Health, Economic, and Social Outcomes Through Integrated Housing Interventions,” *Environmental Justice* 7:6, 151; American College of Allergy, Asthma & Immunology. 2012. “Asthma Results in Missed Sleep, School Days for Children” ([acaai.org/news/asthma-results-missed](http://acaai.org/news/asthma-results-missed)).

- sleep-school-days-children). Accessed 18 December 2015.
- <sup>19</sup> Peter Ashley. 2012. "HUD Working to Reduce Racial and Ethnic Asthma Disparities Among our Children," *The HUDdle*, 4 June. Accessed 15 October 2015.
- <sup>20</sup> U.S. Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control. 2011. "American Healthy Homes Survey: Lead and Arsenic Findings," 4.
- <sup>21</sup> Dennis P. Culhane, Stephen Metraux, and Trevor Hadley. 2002. "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing," *Housing Policy Debate* 13:1, 107.
- <sup>22</sup> Mary E. Larimer, Daniel K. Malone, Michelle D. Garner, David C. Atkins, Bonnie Burlingham, Heather S. Lonczak, Kenneth Tanzer, Joshua Ginzler, Seema L. Clifasefi, William G. Hobson, and G. Alan Marlatt. 2009. "Health Care and Public Service Use and Costs Before and After Provision of Housing for Chronically Homeless Persons With Severe Alcohol Problems," *Journal of the American Medical Association* 301:13, 1355-6.
- <sup>23</sup> Laura S. Sadowski, Romina A. Kee, Tyler J. VanderWeele, and David Buchanan. 2009. "Effect of a Housing and Case Management Program on Emergency Department Visits and Hospitalizations Among Chronically Ill Homeless Adults: A Randomized Trial," *Journal of the American Medical Association* 301:17, 1771-8.
- <sup>24</sup> Kushel et al., 778.
- <sup>25</sup> H. Stephen Kaye, Mitchell P. LaPlante, and Charlene Harrington. 2009. "Do Noninstitutional Long-Term Care Services Reduce Medicaid Spending?" *Health Affairs* 28:1, 263, 270.
- <sup>26</sup> Carla A. Chase, Kathryn Mann, Sarah Wasek, and Marian Arbesman. 2012. "Systematic Review of the Effect of Home Modification and Fall Prevention Programs on Falls and the Performance of Community-Dwelling Older Adults," *American Journal of Occupational Therapy* 66:3, 284.
- <sup>27</sup> Centers for Disease Control and Prevention. "Costs of Falls Among Older Adults" ([www.cdc.gov/homeandcommunityhealth/safety/falls/fallcost.html](http://www.cdc.gov/homeandcommunityhealth/safety/falls/fallcost.html)). Accessed 18 December 2015.
- <sup>28</sup> Lisa Sanbonmatsu, Jens Ludwig, Lawrence F. Katz, Lisa A. Gennetian, Greg J. Duncan, Ronald C. Kessler, Emma Adam, Thomas W. McDade, and Stacy Tessler Lindau. 2011. *Moving to Opportunity for Fair Housing Demonstration Program: Final Impacts Evaluation*. U.S. Department of Housing and Urban Development, Office of Policy Development and Research.
- <sup>29</sup> Debra J. Lipson, Christal Stone Valenzano, and Susan R. Williams. 2011. "What Determines Progress in State MFP Transition Programs?" Mathematica Policy Research, 7.
- <sup>30</sup> Matthew Kehn and Debra Lipson. 2014. "The Real Choice Systems Change Grant: Building Sustainable Partnerships for Housing — Final Report," Mathematica Policy Research.
- <sup>31</sup> Janet Viveiros. 2015. "Affordable Housing's Place in Health Care: Opportunities Created by the Affordable Care Act and Medicaid Reform," National Housing Conference, 3.
- <sup>32</sup> Viveiros 2015, 4-5; U.S. Interagency Council on Homelessness. "The Affordable Care Act's Role in Preventing and Ending Homelessness" ([www.usich.gov/tools-for-action/aca-fact-sheet](http://www.usich.gov/tools-for-action/aca-fact-sheet)). Accessed 19 October 2015.
- <sup>33</sup> Henry J. Kaiser Family Foundation. "Status of State Action on the Medicaid Expansion Decision" ([kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/](http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/)). Accessed 19 October 2015.
- <sup>34</sup> Jack Tsai, Robert A. Rosenheck, Dennis P. Culhane, and Samantha Artiga. 2013. "Medicaid Expansion: Chronically Homeless Adults Will Need Targeted Enrollment and Access to a Broad Range of Services," *Health Affairs* 32:9, 1553.
- <sup>35</sup> Cindy Mann. 2013. "Update on Preventative Services Initiatives," *CMCS Informational Bulletin* (27 November), 1-2.
- <sup>36</sup> Viveiros 2015, 9.
- <sup>37</sup> Centers for Medicare & Medicaid Services. "Readmissions Reduction Program" ([www.cms.gov/medicare/medicare-fee-for-service-payment/acuteinpatientpps/readmissions-reduction-program.html](http://www.cms.gov/medicare/medicare-fee-for-service-payment/acuteinpatientpps/readmissions-reduction-program.html)). Accessed 23 October 2015.
- <sup>38</sup> Collaborative Healthcare Strategies, Amy Boutwell, John Snow, James Maxwell, Angel Bourgojn, and Sarah Genetti. 2014. "Hospital Guide to Reducing Medicaid Readmissions," Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, 3.
- <sup>39</sup> Sara Rosenbaum. 2015. "Additional Requirements for Charitable Hospitals: Final Rules on Community Health Needs Assessments and Financial Assistance," *Health Affairs Blog* (27 January). Accessed 20 October 2015.
- <sup>40</sup> Department of the Treasury, Internal Revenue Service. "Additional Requirements for Charitable Hospitals: Community Health Needs Assessments for Charitable Hospitals; Requirement of a Section 4959 Excise Tax Return and Time for Filing Return," *Federal Register* 79:250, 79002.
- <sup>41</sup> Lisa Gilden, Janis M. Orłowski, and Melinda Reid Hatton. Email to Sunita Lough and Tamara Ripperda, Internal Revenue Service, 14 July 2015.
- <sup>42</sup> Vikki Wachino. 2015. "Coverage of Housing-Related Activities and Services for Individuals with Disabilities," *CMCS Informational Bulletin* (26 June).
- <sup>43</sup> Viveiros 2015, 5-10.
- <sup>44</sup> Kaiser Commission on Medicaid and the Uninsured. 2012. "Emerging Medicaid Accountable Care Organizations: The Role of Managed Care," Henry J. Kaiser Family Foundation, 1-3.
- <sup>45</sup> "Patient Centered Medical Homes (PCMH) and Accountable Care Organizations (ACO)," The Henry J. Kaiser Family Foundation website ([kff.org/medicaid/state-indicator/patient-centered-medical-homes-pcmh-and-accountable-care-organizations-aco/](http://kff.org/medicaid/state-indicator/patient-centered-medical-homes-pcmh-and-accountable-care-organizations-aco/)). Accessed 8 October 2015.
- <sup>46</sup> Viveiros 2015, 5.
- <sup>47</sup> Julia Paradise and Mike Nardone. 2014. "Medicaid Health Homes: A Profile of Newer Programs," Kaiser Commission on Medicaid and the Uninsured; 4, 15.
- <sup>48</sup> Paradise and Nardone, 4, 15; Viveiros 2015, 6.
- <sup>49</sup> Viveiros 2015, 6.
- <sup>50</sup> National Alliance to End Homelessness. 2012. "Medicaid Health Homes: Emerging Models and Implications for Solutions to Chronic Homelessness."
- <sup>51</sup> Kathleen Sebelius. 2014. "Report to Congress: Community First Choice," U.S. Department of Health and Human Services.
- <sup>52</sup> NORC. 2014. "Research Summary: ACA Section 2401, Community First Choice Option (Section 1915(k) of the Social Security Act; Oregon State Plan Amendment Summary," University of Chicago.
- <sup>53</sup> Centers for Medicare & Medicaid Services. "Home & Community-Based Services 1915(i)" ([www.medicaid.gov/medicaid-chip-program-information/by-topics/](http://www.medicaid.gov/medicaid-chip-program-information/by-topics/))
- long-term-services-and-supports/home-and-community-based-services/home-and-community-based-services-1915-i.html**). Accessed 30 September 2015.
- <sup>54</sup> Montana Department of Public Health and Human Services, Children's Mental Health Bureau. 2014. "1915(i) Home and Community Based Services State Plan Program for Youth with Serious Emotional Disturbance (SED) Policy Manual," 5.
- <sup>55</sup> U.S. Department of Housing and Urban Development. 2015. "Section 811 Project Rental Assistance (PRA) Program" ([www.hudexchange.info/programs/811-pra/](http://www.hudexchange.info/programs/811-pra/)). Accessed 1 October 2015.
- <sup>56</sup> U.S. Department of Housing and Urban Development. 2015. "Deputy Assistant Secretary for the Office of Multifamily Housing Programs Visits First 811 PRA Property" ([www.hudexchange.info/news/deputy-assistant-secretary-for-the-office-of-multifamily-housing-programs-visits-first-811-pra-property/](http://www.hudexchange.info/news/deputy-assistant-secretary-for-the-office-of-multifamily-housing-programs-visits-first-811-pra-property/)). Accessed 1 October 2015.
- <sup>57</sup> California Housing Finance Agency. 2015. "California First in Nation to House Disabled Residents through New HUD Funding: U.S. Department of Housing and Urban Development Official visited April 29," press release, 30 April.
- <sup>58</sup> Lynn A. Blewett and Ross A. Owen. "Accountable Care for the Poor and Underserved: Minnesota's Hennepin Health Model," *American Journal of Public Health* 105:4, 622-3; Janet Viveiros. 2015. "Addressing Housing as a Health Care Treatment," *Housing and Health: Innovations in the Field* (June); Jennifer N. Edwards. 2013. "Health Care Payment and Delivery Reform in Minnesota Medicaid," Commonwealth Fund.
- <sup>59</sup> Viveiros 2015. "Addressing Housing as a Health Care Treatment."
- <sup>60</sup> Blewett and Owen, 624.
- <sup>61</sup> Kelly M. Doran, Elizabeth J. Misa, and Nirav R. Shah. 2013. "Housing as Health Care — New York's Boundary-Crossing Experiment," *New England Journal of Medicine* 369:25, 2374-6.
- <sup>62</sup> Interview with Jennifer Ho, 23 October 2015.
- <sup>63</sup> Interview with Peggy Bailey, 26 October 2015.
- <sup>64</sup> Jennifer Ho. 2015. Speech delivered at "The Intersection of Health and Housing: Opportunities and Challenges," Centene and Alliance for Health Reform, Washington, DC, 7 August.
- <sup>65</sup> Interview with Peggy Bailey.
- <sup>66</sup> Ho 2015.
- <sup>67</sup> Center on Budget and Policy Priorities. "Policy Basics: Federal Rental Assistance" ([www.cbpp.org/research/housing/policy-basics-federal-rental-assistance](http://www.cbpp.org/research/housing/policy-basics-federal-rental-assistance)). Accessed 23 October 2015.
- <sup>68</sup> Joint Center for Housing Studies of Harvard University. 2014. "Housing America's Older Adults: Meeting the Needs of an Aging Population," 17.
- <sup>69</sup> U.S. Interagency Council on Homelessness. 2015. "The President's 2016 Budget: Fact Sheet on Homelessness Assistance," 2.
- <sup>70</sup> Interview with Jennifer Ho.
- <sup>71</sup> Interview with Jennifer Ho; Ho 2015.
- <sup>72</sup> Viveiros 2015. "Affordable Housing's Place in Health Care," 13.
- <sup>73</sup> Tsai et al., 1557.
- <sup>74</sup> Council of Large Public Housing Authorities and Corporation for Supportive Housing. 2014. "Opportunities for Health Partnerships through the Affordable Care Act."
- <sup>75</sup> Doran et al., 2375-6.
- <sup>76</sup> Interview with Peggy Bailey.
- <sup>77</sup> Interview with Jennifer Ho.

## Smoke-Free Public Housing: Research and Implementation

On November 12, 2015, HUD Secretary Julián Castro announced a proposed rule to require all public housing properties to become smoke-free indoors. “We have a responsibility to protect public housing residents from the harmful effects of secondhand smoke, especially the elderly and children who suffer from asthma and other respiratory diseases,” Secretary Castro said at a press conference with U.S. Surgeon General Vivek Murthy.<sup>1</sup> The proposed rule, when finalized, will require public housing agencies (PHAs) to implement a policy within 18 months that bans lit smoking products “in all living units, indoor common areas in public housing, and in PHA administrative office buildings” as well as outdoor areas within at least 25 feet of these buildings.<sup>2</sup> The policy, which applies to all public housing units except those in mixed-finance buildings, is intended to reduce PHA residents’ exposure to secondhand smoke and lower maintenance costs and the risk of fire.

More than 600 PHAs, with HUD’s encouragement, have already implemented smoke-free policies.<sup>3</sup> Although these PHAs represent between 200,000 and 300,000 public housing units, the national smoke-free rule will reach more than 700,000 additional units, including more than 775,000 children and “over 500,000 units inhabited by elderly households or households with a non-elderly person with disabilities.”<sup>4</sup> A regulatory impact analysis performed by HUD’s Office of Policy Development and Research found that approximately 1.2 million nonsmoking public housing residents are still exposed to secondhand smoke, including roughly 60,000

- HUD’s proposed rule to ban smoking in all public housing properties aims to reduce residents’ exposure to secondhand smoke while also reducing building maintenance costs and fire risks.
- There is consensus on the health dangers of secondhand smoke, especially to children. Because secondhand smoke moves between units in multifamily buildings, only the elimination of smoking in these buildings fully protects nonsmokers.
- Researchers estimate that the proposed rule will reduce healthcare costs related to secondhand smoke among nonsmoking residents and generate other cost savings for public housing agencies. Although the proposed rule will have costs to smokers in time and inconvenience, it may also reduce the prevalence of tobacco use by smokers.
- Evicting residents who repeatedly break nonsmoking rules is an action of last resort; public housing agencies with existing bans usually remedy offenses via warnings, referrals to smoking cessation programs, and other resources.

children under age 5 living in units where someone smokes.<sup>5</sup>

Considerable research on the dangers of smoking and exposure to secondhand smoke supports the need to protect residents from involuntary exposure to tobacco smoke. The proposed rule, however, will present a complex set of potential costs and benefits for PHAs and their residents. This article examines the research into the costs and benefits of eliminating smoking in public housing properties, considering the empirical evidence in favor of indoor smoking bans from the public health and policy perspectives.

### A Growing Response to Evidence on Secondhand Smoke

HUD’s proposed indoor smoke-free public housing rule can best be thought of as a formalization and extension of the precedent set by local smoke-free policies and smoking-cessation programs. More than 600 of the nation’s approximately 3,300 PHAs have already made at least one of their buildings smoke-free.<sup>6</sup> These provisions have spread rapidly: in 2005, only 16 PHAs had smoke-free measures in place, but between 2005 and 2011, 214 PHAs adopted them in some form — for example, by prohibiting indoor smoking outright,



More than 600 PHAs nationwide have adopted smoke-free policies for some or all of their buildings.



Sammy Mayo Jr.

U.S. Surgeon General Vivek Murthy and HUD Secretary Julián Castro participate in a White House convening on smoke-free public housing.

for new residents, or in certain buildings.<sup>7</sup> Efforts to institute smoke-free rules escalated after HUD's Office of Public and Indian Housing issued a notice in 2009 urging PHAs "to institute non-smoking policies in some or all of their public housing units,"<sup>8</sup> a statement that was extended to subsidized multifamily properties in 2010 and renewed in 2012. HUD also published several guides for both residents and administrators of public housing that provided resources and suggestions for successful implementation.<sup>9</sup> In addition to making information available, HUD issued a notice in the *Federal Register* in 2012 soliciting feedback about adopting smoke-free policies in PHAs and multifamily housing.<sup>10</sup> Some of the responses HUD received are collected in "Change Is in the Air," a comprehensive action guide for implementing smoke-free housing policies that was published in 2014.<sup>11</sup>

Attempts to curtail smoking in public and subsidized housing are concurrent with the nationwide growth in voluntary, self-imposed in-home smoking

bans. The Centers for Disease Control and Prevention (CDC) estimates that the number of U.S. households with smoke-free rules "increased from 43 percent in 1992–1993 to 83 percent in 2010–2011, including an increase among households with at least one adult smoker, implying that the smokers in these households agree to smoke outside of the home."<sup>12</sup> HUD's proposed rule, then, aligns with formal and informal measures to curtail smoking in private and public spaces, building on these existing efforts while expanding their reach to share best practices and extend the benefits of smoke-free homes to a larger group of residents.

HUD's efforts to first reduce and eventually ban indoor smoking escalated in the wake of a 2006 Surgeon General's report declaring that "there is no risk-free level of exposure to secondhand smoke."<sup>13</sup> Secondhand smoke itself contains more than 7,000 chemicals; 250 of them, including ammonia and carbon monoxide, are known to be harmful, and nearly 70 are carcinogens.<sup>14</sup> Living with a smoker can increase a nonsmoker's chances of developing lung cancer by

20 to 30 percent, and approximately 7,300 nonsmokers in the United States die each year of lung cancer caused by passive exposure to cigarette smoke.<sup>15</sup> The cardiovascular effects of secondhand smoke are even more far-reaching; according to CDC estimates, secondhand smoke increases nonsmokers' risk of heart disease by 25 to 30 percent and stroke risk by 20 to 30 percent, resulting in more than 34,000 premature deaths from heart disease and 8,000 deaths from stroke annually.<sup>16</sup> These are not just long-term risks — the CDC explains that "even brief exposure to secondhand smoke can damage the lining of blood vessels and cause your blood vessels to become stickier. These changes can cause a deadly heart attack," especially in people who already have heart disease.<sup>17</sup>

Infants and children are also vulnerable to serious health issues caused by secondhand smoke. According to the CDC, pre- or postnatal exposure to secondhand smoke increases the risk of sudden infant death syndrome because "chemicals in secondhand smoke appear to affect the brain in

ways that interfere with its regulation of infants' breathing."<sup>18</sup> In older children, passive inhalation of smoke impedes lung growth and capacity, resulting in frequent episodes of wheezing and coughing and instances of bronchitis and pneumonia. Wilson et al. state that "[e]ven brief exposure to ambient tobacco smoke can decrease lung function" and raise the risk of inflammation.<sup>19</sup> Secondhand smoke can also prompt more frequent and more severe asthma attacks.<sup>20</sup> Wilson et al. say that "very low levels of tobacco-smoke exposure have been associated with attenuated endothelial function," or damage to the arteries. Cognitive effects such as "decreased scores on reading, math, and block-design tests of cognitive function" and increased rates of conduct disorders are also present.<sup>21</sup>

Although many people are aware of the dangers of secondhand smoke, fewer recognize the hazard created by what is known as "thirdhand smoke." Defined as "residual tobacco smoke contamination that remains after the cigarette is extinguished," it "take[s] the form of particulate matter deposited in a layer onto every surface within the home; in loose household dust; and as volatile toxic compounds that 'off gas' into the air over days, weeks, and months."<sup>22</sup> The residue in thirdhand smoke contains lead, a substance that has been declared unsafe for children at any level of exposure. Research has shown that the presence of a smoker in a household not only causes a statistically significant increase in the lead level of floor dust<sup>23</sup> and an increase of more than 90 percent in the lead level of windowsill dust,<sup>24</sup> but it also results in "significantly higher" blood lead levels in children who reside in the home.<sup>25</sup>

Thirdhand smoke accrues despite protective measures such as opening windows, turning on fans, smoking in other rooms, or waiting for smoke to dissipate, meaning, as Winickoff et al. state, that "breathing air in a room today where people smoked yesterday can harm the health of infants and

children."<sup>26</sup> As a result, thirdhand smoke, although less damaging than direct exposure to tobacco smoke, still provides an important reason for indoor smoking bans.

In multiunit housing, the effects of smoking extend beyond individual apartments. A nationwide survey of multiunit housing units finds that, at a given site, at least 26 percent and up to 64 percent of residents report secondhand smoke "incursions into their units from external sources (e.g., hallways or adjacent apartments),"<sup>27</sup> a figure that does not take into account the invisible accrual of thirdhand smoke. A 2011 study measuring levels of cotinine, a biomarker used to indicate tobacco exposure, found that even children who do not live with any smokers display a "45 percent increase in cotinine levels if they live in apartments compared with detached homes."<sup>28</sup> As the Surgeon General's report explains, only "[e]liminating smoking in indoor spaces fully protects nonsmokers from exposure to secondhand smoke. Separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot eliminate exposures of nonsmokers to secondhand smoke."<sup>29</sup> In public housing, "tobacco smoke exposure...is particularly troubling because it afflicts disadvantaged and vulnerable populations."<sup>30</sup> In 2014, 34 percent of households in public housing included elderly persons, 26 percent included disabled persons, and 38 percent included children, groups who are especially vulnerable to the effects of secondhand smoke exposure.<sup>31</sup>

## Benefits and Costs of Implementation

Researchers have worked to quantify the savings in healthcare costs that reducing secondhand smoke exposure will generate as well as other savings from smoke-free public housing — primarily reductions in renovation expenses and in the risk of catastrophic fires. Although such analysis involves considerable uncertainty, the anticipated cost savings to both residents and PHAs

are high. A 2014 study by King et al. estimates that prohibiting smoking in all subsidized or public housing nationwide "would yield annual cost savings of \$496.82 million (range, \$258.96–843.50 million), including \$310.48 million (\$154.14–\$552.34 million) in secondhand smoke-related health care, \$133.77 million (\$75.24–\$209.01 million) in renovation expenses, and \$52.57 million (\$29.57–\$82.15 million) in smoking-attributable fire losses."<sup>32</sup> HUD's regulatory impact analysis of smoke-free public housing estimates an aggregate annualized benefit to nonsmoker health ranging from \$148 million to \$447 million at a lower discount rate of 3 percent and \$70 million to \$137 million at a higher discount rate of 7 percent. The analysis also predicts a further benefit to nonsmoker well-being ranging from \$96 million to \$275 million per year, a reduction in PHA maintenance costs of \$16 million to \$38 million per year, and a reduction in fire risk of \$32 million, which translates into approximately 150 fires averted and nearly 4 lives saved annually.<sup>33</sup>

HUD's analysis, like the cost estimates by King et al., does not quantify the expected health benefit to smokers, as the rule's purpose is to prevent nonsmokers from being exposed to secondhand smoke.<sup>34</sup> However, one benefit to smokers from the rule arises from research indicating that the commonality of smoking in a community is a significant risk factor that can increase the prevalence of tobacco use. For example, a study of low-socioeconomic-status black women in Chicago public housing developments found that the most significant barriers to smoking cessation all "followed from social isolation and lack of support" in a highly stressful environment.<sup>35</sup> For many of the women surveyed, "the lack of exposure to those who ha[d] tried to quit reinforced the belief that ... those who quit must exert Herculean efforts."<sup>36</sup> Studies have shown, however, that the inverse is also true; the contagion effect caused by more visible efforts to reduce or curtail smoking can increase



HUD's proposed implementation of smoke-free public housing stands to improve long-term health outcomes for young children.

success rates by shifting norms around smoking, providing social support, and encouraging residents who struggle to quit to renew their efforts even if they are not initially successful. Even smokers who do not use these policies as an opportunity to quit are likely to reduce the amount they smoke. A study in Portland, Oregon, found that within a year of implementing a smoke-free policy, “almost half of ongoing smokers reduced their cigarette consumption,” and the quit rate increased from 2.6 to 14.7 percent.<sup>37</sup> Although the damaging health consequences of secondhand smoke are especially pronounced in multiunit housing, the opportunities for meaningful intervention at such sites are enhanced as well.

HUD's proposed rule will also have costs — mostly in time and inconvenience for residents who smoke and in time for training and enforcement for PHA staff. HUD's regulatory impact analysis, in considering the opportunity cost of time smokers will spend going to and using outside smoking areas, values the lost time and inconvenience of residents who smoke at \$209 million per

year. They estimate the costs to PHAs to comply with the proposed rule — including drafting their policies, holding public discussions, disseminating the policies, training staff, updating leases, and monitoring — will average about \$3.2 million per year in total, with higher costs over the initial implementation period.<sup>38</sup>

The most serious cost, and biggest challenge overall to smoke-free PHA policies, is the issue of enforcement and punishment. Bans on indoor smoking are legal; smokers are not a protected class under the Civil Rights Act of 1964, and the courts have ruled that the due process clauses of the 5th and 14th Amendments require only a reasonable basis for restricting smoking.<sup>39</sup> PHAs, however, still face a number of difficulties in enforcing these bans. Some residents believe that smoke-free policies violate their rights as paying renters and refuse to comply. To counter this, PHAs attempt to make clear that “a resident's status as a smoker or non-smoker is irrelevant,” that “smoking status cannot be used to determine eligibility for applying for or residing in public or assisted multifamily housing,”

and that people “are allowed to smoke, just not in the areas that have been designated non-smoking.”<sup>40</sup> Nevertheless, Sheila Crowley, president and chief executive officer of the National Low Income Housing Coalition, expressed frustration that neither homeowners nor recipients of other forms of housing assistance, such as vouchers or tax credits, are subject to these rules.<sup>41</sup> Although indoor smoke-free policies are legal, attempt to avoid imposing an undue burden, and mirror policies increasingly adopted in market-rate rental housing, this equity issue remains.

In addition, short of repeatedly knocking on doors and inspecting apartments, which agency staff may not have time to do, finding instances of indoor smoking can be difficult. Many residents are reluctant to report their neighbors. In New York City, which has the nation's largest PHA, some residents, outside observers, and city officials are concerned about the potential role of police officers in enforcement, noting that even if PHAs do not invite or encourage officers to assist in identifying violations, “the presence of officers



acting as de facto hall monitors inside housing developments differentiates the smoking ban being proposed for public housing from those instituted by privately owned apartment buildings, co-ops and condos.<sup>42</sup> Nevertheless, HUD believes that the health, safety, and financial benefits of even an imperfectly comprehensive reduction in indoor smoking make the rule worth pursuing.

The eviction of repeat offenders is the most serious potential cost of indoor tobacco bans. The HUD rule itself recognizes that “there may be costs to residents as a result of eviction, particularly for persons with disabilities, and especially for those with mobility impairments” that may prevent them

from reaching areas where smoking is allowed.<sup>43</sup> For some residents, the Rehabilitation Act of 1973 and the Americans with Disabilities Act can provide relief in the form of a request for reasonable accommodation, which PHAs are required to consider and grant when appropriate.<sup>44</sup> PHAs have met these requests by, for instance, transferring residents with mobility issues to units closer to elevators or doors so they can reach outdoor smoking areas more easily.<sup>45</sup>

The proposed rule makes clear that eviction, although a necessary enforcement option, is an action of last resort. To avoid evictions, PHAs ensure that residents are aware of the smoke-free policy and the consequences of repeat violations. HUD’s proposed rule

stipulates that tenants’ leases include the prohibition on lit tobacco, whether through an amendment process or during the annual renewal period.<sup>46</sup> Residents who violate the policy receive verbal or written warnings and, in many cases, also receive information about smoking cessation resources and referrals to smoking cessation programs. HUD’s guidance, which is consistent with smoke-free policies already implemented at PHAs nationwide, recommends “graduated enforcement to assist residents with compliance and prevent eviction.”<sup>47</sup> Although enforcement procedures vary among PHAs, they all share the option to remedy noncompliance over a period of time. Rhode Island’s East Greenwich Housing Authority, for example, counts each

## Case Study: Housing Authority of the City of Austin

The experience of local PHAs illustrates the opportunities and challenges that indoor smoking bans present. For example, the smoke-free housing policy that the Housing Authority of the City of Austin (HACA) implemented on September 1, 2015, demonstrates how PHAs can respond to residents’ concerns and collaborate with public health agencies to reduce smoking and the harmful effects of secondhand smoke. HACA began by surveying residents in 2013. The results, which were consistent with other studies nationwide, indicated that most of the approximately 4,300 residents in its 1,800 housing units “are non-smokers but are bothered by tobacco smoke entering their home” and that “a majority of tenants prefer smoke-free housing,” including the “significant percentage” who face “asthma and/or other health conditions like lung disease and cancer.”<sup>1</sup> Residents also “showed support for health programming and interest in smoking cessation assistance.”<sup>2</sup> Unlike the proposed HUD rule, the policy that grew out of these concerns extends to electronic cigarettes as well.

HACA makes clear that its policy “is focused on the act of smoking, not the smoker.”<sup>3</sup> This approach has two significant implications: first, the enforcement structure punishes violations at the household level rather than at the tenant level, and second, the policy takes steps to avoid stigmatizing smokers and to connect them to services that can help them remain in their homes. After signing a lease addendum that certifies that they understand the smoking ban and that violation may be grounds for eviction, residents receive a written warning after the first violation, a written letter of lease violation after the second, and probation after the third. Each of these notices comes with a referral for cessation services. The fourth violation triggers a 30-day notice of lease termination; however, the agency notes that it “may suspend [the] lease termination process if the family agrees to attend a HACA approved smoking cessation class and present HACA with a certificate of completion and a signed commitment to comply with HACA’s Smoke-free Housing Policy.”<sup>4</sup>

Reinforcing the fact that indoor smoking bans are a crucial step in a larger public health effort, HACA and many other PHAs not only provide resources for smoking cessation but do so in ways specifically targeted to the needs of public housing residents. In Austin, a partnership with an integrated care clinic has resulted in free weekly smoking cessation classes at several communities. Attendees receive information about creating a plan to quit smoking, using nicotine replacement therapy or other medications, and dealing with the urge to smoke, as well as other resources.<sup>5</sup>

<sup>1</sup> Housing Authority of the City of Austin. 2015. “Austin Housing Authority Extinguishes Smoking in Public Housing Units” press release, 1 September.

<sup>2</sup> Ibid.

<sup>3</sup> Housing Authority of the City of Austin. 2015. “Smoke-Free Housing Policy” ([www.hacanet.org/residents/smokefree.php](http://www.hacanet.org/residents/smokefree.php)). Accessed 16 December 2015.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

violation only after a 20-day cure period has passed.<sup>48</sup> “The mindset of the enforcement isn’t: ‘I’m going to catch you smoking, I’m going to evict you,’” says Rodger Moore, director of property management at Home Forward, the PHA of Portland, Oregon. “It is: ‘I’m going to work with you to give you as many resources and as many chances as we possibly can, without waiving our right for eviction.’ We hold the resident’s hand as long as we possibly can.”<sup>49</sup> Between 2009 and 2014, Portland issued 51 notices to residents with an option to remedy and 9 notices with no option to remedy across 2,000 units.<sup>50</sup>

These local PHA strategies exist alongside HUD’s broader efforts to minimize the possibility of eviction. In addition to “develop[ing] guidance in reasonable accommodation,” HUD’s goal for the public comment phase of the rule’s implementation was to provide suggestions “on how to mitigate these potential adverse impacts.”<sup>51</sup> As a result, nationwide, evictions are very rare. Although no comprehensive accounting of evictions due to smoking ban violations exists, at least three occurred between 2013 and 2015 — in Cincinnati, Ohio; Fairhaven, Massachusetts; and Manchester, New Hampshire.<sup>52</sup>

## Conclusion

HUD’s proposed rule, which may still evolve before it is finalized and implemented, builds on strong evidence about the danger of secondhand smoke and on the experiences of PHAs who have already instituted smoke-free policies. Although administrators will need to clearly explain the new rule to residents, promote smoking cessation programs, and consider residents’ input to ensure that the rule is fairly applied, the rule stands to improve long-term health outcomes, especially for vulnerable residents such as the young and elderly. **EM**

— Keith Fudge, *HUD Staff*

<sup>1</sup> U.S. Department of Housing and Urban Development. 2015. “HUD Secretary Castro Announces New Rule Making Public Housing Smoke-Free,” press release, 12 November.

<sup>2</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing: Proposed Rule,” Docket No. FR 5597-P-02, 1.

<sup>3</sup> For a list of these PHAs, see: Department of Housing and Urban Development. “Smoke-Free Public Housing and Multifamily Properties” ([portal.hud.gov/hudportal/HUD?src=/program\\_offices/healthy\\_homes/smokefree](http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/smokefree)). Accessed 31 January 2016.

<sup>4</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 4, 15.

<sup>5</sup> U.S. Department of Housing and Urban Development. 2015. “Regulatory Impact Analysis: Instituting Smoke-Free Public Housing — Proposed Rule,” Docket No. FR-5597-P-02, 3–4.

<sup>6</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 12; U.S. Department of Housing and Urban Development. “Public Housing” ([portal.hud.gov/hudportal/HUD?src=/program\\_offices/public\\_indian\\_housing/programs/ph](http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/programs/ph)). Accessed 17 December 2015.

<sup>7</sup> U.S. Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control. 2011. “Smoke-Free Housing: A Toolkit for Residents of Federally Assisted Public and Multi-Family Housing,” 4.

<sup>8</sup> U.S. Department of Housing and Urban Development, Office of Public and Indian Housing and Office of Healthy Homes and Lead Hazard Control. 2009. “Non-Smoking Policies in Public Housing,” Notice PIH-2009-21.

<sup>9</sup> See: U.S. Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control 2011; see also: U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes. 2014. “Change Is in the Air: An Action Guide for Establishing Smoke-Free Public Housing and Multifamily Properties.”

<sup>10</sup> U.S. Department of Housing and Urban Development. 2012. “Request for Information on Adopting Smoke-Free Policies in PHAs and Multifamily Housing,” *Federal Register* 77:193 (4 October), 60712–4.

<sup>11</sup> U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes 2014.

<sup>12</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 10.

<sup>13</sup> U.S. Department of Health and Human Services. 2006. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, 11.

<sup>14</sup> National Cancer Institute. 2011. “Secondhand Smoke and Cancer” ([www.cancer.gov/about-cancer/causes-prevention/risk/tobacco/second-hand-smoke-fact-sheet](http://www.cancer.gov/about-cancer/causes-prevention/risk/tobacco/second-hand-smoke-fact-sheet)). Accessed 17 December 2015.

<sup>15</sup> Centers for Disease Control and Prevention. 2014. “Health Effects of Secondhand Smoke” ([www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/secondhand\\_smoke/health\\_effects/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/)). Accessed 16 December 2015.

<sup>16</sup> *Ibid.*

<sup>17</sup> *Ibid.*

<sup>18</sup> *Ibid.*

<sup>19</sup> Karen M. Wilson, Jonathan D. Klein, Aaron K. Blumkin, Mark Gottlieb, and Jonathan P. Winickoff. 2011. “Tobacco-Smoke Exposure in Children Who Live in Multiunit Housing,” *Pediatrics* 127:1, 86.

<sup>20</sup> Centers for Disease Control and Prevention.

<sup>21</sup> Wilson et al., 86.

<sup>22</sup> Jonathan P. Winickoff, Joan Friebely, Susanne E. Tanski, Cheryl Sherrod, Georg E. Matt, Melbourne F. Hovell, and Robert C. McMillen. 2009. “Beliefs About the Health Effects of ‘Thirdhand’ Smoke and Home Smoking Bans,” *Pediatrics* 123:1, 75.

<sup>23</sup> Joanna M. Gaitens, Sherry L. Dixon, David E. Jacobs, Jyothi Nagaraja, Warren Strauss, Jonathan W. Wilson, and Peter J. Ashley. 2009. “Exposure of U.S.

Children to Residential Dust Lead, 1999–2004: I. Housing and Demographic Factors,” *Environmental Health Perspectives* 117:3, 464.

<sup>24</sup> *Ibid.*, 465.

<sup>25</sup> Sherry L. Dixon, Joanna M. Gaitens, David E. Jacobs, Warren Strauss, Jyothi Nagaraja, Tim Pivetz, Jonathan W. Wilson, and Peter J. Ashley. 2009. “Exposure of U.S. Children to Residential Dust Lead, 1999–2004: II. The Contribution of Lead-Contaminated Dust to Children’s Blood Lead Levels,” *Environmental Health Perspectives* 117:3, 470.

<sup>26</sup> Winickoff et al. 2009, 74.

<sup>27</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 7.

<sup>28</sup> Wilson et al. 2009, 85.

<sup>29</sup> U.S. Department of Health and Human Services, 11.

<sup>30</sup> Jonathan P. Winickoff, Mark Gottlieb, and Michelle M. Mello. 2010. “Regulation of Smoking in Public Housing,” *New England Journal of Medicine* 362, 2320.

<sup>31</sup> Center on Budget and Policy Priorities. 2015. “United States Fact Sheet: Federal Rental Assistance.”

<sup>32</sup> Brian A. King, Richard M. Peck, and Stephen D. Babb. 2014. “National and State Cost Savings Associated With Prohibiting Smoking in Subsidized and Public Housing in the United States,” *Preventing Chronic Disease* 11:140222, 1.

<sup>33</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 5; U.S. Department of Housing and Urban Development. 2015. “Regulatory Impact Analysis,” 2, 33.

<sup>34</sup> U.S. Department of Housing and Urban Development. 2015. “Regulatory Impact Analysis,” 36.

<sup>35</sup> Loretta P. Lacey, Clara Manfredi, George Balch, Richard B. Warnecke, Karen Allen, and Constance Edwards. 1993. “Social Support in Smoking Cessation Among Black Women in Chicago Public Housing,” *Public Health Reports* 108:3, 389.

<sup>36</sup> Lacey et al., 391.

<sup>37</sup> Barbara A. Pizacani, Julie E. Maher, Kristen Rohde, Linda Drach, Michael J. Stark. 2012. “Implementation of a Smoke-free Policy in Subsidized Multiunit Housing: Effects on Smoking Cessation and Secondhand Smoke Exposure,” *Nicotine & Tobacco Research* 14:9, 1027.

<sup>38</sup> U.S. Department of Housing and Urban Development. 2015. “Regulatory Impact Analysis,” 71.

<sup>39</sup> Winickoff et al. 2010, 2319–25.

<sup>40</sup> U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes 2014, 17.

<sup>41</sup> Dylan Matthews. 2015. “Banning smoking in public housing singles out the poor. But it also saves lives,” *Vox* (15 November).

<sup>42</sup> J. David Goodman and Mireya Navarro. 2015. “Smoking Ban Proposal a Surprise to Some Public Housing Tenants,” *The New York Times* (12 November), A31.

<sup>43</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 15.

<sup>44</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 15.

<sup>45</sup> U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes 2014, 70.

<sup>46</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 4.

<sup>47</sup> *Ibid.*, 12.

<sup>48</sup> U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes 2014, 74.

<sup>49</sup> *Ibid.*, 62.

<sup>50</sup> *Ibid.*, 46.

<sup>51</sup> U.S. Department of Housing and Urban Development. 2015. “Instituting Smoke-Free Public Housing,” 48.

<sup>52</sup> Matthews.

# Financing Effective Housing Interventions With Pay for Success

In an era of tight public budgets, private and philanthropic organizations increasingly are underwriting public services through impact investments, which support a social good while also generating a financial return. In one form of impact investing, pay for success (PFS), an organization (typically a government) sets specific targets that another organization, such as a service provider or intermediary, must meet in return for payments. Private and philanthropic investors supply the upfront capital that service providers use in exchange for a capped rate of return derived from the payments. The payments, however, are released only if the desired targets are successfully met, which must be verified by an independent evaluator. An intermediary organization with experience in PFS or the relevant policy area manages the contract and lines up investors. State and local governments have begun using PFS to implement interventions to address education, asthma, homelessness, and prison recidivism. Housing-related PFS contracts designed to improve conditions for vulnerable populations are currently underway or under consideration in the state of Massachusetts; Santa Clara County, California; Cuyahoga County, Ohio; and Baltimore, Maryland. Officials in these communities expect to see not only better individual outcomes but also cost savings in fields that housing quality affects, such as criminal justice, childhood welfare, and health care.<sup>1</sup>

## Innovations and Drawbacks

Caroline Whistler, co-president of Third Sector Capital Partners, a nonprofit that helps construct PFS projects in the United States, says that the key

## Highlights

- The Pay for Success (PFS) model can help governments ensure that their resources are spent on successful programs and has the potential to encourage evidence-based policymaking. A variety of housing-related PFS interventions are in progress.
- The Massachusetts Housing and Shelter Alliance and Santa Clara County, California, are using PFS interventions to expand and test permanent supportive housing models in their communities.
- The Green & Healthy Homes Initiative, the Calvert Foundation, and the Johns Hopkins Hospital and Healthcare System in Baltimore have partnered to develop a PFS contract to reduce asthma-related hospitalizations and emergency room visits in the city.

innovation of PFS is that payments are structured to reward results rather than reimburse providers for services rendered.<sup>2</sup> One benefit of this approach is that the cost of failure shifts from the government to private and nonprofit entities. Because payment for services is

---

PFS has the potential to encourage greater evidence-based policymaking because rigorous evaluation is built into the contract.

---

contingent on meeting specific targets, governments can ensure that their resources are spent only on successful programs.<sup>3</sup> This shift in risk gives providers an incentive to be innovative and flexible in how they deliver services, swiftly adapting to changes and offering individually tailored services without fear of violating the terms of their contract.<sup>4</sup> In addition, PFS has the potential to encourage greater evidence-based policymaking because rigorous evaluation is built into the contract; many PFS contracts include randomized trials and control groups to measure success. Also, private investors who bear the

financial risk for success are unlikely to support programs that are not backed by strong evidence because the possibility of nonpayment would be too high.<sup>5</sup>

Most PFS contracts have been implemented in policy areas with the potential for large savings from a new, more effective program or preventive intervention, such as in prisoner recidivism, early childhood education, chronic homelessness, and workforce development.<sup>6</sup> The very first PFS contract, the Social Impact Bond program at Peterborough prison in the United Kingdom, focused on reducing recidivism among ex-offenders who served short prison terms. About 60 percent of people in jail in the United Kingdom serve short sentences and cost the Ministry of Justice about £40,000 (approximately US\$60,000) per person per year. Launched in 2010, the Peterborough project was projected to save £44 million (approximately US\$66 million) and up to a possible £90 million (approximately US\$135 million) if returns were better than expected.<sup>7</sup> Social Finance, a nonprofit, served as the contract's intermediary organization, lined up funders, and helped assemble ONE Service, the contract's service provider. ONE Service did not use a fixed intervention model or specific theory but instead implemented a flexible contract that deployed a combination of housing support, employment training, drug and alcohol counseling, and mental health services to keep ex-offenders out of jail.<sup>8</sup>



Massachusetts Housing & Shelter Alliance

Sherman (pictured above) found housing through MASH and has been able to turn his life around by improving his health, volunteering, and reconnecting with his 15-year old son.

The potential for savings in excess of a program's cost and the fact that payments are deferred until the project is successful have made PFS attractive to local and state governments with constrained budgets. In the Peterborough project, for example, interim results showed that recidivism rates dropped compared with a control group, but that drop was not enough to trigger the first round of payments. This example highlights the appeal of PFS for governments: the Ministry of Justice either got the predetermined outcome or it did not pay.<sup>9</sup> Jeffrey Liebman of Harvard's Social Impact Bond Laboratory observed that although constrained funding environments are forcing programs to justify themselves, "it remains the case that most government spending is not allocated based on the evidence or with a focus on innovation or performance."<sup>10</sup> PFS is one possible strategy to encourage greater innovation and efficiency in the delivery of government services.

Despite its promise, PFS remains largely untested, and a number of important questions remain. In the United States, only a handful of contracts are

underway or in negotiation (four are discussed in this article), and only one, a prisoner recidivism contract with Riker's Island, New York, has concluded.<sup>11</sup> More completed examples are needed, says Yennie Tse, program manager in HUD's Office for International and Philanthropic Innovation, to understand the risk and reward of PFS and establish best practices, especially those surrounding the structure of contracts and negotiations.<sup>12</sup> Without an adequate understanding of risk versus reward, many investors remain philanthropic entities who can justify prioritizing social benefits. In cases where private investors have signed on to PFS projects, such as the Riker's Island initiative, their investments were partly guaranteed by a philanthropic organization.<sup>13</sup>

PFS currently applies only to a limited number of policy areas. Programs that offer nonfinancial societal benefits or have difficult-to-measure outcomes may not be suited to PFS.<sup>14</sup> Many advocates and researchers also note that PFS should not deliver essential government services (such as fire and police protection) because providers and investors

have an incentive to end programs that are not on track to meet targets and payout. John Cassidy, a senior manager at Deloitte Consulting working with the Centers for Disease Control and Prevention (CDC) on PFS, says that governments must design programs that achieve outcomes without harming the target population. Finally, interventions that reach across agency boundaries and levels of government face legal and practical restrictions that make aligning potential payers with effective service providers difficult.<sup>15</sup>

## Permanent Supportive Housing

Permanent supportive housing programs help families and individuals "break the cycle of homelessness," says Andy McMahon, managing director of government affairs and innovation at the Corporation for Supportive Housing (CSH), which improves the quality of life for vulnerable populations, such as individuals experiencing chronic homelessness, and decreases associated service costs by reducing participants' use of expensive emergency services.<sup>16</sup> Unlike traditional models, which address the causes of homelessness before providing housing or as a precondition for remaining in housing, a permanent supportive housing program provides individuals experiencing homelessness with housing and voluntary services first.<sup>17</sup> McMahon argues that permanent supportive housing is well adapted to PFS contracts because the evidence base supports its effectiveness and because it can significantly reduce utilization costs in the healthcare and criminal justice systems. Permanent supportive housing, however, suffers from the "wrong pocket problem," which means that the savings from the intervention accrue to an organization, agency, or government different from the one paying for the intervention.<sup>18</sup>

A 2014 review of permanent supportive housing studies found a "moderate" amount of evidence supporting its benefits, adding that "[s]ubstantial literature, including seven randomized

controlled trials, demonstrated that components of the model reduced homelessness, increased housing tenure, and decreased emergency room visits and hospitalization.”<sup>19</sup> A HUD study of families experiencing homelessness in Washington, DC, found that permanent supportive housing was 49 percent cheaper than apartment-style shelter housing and 65 percent cheaper than congregate shelter housing.<sup>20</sup> New York City found that for every unit of permanent supportive housing it provided, the city saved \$16,281 per year in medical and mental health care, and a 2008 study of a Rhode Island permanent supportive housing project found the program reduced service costs by 25 percent pre- and post- entry into the program by reducing the number of hospital stays, emergency room visits, and trips to drug and alcohol treatment centers, and encounters with the court system.<sup>21</sup> Uniting permanent supportive housing and PFS has the potential to infuse new money into a housing intervention

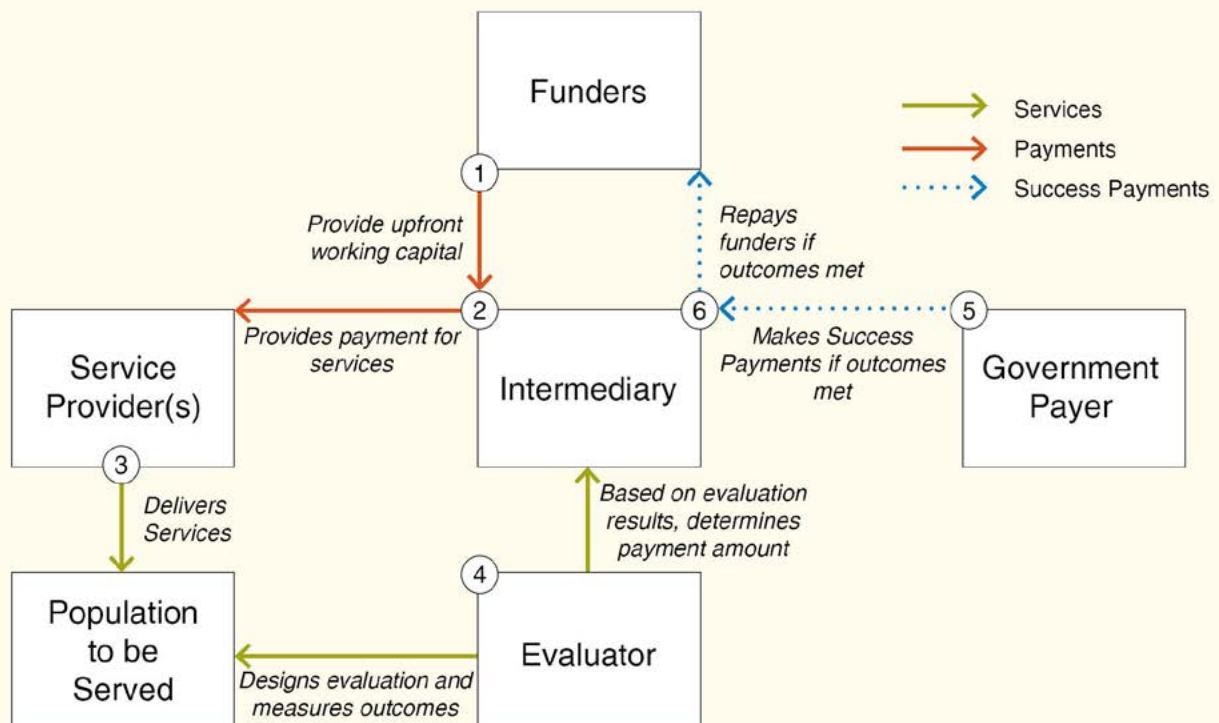
model that sees significant savings in health and criminal justice fields.<sup>22</sup>

**Leveraging PFS To Combat Homelessness in Massachusetts.** The first PFS contract for permanent supportive housing was awarded in 2014 in Massachusetts, where state officials hope to house up to 800 individuals over the next 6 years and reduce the number of individuals in the state experiencing chronic homelessness by half. The Massachusetts Housing & Shelter Alliance (MHSA), a nonprofit dedicated to ending homelessness in Massachusetts, has partnered with CSH and the United Way of Massachusetts Bay and Merrimack Valley to provide 500 units of supportive housing. CSH, United Way, and Santander Bank N.A. are investing \$2.5 million in the project. If the project meets its target — all participants housed during the year remain stably housed for at least one year — then the state of Massachusetts will make up to \$6 million in success payments.<sup>23</sup>

The PFS initiative will allow MHSA to expand its Home & Healthy for Good program, a permanent supportive housing program that has served 860 individuals experiencing chronic homelessness who are difficult to house and frequently use high-cost services. Sixty-nine percent of participants report having a mental health disability and 50 percent report having a physical health disability, and tenants report being homeless for an average of 5 years before entering the program. During the six months before entering housing, the average tenant spent more than four days in the hospital, three days in detox, and five days in jail and made nearly three trips to the emergency room. By providing Home & Healthy for Good participants with housing, MHSA saved the state \$12,101 per person per year, with most of those savings coming from reductions in medical expenses.<sup>24</sup>

The new PFS program, called the Massachusetts Alliance for Supportive Housing (MASH), works with local

## How Pay for Success Works



Source: Third Sector Capital Partners. 2015. "What is Pay for Success?" ([www.thirdsectorcap.org/what-is-pay-for-success/](http://www.thirdsectorcap.org/what-is-pay-for-success/)). Accessed 18 February 2016.

housing and service providers to place individuals who have been identified as high-cost users of Medicaid in supportive housing. Using a mix of scattered- and single-site housing throughout Massachusetts, the program has placed 104 individuals in supportive housing so far, with a goal of placing 250 participants in its first year and 250 in its second year. The supportive services are based on lessons learned from the Home & Healthy for Good program and link paraprofessionals with tenants to help them navigate local resources, find employment opportunities, and mediate potential landlord-tenant disputes. One of the innovations of this project, says Tom Brigham, director of MHSA, is a web-based data collection tool that local providers and MHSA use to track individuals' use of services and bouts of homelessness. This tool, which will be part of the eventual evaluation of the program, allows MHSA and local

providers to better understand different trends in different communities and make improvements to the housing programs to ensure that they have a positive impact.<sup>25</sup>

The PFS financing is a “highly leveraged funding source,” explains Brigham, that brings in additional resources to fund permanent supportive housing. The contract states that Massachusetts will pay \$3,000 per individual placed after a year of successful tenancy, but most of the costs of providing housing and services — about \$17,000 per person — are covered through other sources, such as \$1 million in foundation grants, rental vouchers, Medicaid billing, and provider resources.<sup>26</sup> Massachusetts has funded 145 project-based vouchers and made them available to local housing providers, and the state is also setting aside up to \$11 million to fund health-related services through MassHealth,

which administers the state's Medicaid and Children's Health Insurance programs.<sup>27</sup> MHSA, working through MASH, helps local providers manage their Medicaid billing and provides immediate financial support until payments are released. One strength of this arrangement, says Brigham, is that after the PFS contract ends, program participants will retain most of their supportive services because Medicaid has no end date. The rental vouchers that are tied to MASH will also continue after the contract expires.<sup>28</sup>

***Incentivizing Housing Stability in Santa Clara County.*** Every night, more than 6,500 people in California's Santa Clara County do not sleep in their own homes. Instead, they stay with friends, sleep in shelters, or live out on the street. Of this group, approximately one-third has experienced chronic homelessness, meaning that they



Alain McLaughlin

Permanent supportive housing programs help families achieve housing stability.

have a disabling condition, such as a mental illness, and have been homeless for a year or have had four periods of homelessness in the past three years. In addition to the human costs, homelessness costs the county a lot of money; a 2015 study found that 104,206 county residents who experienced homelessness between 2007 and 2012 used more than \$3 billion in public services.<sup>29</sup> Santa Clara County launched its first PFS program in 2015, contracting with Abode Services, a nonprofit committed to ending homelessness, to provide 112 permanent supportive housing units to individuals experiencing chronic homelessness with comorbidities such as a physical disability, a mental health issue, or a substance abuse problem. Project Welcome Home hopes to house 150 to 200 individuals over 6 years. Abode Services will provide housing and client-based supportive services, and Third Sector Capital Partners will help manage the contract. CSH and Google, among others, are providing \$6.9 million in investment capital and the University of California, San Francisco will evaluate the project.<sup>30</sup>

The project's overall goals are to improve the quality of life of individuals experiencing chronic homelessness and reduce participants' reliance on costly government services. The project's official target is to have 80 percent of participants achieve 12 months of continuous, stable tenancy. After about a year of continuous housing, says Louis Chicoine, chief executive officer of Abode Services, individuals experiencing chronic homelessness tend to stabilize and become much less likely to lose their home.<sup>31</sup> The payment structure is designed to reward long-term housing, says Whistler, and "minimize having people drop out after a few months."<sup>32</sup> Payments are divided into three-month periods of stable, continuous tenancy and increase each period. The contract pays \$1,242 per participant for 3 months of stable housing, then an additional \$1,863 after 6 months, \$2,484 after 9 months, and



Alain McLaughlin

Matt (pictured) was homeless for five years until he connected with an Abode Services worker who helped him find a home in Oakland's Lake Merritt neighborhood.

\$6,831 after 12 months, up to a potential total of \$12,420 per participant for 12 months of housing.<sup>33</sup>

Individuals who utilize county services frequently, particularly those experiencing chronic homelessness, place an inordinate financial strain on Santa Clara County. The 2015 study also found that individuals experiencing chronic homelessness cost the county \$83,000 annually in public services per person.<sup>34</sup> Abode's various housing options and supportive services allow it to find the appropriate match for each participant's needs, says Chicoine.<sup>35</sup> Individuals can live in master-leased, scattered-site units throughout the county or in single-site affordable housing developments. For services, Abode has adopted the Assertive Community Treatment (ACT) model, a multidisciplinary approach that uses a team of professionals to deliver the specific mix of services a participant may need.<sup>36</sup> According to Chicoine, ACT is nonpunitive; the program is

not overly concerned with enforcing rules, focusing instead on keeping people on track to meet their individual goals.<sup>37</sup>

Project Welcome Home is also being used as an opportunity to build the evidence base for permanent supportive housing.<sup>38</sup> Although payment is linked to the number of months of stable tenancy, a randomized control experiment is being run concurrently with the project. Potential program participants are identified by the county and randomly assigned to either the PFS group or a group that receives normal county services. According to Whistler, individuals will be tracked when they come into contact with jails, shelters, and emergency rooms, among other places, to see whether stable housing reduces their use of county services. The ability to introduce evidence-based evaluation into county policymaking made PFS an attractive prospect, says Whistler. "When Pay for Success first came out, there was this attachment to the idea



Alain McLaughlin

Representatives from Santa Clara County, Abode Services, The Health Trust, the James Irvine Foundation, and Google.org celebrate the launch of Project Welcome Home.

of cost savings by investing in interventions, but the primary interest for Santa Clara is to better spend the limited resources they have.”<sup>39</sup> Although results from the Project Welcome Home study are not yet available, Abode reports that in fiscal year 2015, 90 percent of Abode supportive housing residents either remained housed or exited to other stable housing.<sup>40</sup>

## Reuniting Families in Cuyahoga County

In January 2015, Cuyahoga County, Ohio, launched a PFS initiative, Partnering for Family Success, to help 135 families struggling with homelessness reunite with their children placed in foster care. Although children are not placed in foster care specifically because of their parents’ homelessness, problems such as substance abuse can create a lack of safe and stable housing that can cause children to be removed from their parents’ care. Through the Partnering for Family Success initiative, FrontLine Service, a homelessness service provider, and Enterprise Community Partners will help vulnerable families access supportive housing and

connect to various community supports to reduce the number of days that children spend in foster care, called out-of-home placement days.<sup>41</sup> According to David Merriman, administrator of Cuyahoga County Job and Family Services, “[W]e decided to explore Pay for Success because it fit with what we see as a new way of tackling homelessness and improving childhood welfare as well as a strategy to effectively provide services at scale.”<sup>42</sup> The county expects savings in 3 service areas — criminal justice, childhood welfare, and homelessness — and will pay \$75 per reduced foster care day based on the results of a randomized control trial. The program’s overall target is a 25 percent reduction in out-of-home placement days, at which point all funders will be paid back and the county would potentially save \$130,000. Reducing the placement rate by up to 50 percent could save Cuyahoga County \$3.5 million.<sup>43</sup>

FrontLine Service is using a Housing First strategy and adapting Critical Time Intervention (CTI), a therapy designed to help individuals transition from an institution into housing,

to help family caregivers struggling with homelessness remain stably housed. Under CTI, individuals receive different levels of service, which Russell Spieth, director of family services at FrontLine, refers to as “dosages.” The first dose is intensive, says Spieth. Case managers work with program participants in their new housing units three to four days per week for approximately the first three months. “We want to make sure they are off to a good start,” explains Spieth. “For example, we work with landlords to help mediate disputes and help individuals access services within their community.” FrontLine gradually reduces the dosage as participants establish relationships within their community and require less direct support, eventually ending CTI services once families are stable. Funding CTI services through PFS allows FrontLine to offer a greater variety of services than it would if it relied on Medicaid reimbursement alone. Many of the families served through the program face unique, varied, and sometimes nonmedical challenges that may not be covered by Medicaid. According to Spieth, it was important that “our CTI workers feel free to do whatever need[s] to be done to successfully help families reunify.”<sup>44</sup>

The long-term success of the program will depend on the strength of the relationship among the partner organizations, says Merriman.<sup>45</sup> In addition to FrontLine Service and Enterprise Community Partners, numerous nonprofit, philanthropic, and government agencies must work together to achieve program objectives. The George Gund Foundation, for example, was an early financial supporter of the initiative and funded an initial assessment performed by Third Sector Capital Partners. The Cuyahoga Metropolitan Housing Authority is providing the bulk of the housing, creating a priority preference for caregivers enrolled in the program, and Cuyahoga County’s Office of Homeless Services and the Children and Family Services department will



manage referrals, with assistance from the nonprofit Domestic Violence and Child Advocacy Center.<sup>46</sup>

## Remediating Asthma Triggers With PFS Financing

Asthma affects millions of people in the United States, including 7 million children, and, according to the CDC, results in \$50.1 billion in direct costs and \$5.9 billion in indirect costs such as lost productivity.<sup>47</sup> Although a number of factors can trigger an asthma attack, many asthma triggers are environmentally based and can be reduced through housing remediation.<sup>48</sup> The CDC's Community Preventive Services Task Force recommends a home-based, multi-trigger, multicomponent approach for children with poorly controlled asthma.<sup>49</sup> Interventions and remediation programs reduce dust mites, pollen, mold, pet dander, cockroach droppings, and cigarette smoke and work on a variety of scales. Minor interventions

provide residents with education on asthma triggers and low-cost items such as allergen-impermeable covers for beds and pillows. Moderate interventions include multiple low-cost options, in-home training, or professional cleaning. Major interventions tackle structural improvements such as changing ventilation systems.<sup>50</sup>

Asthma interventions are well suited to PFS because in-home changes can substantially reduce medical costs, benefit low-income individuals who frequently use public resources such as Medicaid, and have a long track record of success. The U.S. Department of Health and Human Services has estimated that every dollar invested in asthma interventions saves between \$5.30 and \$14.00.<sup>51</sup> Poor, urban, and minority children are more likely to be affected by asthma and are more likely to depend on publically funded healthcare options, meaning that a reduction in asthma

attacks and subsequent hospitalizations can translate into large savings for governments and public hospitals.<sup>52</sup> Asthma interventions, however, are affected by the previously mentioned wrong pocket problem; despite their wide range of health benefits, they are funded largely by housing programs such as HUD's Healthy Homes Program.<sup>53</sup> Using PFS to link housing to health would allow more resources to be spent on preventive interventions instead of expensive emergency care.

The Green & Healthy Homes Initiative (GHHI), the Calvert Foundation, and Johns Hopkins Hospital and Healthcare System in Baltimore have partnered to develop a PFS contract to reduce asthma-related hospitalizations and emergency room visits. GHHI, a nonprofit organization with a history of reducing environmental hazards that undermine the health of children and families, will remediate 1,800 homes.



Photo by Andre Chung

A GHHI environmental assessment technician documents home health hazards during a comprehensive home assessment.



Photo Courtesy of Green & Healthy Homes Initiative

By providing remediation and energy-efficiency services, GHHI helps families like Lekquan and her son improve the quality of their housing.

The Calvert Foundation, a community development financial institution, is the primary investor, and Johns Hopkins' Medicaid managed care organization will make success payments. Johns Hopkins will cover the cost of the contract through decreases in emergency room visits and hospitalizations from those with chronic asthma.<sup>54</sup> According to Ruth Ann Norton, president and CEO of GHHI, the goal is to make the "health clinic to the home a seamless connection. We are trying to make contractors who do remediation the new face of health care. How we repair our homes and what we put into them have everything to do with health."<sup>55</sup>

GHHI takes a holistic approach to creating healthy homes, improving energy efficiency as well as remediating toxins, making home improvements to reduce asthma triggers, and providing housing and health education. GHHI works to develop relationships with families and has found that home improvements coupled with asthma education produce the best long-term results. The remediation process begins with an

in-home assessment and educational session about asthma triggers followed by the removal of known triggers. GHHI follows up with families throughout the first year to ensure that GHHI's healthy home standards are being maintained.<sup>56</sup> The intervention model, which was established with input from HUD and the U.S. Environmental Protection Agency, has been shown to reduce asthma-related hospitalizations by 66 percent and emergency room visits by 28 percent.<sup>57</sup>

GHHI, the Calvert Foundation, and Johns Hopkins are currently in the final stages of negotiation and are still developing the economic and actuarial modeling necessary for the contract. The payment structure for the contract will be tied to either a success metric, such as the number of homes remediated, or the reduction in emergency room visits and hospitalizations. Norton reports that a secondary goal is to examine the effect of remediation programs on school and work attendance, but this examination has not been built into the economic modeling. GHHI and

Johns Hopkins will have access to the medical usage database, Chesapeake Regional Information System for Our Patients, which will allow them identify children going to the emergency room for asthma-related issues and quickly recommend in-home assessment and remediation.<sup>58</sup>

Working with a health system as the payer rather than a government entity involves considerable upfront work, says Norton, but doing so is essential to the long-term scalability of the health-based housing intervention. She explains that changing financial incentives are encouraging hospitals to emphasize preventive care to "reduce hospitalizations and repetitive use of the emergency room by addressing asthma triggers in the home environment." Demonstrating the business case and strong financial returns of asthma remediation to hospitals and state Medicaid programs should encourage other communities to adopt remediation programs.<sup>59</sup> GHHI recently received \$1.011 million from the Corporation for National and Community Service to evaluate the feasibility of asthma-related PFS contracts in five other locations: Buffalo, New York; Grand Rapids, Michigan; Memphis, Tennessee; Salt Lake City, Utah; and Springfield, Massachusetts. GHHI, the Calvert Foundation, Milliman, and Health Management Associates are working with service providers and health systems in these five cities and are adapting the lessons and models developed in the Baltimore program to these remediation programs.<sup>60</sup> HUD's Office of Healthy Homes and Lead Hazard Control is also expanding PFS by supporting program development that will provide new capital investment for home interventions in two pilot locations: the city of San Diego and Alameda County, California.<sup>61</sup>

## Other Potential Housing Interventions

As the body of research linking housing and neighborhood to health, wellness, education, crime, and childhood outcomes grows, more housing programs

might benefit from PFS contracting. Where a person lives can affect his or her risk of diabetes and obesity, level of school achievement, and access to economic opportunity. Poor-quality housing (often found in high-poverty neighborhoods) can also contribute to childhood asthma and lead poisoning, and other dimensions of housing, such as crowding, affordability, and stability, have been shown to affect childhood development and overall success (see

the Fall 2014 issue of *Evidence Matters*). Programs that improve the physical dimensions of housing, move families to amenity-rich, low-poverty neighborhoods, or improve high-poverty neighborhoods could feasibly generate savings for the government that exceed the cost of the program.

Housing interventions shown to reduce medical costs may attract Medicaid funding as the Patient Protection and

Affordable Care Act expands Medicaid in 31 states (including the District of Columbia) to cover more high-risk individuals.<sup>62</sup> Although Medicaid does not currently cover direct housing costs, evidence attesting to housing's role in health outcomes may change what is seen as a medical expense. Santa Clara County and Massachusetts, as well as numerous other permanent supportive housing projects, all demonstrate the value of linking Medicaid-funded

## HUD Engages With Partners in Pay for Success Demonstrations

On October 15, 2015, HUD, in partnership with the U.S. Department of Justice (DOJ), announced \$8.7 million in demonstration grants to use Pay for Success (PFS) financing to reduce homelessness and prisoner recidivism. Although policymakers have made significant progress toward the federal goal to end chronic homelessness, 84,291 individuals were identified in 2014 as experiencing chronic homelessness. Because of their housing instability, many of these individuals cycle in and out of emergency rooms, psychiatric centers, and jails. Ex-offenders are particularly susceptible to homelessness, which may affect recidivism rates. According to the National Alliance to End Homelessness, 10 percent of people recidivating were homeless beforehand, and 20 percent of people leaving prison become homeless upon reentering the community.<sup>1</sup>

The DOJ/HUD PFS Permanent Supportive Housing Demonstration is an opportunity to test the effectiveness of using PFS to finance permanent supportive housing with a Housing First approach. The demonstration targets people experiencing homelessness who also have frequent contact with the criminal justice, homeless services, and healthcare systems. HUD will award a maximum of \$1.3 million to each grantee organization to carry out one or more of the following eligible activities:

- Feasibility analysis: Conducting an analysis to determine whether a PFS project implementing permanent supportive housing is feasible at a particular site.
- Transaction structuring: Structuring a contract between all stakeholders of the PFS project.
- Outcome evaluation: Evaluating and validating the outcomes of the PFS-financed permanent supportive housing intervention through a third-party evaluator.
- Success payments: Some grant funding is available to partially cover the costs of successful outcomes of the permanent supportive housing intervention.<sup>2</sup>

These grants will build capacity in the PFS field for using permanent supporting housing as an intervention to address homelessness and reduce recidivism among people who are frequently involved with the criminal justice system. Achieving these dual objectives may help alleviate pressure on strained government budgets and meet the goal to end chronic homelessness.

Separately, HUD is designing another PFS demonstration, authorized through the Fixing America's Surface Transportation Act, that will increase the efficiency of energy and water systems in multifamily rental buildings receiving HUD assistance. HUD will partner with Enterprise Community Partners, Inc., the Low Income Investment Fund, and Stewards of Affordable Housing for the Future for this demonstration, which is currently in development.<sup>3</sup>

<sup>1</sup> U.S. Department of Housing and Urban Development. 2015. "Pay for Success Permanent Supportive Housing Demonstration," 3–5.

<sup>2</sup> Ibid.

<sup>3</sup> Enterprise Community Partners. 2014. "Bipartisan Legislation to Increase Energy Efficiency in Multifamily Housing Introduced in Congress," press release (15 June).



Corporation for Supportive Housing

One of 60 apartments in Palo Verde, L.A. Family Housing's first permanent supportive housing project for low-income adults formerly or currently experiencing chronic homelessness or who are living with mental illness.

supportive services to housing. According to Brigham, Medicaid funding is a critical component of the MASH program.<sup>63</sup> In addition to permanent supportive housing programs, PFS contracts could potentially cover interventions to remediate lead and reduce asthma triggers in the home. According to Norton, in-home asthma and lead remediation are healthcare expenses because they are directly tied to the health of the individual.<sup>64</sup>

PFS contracts could also potentially link housing mobility programs to Medicaid because where people live affects their health. HUD's Moving to Opportunity for Fair Housing Demonstration Program (MTO) found that moving to lower-poverty neighborhoods correlated with better health outcomes, especially for women, who experienced lower rates of obesity and diabetes and fewer incidents of psychological distress and depression.<sup>65</sup> In a study modeling the savings that result from a housing

mobility program, Rinzler et al. found that reductions in adult diabetes and extreme obesity could generate savings that more than cover the cost of a mobility program. Using data from HUD's MTO experiment and a Baltimore mobility program, Rinzler et al. found that the programs, which cost \$2.2 million to run over a 10-year period, generated \$3.8 million in medical savings.<sup>66</sup> Pollack et al., however, write that researchers would need to answer several questions about the optimal way to obtain healthcare savings before a housing mobility PFS contract could move forward.<sup>67</sup>

## Conclusion

Interest in PFS has grown quickly over the past few years as more communities look for innovative ways to solve social-sector problems, says Cassidy. "There have been dozens of attempts to solve problems in a traditional way ... and this model brings new people to the table who wouldn't normally be here."<sup>68</sup> This growing interest, however, does

not mean that PFS is an easy solution or appropriate for every type of intervention. Governments and practitioners need to "dissect the data to understand the problem's prevalence, geographic scope, and target population" before embarking on a PFS contract, explains Cassidy. Beginning a PFS contract requires a long-term commitment from a number of dedicated organizations.<sup>69</sup> The precontract assessment and analysis of the target populations and financial modeling of possible interventions can take up to two years to complete on top of months of contract negotiations among governments, service providers, investors, and intermediary organizations.<sup>70</sup>

According to Tse, many investors look for strong local leadership and strong partnerships with local actors before they will consider supporting a PFS-funded intervention. Contracts are improved by having good working relationships among all partners and by using service providers with proven track records of

running successful programs.<sup>71</sup> Using trusted service providers can help assuage local government fears over the loss of control that PFS requires. Abode, FrontLine, GHHI, and MHSA have decades of experience with permanent supportive housing or asthma remediation. Granting these organizations flexibility allows them to individually tailor their services to their clients and increases the likelihood of success. In permanent supportive housing, for example, landlord-tenant management can be crucial to a participant's success in remaining stably housed but often is not covered because it is not a medical expense. In Santa Clara County, Abode is able to use PFS funding to cover this crucial service.<sup>72</sup>

Governments need to decide on an appropriate evaluation system for the intervention that is derived from the goals of the contract. Santa Clara County based payments on a success metric — the duration of stable housing for individuals experiencing chronic

Cassidy, by reducing hospitalizations, the need for special education classes, and the number of youth interacting with the juvenile justice system, but forecasting the exact dollar amount and to whom it will accrue is difficult, and any savings may only be realized years in the future.<sup>74</sup> When savings accrue at different levels of government, aligning all of the necessary players can be challenging. In Massachusetts, the MASH program operated at the state level and therefore was tied to Medicaid savings based on the state's contribution rather than the federal government's contribution.

Many PFS contracts focus primarily on cost savings, but encouraging more governments to reimburse for results in all of their programming could “measurably improve the lives of people in need,” says Whistler.<sup>75</sup> Many of the organizations involved in these early examples see PFS as a means to increase evidence-based policymaking. “We are looking to use pay for success and social

---

## PFS contracts could potentially cover interventions to remediate lead and reduce asthma triggers in the home.

---

homelessness — because county officials felt that the evidence base for permanent supportive housing was strong enough to do so. In Cuyahoga County, officials contracted with Case Western Reserve University to employ a randomized control trial to measure the impact of the intervention and serve as the basis for payments.<sup>73</sup>

The wrong pocket problem remains difficult to overcome. The intricacies of social policy, especially surrounding housing and its impact on health, education, and economic opportunity, are difficult to unwind in a way that can link savings in one program to costs in another. Asthma and lead remediation often more than pay for themselves, says

impact investing,” says McMahon, “as a lever to change public policy in the way government allocates money, focusing more of it on solutions with proven efficacy.”<sup>76</sup> Numerous interventions that offer significant quality of life improvements — for example, those that link housing and neighborhoods to school improvements — could be enhanced by emphasizing the success of the program rather than the program's specific inputs. **EM**

---

<sup>1</sup> Jitinder Kohli, Douglas J. Besharov, and Kristina Costa. 2012. “Social Impact Bonds 101: Defining an Innovative New Financing Tool for Social Programs,” Center for American Progress, 2; Drew Von Glahn and Caroline Whistler. 2011. “Pay for Success Programs: An Introduction,” *Policy and Practice* (June), 19–22; George Overholser and Caroline Whistler. 2013. “The Real Revolution of Pay for Success: Ending 40 Years of Stagnant Results for Communities,” *Community Development Investment Review* 9:1, 7; U.S. Government

Accountability Office. 2015. “Collaboration among Federal Agencies Would Be Helpful as Governments Explore New Financing Mechanisms,” 6–8.

<sup>2</sup> Interview with Caroline Whistler, 10 October 2015; U.S. Government Accountability Office, 6–8.

<sup>3</sup> Eileen Neely. 2014. “Unlocking Private Capital to Invest in Human Capital,” *Institutional Investor* website ([www.institutionalinvestor.com/blogarticle/3303554/Blog/Unlocking-Private-Capital-to-Invest-in-Human-Capital.html#.VplaNSorKUK](http://www.institutionalinvestor.com/blogarticle/3303554/Blog/Unlocking-Private-Capital-to-Invest-in-Human-Capital.html#.VplaNSorKUK)). Accessed 15 January 2016.

<sup>4</sup> Overholser and Whistler, 5–6.

<sup>5</sup> Glahn and Whistler, 21; Hanna Azemati, Michael Belinsky, Ryan Gillette, Jeffrey Liebman, Alina Sellman, and Angela Wyse. 2013. “Social Impact Bonds: Lessons Learned So Far,” *Community Development Investment Review* 9:1, 30; U.S. Government Accountability Office, 52.

<sup>6</sup> Azemati et al., 7, 29.

<sup>7</sup> Currency conversion is based on November 2015 exchange rate.

<sup>8</sup> U.K. Ministry of Justice. 2014. “Peterborough Social Impact Bond HMP Doncaster: Payment by Results pilots — Final re-conviction results for cohorts 1,” *Ministry of Justice Statistics Bulletin* (7 August); Centre for Social Impact Bonds. 2013. “Ministry of Justice: Offenders released from Peterborough Prison” ([data.gov.uk/sib\\_knowledge\\_box/ministry-justice-offenders-released-peterborough-prison](http://data.gov.uk/sib_knowledge_box/ministry-justice-offenders-released-peterborough-prison)). Accessed 15 January 2016; U.K. Ministry of Justice. 2014. “Revision to: Phase 2 report from the Payment by Results Social Impact Bond Pilot at HMP Peterborough” ([www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/325738/peterborough-phase-2-pilot-report.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325738/peterborough-phase-2-pilot-report.pdf)). Accessed 15 January 2016.

<sup>9</sup> U.K. Ministry of Justice 2014. “Phase 2 report.”

<sup>10</sup> Jeffrey Liebman. 2013. “Building on Recent Advances in Evidence-Based Policymaking,” Brookings Institution, 2–4.

<sup>11</sup> “Pay for Success U.S. Activity,” Nonprofit Finance Fund website ([www.payforsuccess.com/pay-success-deals-united-states](http://www.payforsuccess.com/pay-success-deals-united-states)). Accessed 23 October 2015; Justin Milner, Erika C. Poethig, John Roman, and Kelly Walsh. n.d. “Putting evidence first: Learning from the Rikers Island social impact bond,” Urban Institute.

<sup>12</sup> Azemati et al., 29; Overholser and Whistler, 7.

<sup>13</sup> Overholser and Whistler, 8; Azemati et al., 27.

<sup>14</sup> Kohli, Besharov, and Costa; U.S. Government Accountability Office, 35.

<sup>15</sup> Interview with John Cassidy, 14 October 2015; Ian Galloway. 2014. “Using Pay-for-Success to Increase Investment in the Nonmedical Determinants of Health,” *Health Affairs* 33:11, 1901.

<sup>16</sup> Interview with Andy McMahon, 11 October 2015.

<sup>17</sup> U.S. Interagency Council on Homelessness. “Permanent Supportive Housing” ([www.usich.gov/solutions/housing/permanent-supportive-housing](http://www.usich.gov/solutions/housing/permanent-supportive-housing)). Accessed 23 October 2015; U.S. Department of Housing and Urban Development. n.d. “Housing First in Permanent Supportive Housing” ([www.hudexchange.info/resources/documents/Housing-First-Permanent-Supportive-Housing-Brief.pdf](http://www.hudexchange.info/resources/documents/Housing-First-Permanent-Supportive-Housing-Brief.pdf)). Accessed 15 January 2016.

<sup>18</sup> Interview with Andy McMahon.

<sup>19</sup> Debra J. Rog, Tina Marshall, Richard H. Dougherty, Preethy George, Allen S. Daniels, Sushmita Shoma Ghose, and Miriam E. Delphin-Rittmon. 2014. “Permanent Supportive Housing: Assessing the Evidence,” *Psychiatry Services* 65:3, 287–94.

<sup>20</sup> Brooke Spellman, Jill Khadduri, Brian Sokol, and Josh Leopold. 2010. “Costs Associated With First-Time Homelessness for Families and Individuals,” U.S. Department of Housing and Urban Development.

<sup>21</sup> Dennis P. Culhane, Stephen Metraux, and Trevor

- Hadley. 2002. "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing," *Housing Policy Debate* 13:1, 107–63; Eric Hirsch and Irene Glasser. 2008. "Rhode Island's *Housing First* Program Evaluation," United Way of Rhode Island; "Permanent Supportive Housing: A Cost-Effective Alternative in the District of Columbia," Coalition for Nonprofit Housing & Economic Development website ([www.cnhed.org/blog/2011/11/permanent-supportive-housing-a-cost-effective-alternative-in-the-district-of-columbia/](http://www.cnhed.org/blog/2011/11/permanent-supportive-housing-a-cost-effective-alternative-in-the-district-of-columbia/)). Accessed 15 January 2016.
- <sup>22</sup> Kohli, Besharov, and Costa, 3.
- <sup>23</sup> Corporation for National and Community Service, Office of Research and Evaluation. 2015. "State of the Pay for Success Field: Opportunities, Trends, and Recommendations," 26; Marcy Thompson, Keith Harris, and Richard Cho. 2015. "When Homelessness Becomes Rare, Brief, & Non-Recurring: Clarifying the Federal Criteria and Benchmarks," U.S. Interagency Council on Homelessness website ([www.usich.gov/news/clarifying-the-federal-criteria-benchmarks](http://www.usich.gov/news/clarifying-the-federal-criteria-benchmarks)). Accessed 23 December 2015.
- <sup>24</sup> Massachusetts Housing and Shelter Alliance. 2015. "Permanent Supportive Housing: A Solution-Driven Model — June 2015 Home & Healthy for Good Progress Report."
- <sup>25</sup> Interview with Tom Brigham, 16 October 2015.
- <sup>26</sup> Interview with Tom Brigham.
- <sup>27</sup> Commonwealth of Massachusetts and Massachusetts Alliance for Supportive Housing. 2014. "Pay for Success Contract by and between the Commonwealth of Massachusetts and Massachusetts Alliance for Supportive Housing," 7–8, appendix M.
- <sup>28</sup> Interview with Tom Brigham.
- <sup>29</sup> Economic Roundtable. 2015. "Home Not Found: The Cost of Homelessness In Silicon Valley," County of Santa Clara, 14.
- <sup>30</sup> County of Santa Clara, Office of Public Affairs. 2015. "County of Santa Clara Launches California's First 'Pay for Success' Project," press release, 13 August; County of Santa Clara. 2015. "Project Welcome Home Fact Sheet" ([www.payforsuccess.org/sites/default/files/final\\_-\\_150811\\_scc\\_ch\\_pfs\\_fact\\_sheet\\_vfinal\\_0.pdf](http://www.payforsuccess.org/sites/default/files/final_-_150811_scc_ch_pfs_fact_sheet_vfinal_0.pdf)). Accessed 23 December 2015.
- <sup>31</sup> Interview with Louis Chicoine, 5 October 2015.
- <sup>32</sup> Interview with Caroline Whistler.
- <sup>33</sup> County of Santa Clara.
- <sup>34</sup> Economic Roundtable, 2.
- <sup>35</sup> Interview with Louis Chicoine.
- <sup>36</sup> Susan D. Phillips, Barbara J. Burns, Elizabeth R. Edgar, Kim T. Mueser, Karen W. Linkins, Robert A. Rosenheck, Robert E. Drake, and Elizabeth C. McDonel Herr. 2001. "Moving Assertive Community Treatment Into Standard Practice," *Psychiatric Services* 52:6, 771–9.
- <sup>37</sup> Interview with Louis Chicoine.
- <sup>38</sup> University of California, San Francisco. 2015. "Evaluation of Provision of Permanent Supportive Housing for Chronically Homeless Individuals Through Pay for Success," ClinicalTrials.gov website ([clinicaltrials.gov/ct2/show/NCT02440360](http://clinicaltrials.gov/ct2/show/NCT02440360)). Accessed 15 January 2016.
- <sup>39</sup> Interview with Caroline Whistler.
- <sup>40</sup> Email Correspondence with Katie Derrig, Grants and Communications Manager with Abode Services, 14 October 2015.
- <sup>41</sup> Cuyahoga County Office of the Executive. 2014. "Nation's First County-Level Pay for Success Program Aims to Reconnect Foster Children with Caregivers in Stable, Affordable Housing," press release, 3 December.
- <sup>42</sup> Interview with David Merriman, 15 October 2015.
- <sup>43</sup> "Fact Sheet: The Cuyahoga Partnering for Family Success Program" Pay for Success Learning Hub website ([www.payforsuccess.org/sites/default/files/141204\\_cuyahoga\\_pfs\\_fact-sheet.pdf](http://www.payforsuccess.org/sites/default/files/141204_cuyahoga_pfs_fact-sheet.pdf)). Accessed 15 January 2016.
- <sup>44</sup> "Fact Sheet: The Cuyahoga Partnering for Family Success Program."
- <sup>45</sup> Interview with David Merriman.
- <sup>46</sup> "Fact Sheet: The Cuyahoga Partnering for Family Success Program"; Interview with David Merriman.
- <sup>47</sup> U.S. Centers for Disease Control and Prevention. 2011. "Vital Signs: Asthma in the U.S.," *CDC Vital Signs* (May).
- <sup>48</sup> Green and Healthy Homes Initiative and the Childhood Asthma Leadership Coalition. 2014. "Issue Brief: Using Social Impact Financing to Improve Asthma Outcomes."
- <sup>49</sup> U.S. Centers for Disease Control and Prevention. 2011. "Recommendations from the Task Force on Community Preventive Services to Decrease Asthma Morbidity Through Home-Based, Multi-Trigger, Multicomponent Interventions," *American Journal of Preventive Medicine* 41:2S1, S1.
- <sup>50</sup> U.S. Centers for Disease Control and Prevention. "Common Asthma Triggers" ([www.cdc.gov/asthma/triggers.html](http://www.cdc.gov/asthma/triggers.html)). Accessed 23 December 2015; Tursynbek A. Nurmagambetov, Sarah Beth L. Barnett, Verughese Jacob, Sajal K. Chattopadhyay, David P. Hopkins, Deidre D. Crocker, Gema G. Dumitru, and Stella Kinyota. 2011. "Economic Value of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity: A Community Guide Systematic Review," *American Journal of Preventive Medicine* 41:2, S39.
- <sup>51</sup> Deidre D. Crocker, Stella Kinyota, Gema G. Dumitru, Colin B. Ligon, Elizabeth J. Herman, Jill M. Ferdinands, David P. Hopkins, Briana M. Lawrence, and Theresa A. Sipe. 2011. "Effectiveness of Home-Based, Multi-Trigger, Multicomponent Interventions with an Environmental Focus for Reducing Asthma Morbidity: A Community Guide Systematic Review," *American Journal of Preventive Medicine* 41:2S1, S5–S32.
- <sup>52</sup> T. Bryant-Stephens and Y. Li. 2008. "Outcomes of a home-based environmental remediation for urban children with asthma," *Journal of the National Medical Association* 100:3, 306–16; G. Flores, C. Snowden-Bridon, S. Torres, R. Perez, T. Walter, J. Brotanek, H. Lin, S. Tomany-Korman 2009. "Urban minority children with asthma: substantial morbidity, compromised quality and access to specialists, and the importance of poverty and specialty care," *Journal of Asthma* 46:4, 392–8.
- <sup>53</sup> U.S. Department of Housing and Urban Development. "The Healthy Homes Program" ([portal.hud.gov/hudportal/HUD?src=/program\\_offices/healthy\\_homes/hhi](http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/hhi)). Accessed 23 December 2015; U.S. Department of Housing and Urban Development.
- "Lead Hazard Control and Healthy Homes: Lead Hazard Reduction — 2016 Summary Statement and Initiatives," 33-3; Kavita Patel, Steve Farmer, Meaghan George, Frank McStay, and Mark McClellan. 2014. "Pediatric Asthma: An Opportunity In Payment Reform And Public Health," *Health Affairs Blog* (18 September).
- <sup>54</sup> Green and Healthy Homes Initiative and the Calvert Foundation. 2015. "RFP #2 for Pay for Success/Social Impact Bonds Projects" ([www.greenandhealthyhomes.org/sites/default/files/GHHI-RFP-2.pdf](http://www.greenandhealthyhomes.org/sites/default/files/GHHI-RFP-2.pdf)). Accessed 16 January 2016.
- <sup>55</sup> Interview with Ruth Ann Norton, 16 October 2016.
- <sup>56</sup> Green and Healthy Homes Initiative. 2015. "Green & Healthy Homes Initiative Selects Service Providers to Participate in Asthma-Related Pay for Success Projects," press release, 19 May.
- <sup>57</sup> Interview with Ruth Ann Norton.
- <sup>58</sup> Ibid.
- <sup>59</sup> Ibid.
- <sup>60</sup> Green and Healthy Homes Initiative.
- <sup>61</sup> Alameda County Community Development Agency. 2015. "Accept Grant Award From the U.S. Department of Housing and Urban Development Via Quantech, Inc. for a Pay for Success Asthma Demonstration Project in Alameda County," correspondence with the Alameda County Board of Supervisors, 26 May.
- <sup>62</sup> Janet Viveiros. 2015. "Affordable Housing's Place in Health Care," National Housing Conference's Center for Housing Policy, 2–8; Kaiser Family Foundation. "Current Status of State Medicaid Expansion Decisions" ([kff.org/health-reform/slide/current-status-of-the-medicaid-expansion-decision/](http://kff.org/health-reform/slide/current-status-of-the-medicaid-expansion-decision/)). Accessed 26 October 2015.
- <sup>63</sup> Interview with Tom Brigham.
- <sup>64</sup> Interview with Ruth Ann Norton.
- <sup>65</sup> Lisa Sanbonmatsu, Jens Ludwig, Lawrence F. Katz, Lisa A. Gennetian, Greg J. Duncan, Ronald C. Kessler, Emma Adam, Thomas W. McDade, and Stacy Tessler Lindau. 2011. *Moving to Opportunity for Fair Housing Demonstration Program: Final Impacts Evaluation*, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, foreword.
- <sup>66</sup> Dan Rinzler, Philip Tegeler, Mary Cunningham, and Craig Pollack. 2015. "Leveraging the Power of Place: Using Pay for Success to Support Housing Mobility," Federal Reserve Bank of San Francisco, 2–13.
- <sup>67</sup> Craig Evan Pollack, Rachel L. Johnson Thornton, and Stefanie DeLuca. 2014. "Housing for Health: Targeting housing mobility vouchers to help families with children," *Journal of the American Medical Association Pediatrics* 168:8, 695–6.
- <sup>68</sup> Interview with John Cassidy.
- <sup>69</sup> Ibid.
- <sup>70</sup> Interview with Yennie Tse, 19 October 2015.
- <sup>71</sup> Ibid.
- <sup>72</sup> Interview with Louis Chicoine.
- <sup>73</sup> Interview with Yennie Tse.
- <sup>74</sup> Interview with John Cassidy.
- <sup>75</sup> Interview with Caroline Whistler.
- <sup>76</sup> Interview with Andy McMahon.

## Additional Resources

- “A State Policy Framework for Integrating Health and Social Services” (2014), by Tricia McGinnis, Maia Crawford, and Stephen A. Somers, offers a five-step policy framework that states can use to establish infrastructure for integrating health and social services, especially as they relate to Medicaid beneficiaries. [www.commonwealthfund.org/publications/issue-briefs/2014/jul/state-policy-framework-health-social-services](http://www.commonwealthfund.org/publications/issue-briefs/2014/jul/state-policy-framework-health-social-services).
- “The Connection between Health and Housing: The Evidence and Policy Landscape” (2015), by Beeta Rasouli and Joshua Okrent, reviews specific federal, state, and local housing initiatives aimed at improving the health of children and families and examines their cost implications. [allhealth.org/publications/Disparities\\_in\\_health\\_care/Health-and-Housing-Toolkit\\_168.pdf](http://allhealth.org/publications/Disparities_in_health_care/Health-and-Housing-Toolkit_168.pdf).
- “Leveraging the Social Determinants of Health: What Works?” (2015), by Lauren A. Taylor, Caitlin E. Coyle, Chima Ndumele, Erika Rogan, Maureen Canavan, Leslie Curry, and Elizabeth H. Bradley, evaluates and summarizes the evidence underlying interventions that address social determinants of health and focuses on innovative models in Massachusetts that improve health and reduce costs. [bluecrossfoundation.org/sites/default/files/download/publication/Social\\_Equity\\_Report\\_Final.pdf](http://bluecrossfoundation.org/sites/default/files/download/publication/Social_Equity_Report_Final.pdf).
- “Reconnecting Health and Housing: Philanthropy’s New Opportunity” (2015), by David D. Fukuzawa and Fred Karnas, explores how philanthropy can play a vital role in connecting the housing and health sectors by building an evidence basis, fostering discourse and policy change, and promoting innovation. [online.liebertpub.com/doi/pdfplus/10.1089/env.2015.0006](http://online.liebertpub.com/doi/pdfplus/10.1089/env.2015.0006).
- “Housing and Health: New Opportunities for Dialogue and Action” (2014), by Jeffrey Lubell, Rebecca Morley, Marice Ashe, Linda Merola, and Jeff Levi, documents various ways in which housing affects health and outlines steps that the public health and housing policy communities can take to strengthen collaboration and promote mutual goals. [changelabsolutions.org/sites/default/files/Health%20%20Housing%20New%20Opportunities\\_final.pdf](http://changelabsolutions.org/sites/default/files/Health%20%20Housing%20New%20Opportunities_final.pdf).
- “Housing and Health Care: A Toolkit for Building Partnerships” (2014), by Leading Age, provides a variety of practical resources related to housing and health care partnerships, including guides on how to identify partners and structure relationships, insights from healthcare practitioners, and a return-on-investment calculator. [leadingage.org/housinghealth/](http://leadingage.org/housinghealth/).
- *The Power of Impact Investing: Putting Markets to Work for Profit and Global Good* (2014), by Judith Rodin and Margot Brandenburg, explores the evolving role of impact investing and its relationship with traditional philanthropic strategies and investment tools. [wdp.wharton.upenn.edu/book/the-power-of-impact-investing/?utm\\_source=rfblogpost&utm\\_medium=web&utm\\_campaign=impactinvesting](http://wdp.wharton.upenn.edu/book/the-power-of-impact-investing/?utm_source=rfblogpost&utm_medium=web&utm_campaign=impactinvesting).
- The “Dimensions of Quality” toolkit, by the Corporation for Supportive Housing, provides resources on implementing permanent supportive housing programs for housing developers, government officials, tenants, and healthcare organizations. [www.csh.org/quality](http://www.csh.org/quality).
- “America’s Growing Senior Population: Assessing the Dimensions of the Demographic Challenge” (2015), by the Bipartisan Policy Center’s Health and Housing Task Force, describes the looming demographic challenges and potential opportunities related to America’s growing senior population. [bipartisanpolicy.org/wp-content/uploads/2015/09/BPC-Housing-Health-Senior-Population.pdf](http://bipartisanpolicy.org/wp-content/uploads/2015/09/BPC-Housing-Health-Senior-Population.pdf).
- “Medicaid and Permanent Supportive Housing for Chronically Homeless Individuals: Emerging Practices From the Field” (2014), from the U.S. Department of Health and Human Services, explains how federal government resources have expanded permanent supportive housing and innovations in healthcare that will affect Medicaid and housing programs. [aspe.hhs.gov/sites/default/files/pdf/77116/EmergPrac.pdf](http://aspe.hhs.gov/sites/default/files/pdf/77116/EmergPrac.pdf).
- “The Payoff of Pay-for-Success” (2015), by V. Kasturi Rangan and Lisa A. Chase, argues that adapting pay-for-success contracts outside a narrow band of social policies, not private investors, will remain the major source of funding. [ssir.org/up\\_for\\_debate/article/the\\_payoff\\_of\\_pay\\_for\\_success](http://ssir.org/up_for_debate/article/the_payoff_of_pay_for_success).
- “Hospitals as Hubs to Create Healthy Communities: Lessons from Washington Adventist Hospital” (2015), by Stuart M. Butler, Jonathan Grabinsky, and Domitilla Masi, examines the potential of hospitals to serve as an “upstream” factor positively affecting health care. [www.brookings.edu/research/papers/2015/09/28-hospitals-as-hubs-to-create-health-communities-butler-grabinsky-masi](http://www.brookings.edu/research/papers/2015/09/28-hospitals-as-hubs-to-create-health-communities-butler-grabinsky-masi).

For additional resources archive, go to [www.huduser.gov/portal/periodicals/em/additional\\_resources\\_2016.html](http://www.huduser.gov/portal/periodicals/em/additional_resources_2016.html).

### Evidence Matters

Rachelle Levitt: Editor

Keith Fudge: Managing Editor

Authors: Keith Fudge (HUD) and Sage Computing staff

Discuss this issue on the *Evidence Matters* Forum at [www.huduser.gov/forums](http://www.huduser.gov/forums).

You can subscribe to *Evidence Matters* at [www.huduser.gov/portal/evidence.html](http://www.huduser.gov/portal/evidence.html).



**U.S. Department of Housing and Urban Development**

HUD User

P.O. Box 23268

Washington, DC 20026—3268

PRESORTED  
FIRST-CLASS MAIL  
POSTAGE & FEES PAID  
HUD  
PERMIT NO. G—795

Official Business

Penalty for Private Use \$300

Return Service Requested



**Scan here for past issues**



U.S. Department of Housing and Urban Development  
Office of Policy Development and Research  
[www.hud.gov/policy](http://www.hud.gov/policy) ■ 800.245.2691