

HUD Research Roadmap: 2017 Update



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Contents

1. Introduction	4
HUD’s Initial Research Roadmap	4
Updating HUD’s Research Agenda	5
Evolving Federal Context for Evaluation and Evidence.....	6
Guidance for Evidence-Based Policymaking	6
Commission on Evidence-Based Policymaking	7
Performance Management Under the GPRA Modernization Act	7
Behaviorally-Informed Program Innovation	7
Administrative Data Matching	8
Resources for Implementing the Research Agenda.....	9
Financing the Research Agenda.....	9
External Resources.....	11
Innovative HUD Research Mechanisms	12
2. Roadmapping Process.....	14
Next Steps	15
3. The Roadmap: Proposed Research Projects.....	17
Housing Affordability (Markets).....	17
Understanding and Defining Dimensions of Decent and Affordable Owner-Occupied Housing	17
Effect of Foreclosures on the Stock of Affordable Rental Units	17
Long-Term Foreclosure Outcomes of FHA Mortgage Modification Programs	18
Addressing Affordable Housing Needs of Older Americans	18
Consequences of Home Equity Loss for Elderly Homeowners	19
Housing Affordability (Programs)	19
Assessing Benefits of Reverse Mortgages for Seniors	19
Property Tax Defaults Among HECM Reverse Mortgages	20
U.S.-Japan Housing and Finance Innovation Forum: Aging in Place in Urban Environments	20
Olmstead Implementation and Impact on Existing Models of Supportive Housing for People with Disabilities.....	21
Capital Needs of Section 202 Elderly Housing	21
Production and Affordability of FHA-Insured Multifamily Developments	22
Study of Project-Based Rental Assistance (PBRA) Transfers.....	22
Leasing Performance and Success Factors in the Housing Choice Voucher Program	23

Impact of Federal Rental Housing Investments in Rural Markets	23
Evaluation of the Community Service and Self-Sufficiency Requirement	24
Understanding Hassle Costs and Behavior for Wrap-Around Services	24
Policy Lessons from Moving To Work Expansion.....	25
Evaluating the Effects of MTW Flexibility on Small Housing Authorities	25
Incentives for Landlords to Accept Vouchers in MTW Expansion	26
Effects of MTW Rent Reform	26
Energy and Resilience	27
National Disaster Resilience Competition Case Studies	27
Evaluating Policies to Improve Property Hazard, Flood, and Earthquake Insurance Coverage	28
Effectiveness of Energy Benchmarking in Assisted or Insured Multifamily Housing.....	28
Evaluation of the FHA Mortgage Insurance Premium Reduction Program for Multifamily Housing	29
Assessing the Effectiveness of HUD’s Multifamily Pay For Success Program.....	29
Education	30
Early Development and Education of HUD-Assisted Children	30
Increasing Financial Literacy in Public and Assisted Housing: A Randomized Experiment of Financial Education, Coaching, and Digital Prompts	31
Health.....	31
Housing Accessibility for Seniors with Disabilities in HUD Multifamily Housing.....	32
Aging in Place in HUD-Assisted Non-Elderly Housing	32
HOPWA Assistance Experiment for HIV Viral Suppression.....	33
Health Impact of HUD’s Smokefree Housing Rule.....	34
Savings from the Smokefree Public Housing Rule	34
Housing Insecurity, Housing Assistance, and Mental Health	35
Health Care Costs for Seniors	35
Lead Awareness Module for the Current Population Survey	36
Effectiveness of Lead Safe Housing Rule	36
Understanding How State Medicaid Waiver Programs Affect HUD Programs.....	37
Strengthening the Housing-Health Nexus of Community Health Needs Assessments	38
Mobility.....	38
Targeted Landlord Outreach for Housing Choice Voucher Participation	38
Implementation of Choice-Mobility Vouchers in the Rental Assistance Demonstration.....	39
Reasons for Housing Assistance Exits and Outcomes After Exit.....	40
Assessing the Role of the Low Income Housing Tax Credit in Locational Outcomes for Voucher Families.....	40
Transit Access and Work Participation of Assisted Renters	41
Place-based Strategies	41
Evaluating Community Development Block Grants and HOME Block Grants	41

Choice Neighborhoods Follow-up Evaluation.....	42
Neighborhood Stabilization Program Follow-up Evaluation	43
Long-Term HOPE VI Assessment.....	43
Impacts of Regional Planning through the Sustainable Communities Initiative	44
Crosscutting–Fair Housing	44
Understanding and Reducing Regulatory Barriers	45
Updating and Modernizing the Fair Housing Act Design Manual.....	45
Process and Implementation Study of Affirmatively Furthering Fair Housing	46
Assessment of the Fair Housing Education and Outreach Initiative.....	46
Performance Assessment of the Fair Housing Assistance Program	47
Housing Discrimination in Non-Advertised Housing Units	47
Crosscutting–Building Technology.....	48
Reducing Housing Preservation Costs through Technology	48
Effects of Housing Technology on Total Cost of Homeownership	48
Engineering Broadband to Individual Dwelling Units	49
Crosscutting–Other	49
Housing Insecurity Module	49
Tradeoffs Between Housing and Food.....	50
Understanding the Role of Housing in Successful Transitions of Refugee Populations	51
Evaluation of Family Self-Sufficiency Services in Multifamily Housing: Phase I Implementation Study	51
Preserving Confidentiality of Eligibility Information for Assisted Households	52
Data Infrastructure.....	52
Survey Data Enhanced with Administrative Data Linkages	53
Role of CARRA in Administrative Data Linkage.....	54
PD&R Data Licenses for Administrative Data	55
PD&R-Sponsored Surveys	55
4. Appendices.....	57
Appendix A. Prioritized Research Questions.....	57
Appendix B. HUD Program Evaluation Policy Statement.....	64
I. Background	64
II. HUD Program Evaluation Policy	65
Application of These Principles to Economic Analysis of Regulations.....	66
Appendix C. Research Partnerships	68

1. [Introduction](#)

Research is key to the mission of HUD’s Office of Policy Development and Research (PD&R), providing reliable and objective research on housing and community development that is relevant for HUD and for our constituents and enables informed policy decisions. PD&R focuses on finding definitive answers to questions about what programs work and how they can be made better, through quick-turnaround studies and long-term evaluations that systematically assess impacts and outcomes and shed light on paths to improvement.

Federal context has recently shifted, focusing on the importance of evidence-based policymaking, developing better data systems to measure performance, and evaluating existing and new programs to improve efficiency and effectiveness. PD&R, the driving force of HUD’s evidence-based policy making, promotes the best possible policies and program through accurate data, rigorous research and sound policy advice. To support this leadership role, PD&R developed the HUD Research Roadmap, which integrates extensive input from diverse stakeholder groups to define a five-year research agenda.

This report, the Research Roadmap Update, allows PD&R to look ahead not only for key research opportunities to highlight for Congress in annual budget requests, but also to develop a multi-year agenda that will ensure a robust pipeline of research. PD&R uses its Research Roadmap as a strategic, five-year plan to guide research investments. This year’s Roadmap update builds on the previous Roadmap’s process of broad outreach and collaboration to identify the most policy-relevant and timely research questions in the fields of housing and community development.

HUD’s Initial Research Roadmap

HUD released its first *Research Roadmap FY 2014–FY 2018* in July 2013.¹ Input and support from members of academic community, practitioners implementing programs, and policymakers at the federal, state, and local levels helped guide conversations to identify the most policy-relevant and timely research questions in the fields of housing and community development. The initial roadmapping conversations ultimately included hundreds of people, and HUD recorded nearly 1,000 distinct comments related to the research agenda it should pursue over a five-year span.

¹ PD&R launched the first research roadmapping process in response to a 2008 report from the National Research Council of the National Academy of Sciences titled, “Rebuilding the Research Capacity at HUD.” NRC concluded that, in addition to better and more stable funding, PD&R needed to incorporate a more collaborative and robust agenda in order to maximize its funding and research capacities.

The Roadmap influenced the future of research at HUD, as it helped guide fiscal year (FY) budget requests and prioritize research projects and initiatives. The Roadmap also became a leading example of evaluation planning in the federal government’s growing emphasis on establishing “learning agendas.”²

Updating HUD’s Research Agenda

The nation’s housing and communities are always changing. With each passing day, new information and research shift how we understand HUD’s programs, their contributions to national well-being, and the menu of opportunities for progress and reform. In the days and years ahead, new challenges and questions will emerge as priorities.

Therefore, it is crucial to periodically update the Roadmap and continue the conversations started in 2011. The Research Roadmap focuses on priorities identified from more than 500 research questions and projects in eight Focus Areas. These Focus Areas will help guide PD&R’s research and evaluation priorities over the next five years.

The Focus Areas are:

- *Housing Affordability (Markets)*: includes housing finance and homeownership.
- *Housing Affordability (Programs)*: includes subsidized and unsubsidized affordable housing production and preservation, LIHTC.
- *Policy Lessons from Moving to Work Expansion*: leverages MTW expansion research to test policies to increase effectiveness of assisted rental programs
- *Energy and Resilience*: includes energy-efficiency, resilience planning, disaster response.
- *Education*: includes workforce training, early childhood development, early education.
- *Health*: includes aging in place, housing and services, smoke-free housing.
- *Mobility*: includes obstacles to household mobility, best practices to support mobility, and the impact of mobility on a broader range of individual and community outcomes.

About the Office of Policy Development and Research

PD&R’s mission is to inform policy development and implementation to improve life in American communities through conducting, supporting, and sharing research, surveys, demonstrations, program evaluations, and best practices.

PD&R compiles, analyzes, and disseminates data to support program operations, enable performance management, and inform program policy. PD&R sponsors major surveys to provide crucial intelligence about the operation of housing markets.

PD&R’s research and policy studies provide information about policy options and their effects, and make accessible emerging research that can guide practitioners and improve the effectiveness of HUD and HUD’s partners.

PD&R’s program evaluations provide a crucial form of accountability to the public. Evidence about program outcomes and effects also makes performance measurement a useful tool for managing programs.

PD&R coordinates program demonstrations that rigorously test innovative program models before they are brought to full scale.

PD&R’s HUDUSER.org website provides a central portal for disseminating HUD-related data and research; 18.6 million research products were downloaded in fiscal year 2016.

² Informal guidance from the Office of Management and Budget defines a learning agenda as “a set of broad questions directly related to the work that an agency conducts that, when answered, enables the agency to work more effectively and efficiently, particularly pertaining to evaluation, evidence, and decision-making. Once the questions are identified, a learning agenda also prioritizes and establishes a plan to answer short- and long-term questions of the highest value across relevant program and policy areas.”

- *Place-based Strategies*: includes Administration’s place-based initiatives (Promise Zones, Choice Neighborhoods, etc.); public safety, vacant properties.
- *Crosscutting/Other*: includes broadband, homelessness, fair housing, housing technology, behavioral experiments, and anything that doesn’t quite fit the other categories.

HUD asked participants to identify those questions that are critical to HUD’s mission and that HUD could contribute the most toward answering. From these discussions and collection points, HUD recorded 515 suggestions for research priorities to pursue for the next 5 years. This focus on HUD’s mission and comparative advantage was sharpened when the process moved back within the Department. Staff winnowed the questions and comments participants provided, ultimately developing specific projects to address priority research questions during the next 5 years. This list of projects is the core of the Roadmap.

The Roadmap is already influencing the future of research at HUD. With this Roadmap update, HUD is releasing a crosswalk that shows the research response to the first Roadmap. PD&R will continue to update this feedback mechanism and make it available on HUDUSER.gov. The Roadmap, however, is not the final word. In its entirety, the Roadmap is likely to be more ambitious than HUD’s research budget will allow, and Congressional policymakers may endorse selected Roadmap priorities or different priorities. The budget process ultimately will determine what research HUD is able to undertake and when projects are initiated.

Evolving Federal Context for Evaluation and Evidence

Recent developments in federal evaluation policy and approaches toward evidence have revolutionary potential, and shape the operating environment for a strategic document such as the Roadmap. Several of these developments highlighted below receive special attention elsewhere in this Roadmap.

Guidance for Evidence-Based Policymaking

In recent years, the Office of Management and Budget (OMB) has repeatedly asked cabinet agencies to strengthen the use of evidence and technology to improve government performance.³ Agencies are encouraged to both draw on existing credible evidence in formulating their budget proposals and performance plans and propose new strategies to develop additional evidence relevant to addressing important policy challenges. PD&R’s Research Roadmap helps support HUD in achieving both of these requests. Policymakers increasingly are committed to a broad-based set of activities to better integrate evidence and rigorous evaluation in budget, management, operational, and policy decisions. OMB has developed policy guidance related to evidence and evaluation focused on (1) making better use of data already collected by government agencies; (2) promoting the use of high-quality, low-cost evaluations and rapid, iterative experimentation in addition to larger evaluations examining long-term outcomes; (3) adopting more evidence-based structures for grant programs; and (4) building agency evaluation evidence-building capacity and development tools to better communicate what works.

³ See, for example, “Use of Evidence and Evaluation in the 2014 Budget” (<https://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-14.pdf>), and “Overview of Federal Evidence-Building Efforts” (www.whitehouse.gov/sites/default/files/omb/mgmt-gpra/overview_of_federal_evidence_building_efforts.pdf),

Commission on Evidence-Based Policymaking

In March of 2016, the Evidence-Based Policymaking Commission Act was signed into law, creating the bipartisan Commission on Evidence-Based Policymaking. The Commission is charged with making recommendations by September 2017 for stronger data infrastructure, rigorous evaluation, and integration of administrative and survey data for evaluation purposes with privacy safeguards, such as through a Federal clearinghouse for government survey and administrative data. The Act lays critical groundwork for adopting evidence-based policies that maximize public investment and improve lives. PD&R's Research Roadmap is a crucial element of evidence-based policy; by presenting a more strategic vision of how research and evidence can inform decisions, policymakers can direct government resources effectively and efficiently to deliver better outcomes for society.

Performance Management Under the GPRA Modernization Act

The Government Performance and Results Act (GPRA) Modernization Act of 2010 calls upon agencies to use evaluation and research to identify evidence-based strategies and establish and track performance plans for reaching intended objectives. PD&R's research and evaluation program focuses on HUD's strategies for achieving its strategic goals. One way that PD&R contributes evidence to achieving the Department's goals is through HUDStat.

HUDStat meetings are regular data-driven performance reviews that focus on quarterly progress towards achieving each of HUD's priority goals. The Secretary and senior leadership from throughout the agency, and sometimes from partner agencies, attend these meetings to address challenges, review metrics, improve internal and external collaboration, and increase performance. PD&R made significant contributions to the assessments of progress in achieving strategic objectives. Contributions include the provision of data to measure key metrics such as rates of severe rent burdens and affordable housing construction. Research evidence is essential to conversations about moving the needle on key metrics. For example, PD&R developed metrics to assess whether HUD-assisted children live in neighborhoods with proficient schools.

In addition to HUDStat, the evaluations and significant research reports completed during each fiscal year, and those anticipated in the near future, are summarized in the Department's Annual Performance Reports to lend context to performance measures and respond to priority goals and objectives.

Behaviorally-Informed Program Innovation

In recent years, social sciences such as sociology and economics have increasingly been informed by behavioral sciences such as psychology, social neuroscience, and cognitive science. This interdisciplinary work has had important implications for policy, and has drawn attention to the potential importance of such policy levers as nudges, default choices, and increasing the salience of clear and relevant information. Following the example of Great Britain, the U.S. set up the Social and Behavioral Sciences Team (SBST) at the General Services Administration as a consultancy for federal agencies.⁴ HUD has been considering opportunities to improve program outcomes through evidence-based behavioral

⁴ See <https://sbst.gov/download/2016%20SBST%20Annual%20Report.pdf>.

interventions, and has initiated low-cost rapid experiments with SBST's assistance such as the FAFSA student aid experiment described below.

Administrative Data Matching

As a result of increased focus on evidence-based policy making, PD&R has expanded research efforts on administrative data matching. Administrative matching and data linkage provide crucial evidence supporting HUD's strategic goal of using housing as a platform to improve quality of life. Administrative data are proving increasingly valuable for research purposes:

- Administrative records offer much larger sample sizes for full populations, which support more compelling research designs and research into important but relatively rare events.
- Administrative files often have an inherent longitudinal structure that enables researchers to follow individuals over time to address important policy questions.
- Administrative data may be less likely than survey data to suffer from high and rising rates of nonresponse, attrition, and underreporting.
- Administrative data allow PD&R researchers to conduct robust in-house research to examine housing programs.

Harnessing the power of these data through web-based information systems, geospatial analysis, and matching with survey data and administrative data from other agencies is the foundation for the next generation of evidence-based policymaking. Numerous Roadmap projects seek to use these data.

Robust evaluation systems also receive benefits from providing public access to deidentified data and external researchers' access to confidential microdata on a restricted basis. The federal government is moving systematically toward open access to public use data through the Data.gov portal. Both public-use and restricted access forms of HUD administrative data are featured in Roadmap projects.

Examples of data linkage projects and key findings that have provided evidence to promote informed policymaking include:

- **HUD-NCHS Data Linkage:** An example of PD&R's leveraging of data for impact is the linkage of health surveys and assisted housing data. In FY 2015, PD&R shared tenant administrative data from 1996 through 2014 with the National Center for Health Statistics (NCHS). Through their in-house data linkage program, NCHS linked longitudinal HUD data with two of the largest cross-sectional population health surveys—the National Health Interview Survey (NHIS) and the National Health and Nutrition Examination Survey (NHANES). Released publicly in March 2016, the linked dataset contains HUD administrative data linked to 14 years (1999–2012) of cross-sectional health survey data.⁵ This dataset allows researchers to examine the relationship between assisted housing and factors that influence health status, chronic disease, health care utilization, morbidity, and mortality. Prior health and housing studies were limited to localized studies and anecdotal information. This new data product is particularly useful because it allows for national prevalence estimates of health outcomes among HUD-assisted children and adults—estimates that were previously unobtainable.

⁵ See <https://www.huduser.gov/portal/datasets/nchs-hud-data-linkage.html>.

- FAFSA Data Linkage:** Another data matching success has helped HUD learn more about whether assisted residents are applying for the Free Application for Federal Student Aid (FAFSA) and pursuing higher education. PD&R, in partnership with the Social and Behavioral Sciences Team (SBST) and the Department of Education’s Office of Federal Student Aid (FSA) has completed its first in-house, low-cost, large-scale randomized controlled trial (RCT). The goal of this project was to test the effect of mailing reminders and information—with variations of message, messenger, and supporting attachments—to “nudge” HUD-assisted youth ages 17–20 in households receiving housing choice vouchers to complete the FAFSA, while expanding PD&R’s capacity to conduct in-house research in collaboration with other agencies.

Further information about the process of data matching is presented in Section 3, Data Infrastructure.

Resources for Implementing the Research Agenda

Financing the Research Agenda

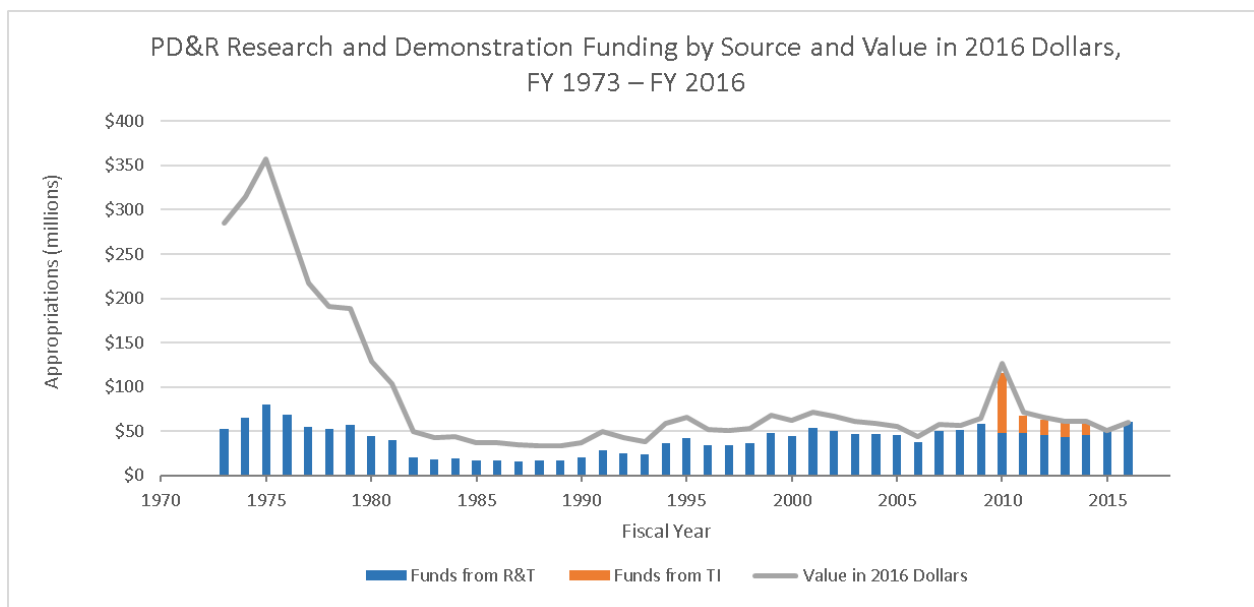
The core of PD&R’s funding is appropriated through what is called the Research and Technology (R&T) account. This core R&T funding establishes the nation’s basic infrastructure of housing data and research, through regular surveys, data compilation of HUD’s administrative data across all of HUD’s programs, core research and evaluation in the areas of housing and community development, and public dissemination of the data and research.

From FY 2010 to FY 2014, Congress appropriated additional funds for research, evaluation, and demonstration under a separate account, the Transformation Initiative (TI) Fund. The TI account was initially established as a percentage of program fund dollars to serve as a predictable, flexible stream of funding—the kind that is ideal for high-quality research and evaluation projects and program demonstrations that inform sound policymaking and effective program implementation. The first year of TI, FY 2010, was an important moment in PD&R’s history because it provided a large infusion of funding to support the complex and important research studies that will inform national housing policy for the next several decades. The National Research Council previously had pointed to the inadequacy of evaluation resources, limited to R&T, for informing the Department on how to invest program resources with the greatest effectiveness, efficiency, accountability, and innovation.⁶

Beginning in FY 2015 and continuing in FY 2016, Congress did not appropriate funds for TI, but instead funded HUD’s research, evaluations, and demonstrations through a modest increase to the R&T account. Acknowledging the discontinuation of the TI account, the President’s FY 2017 budget request supported a well-planned, rigorous, sustained, and effective evaluation program through a percentage set-aside of program account funds being allocated to the R&T account.

The following graph shows the history of funding appropriated for PD&R research, evaluations, and demonstrations through FY 2016.

⁶ National Research Council, 2008. *Rebuilding the Research Capacity at HUD*.



Since the creation of PD&R, the R&T account has been the major source of appropriated dollars for surveys, data, evaluations, and other research.⁷ The real value of research appropriations has not kept pace with inflation over this span. During the past decade, in nominal terms this account has fluctuated between a low of \$28.4 million in FY 2008 and a high of \$48.0 million in FY 2010.

In the President’s FY 2017 Budget, HUD requested \$185 million, up from the \$85 million appropriated amount for FY 2016, for R&T. The total request, however, includes two additional categories shifted from TI that are not central to PD&R’s research and evaluation mission:

- **Core Research Support**—\$65 million in direct appropriations for core research support, surveys, data infrastructure, and knowledge management.
- **Research, Evaluations, and Demonstrations**—\$33 million to support the high quality research, evaluations and program demonstrations that are essential for building knowledge, providing public accountability, and informing policy to increase the efficiency and effectiveness of the Department’s programs.
- **Technical Assistance**—\$52 million to ensure that grantees and intermediaries have the knowledge, skills, and ability to use the funds effectively.
- **Capacity Building**—\$35 million to enhance the capacity and ability of community development corporations (CDCs) and community housing development organizations (CHDOs) to carry out community development and affordable housing activities that benefit low-income persons.

The first two categories—Core Research and Research, and Evaluations and Demonstrations—are foundational for evidence-based policy, and the primary focus of the *Roadmap*. The American Housing Survey (AHS) is the principal use of funds from the R&T account. R&T also funds other surveys, such as

⁷ R&T is a budget line item that receives a specific annual appropriation of funds from Congress. <http://portal.hud.gov/hudportal/documents/huddoc?id=32-ResearchTechnology.pdf>

the Survey of Manufactured Housing, the Survey of Market Absorption, the Housing Starts Survey, and the Rental Housing Finance Survey, which provide key intelligence about a significant portion of the national economy. Many of the projects in the Roadmap use these survey resources. The costs of conducting the AHS and the other surveys have increased over time, which has squeezed PD&R's opportunities to conduct evaluations and other research using R&T resources, as highlighted in the NRC report.

In-house research activities carried out by PD&R staff (with Salaries & Expenses funding) provide an important complement to contracted research. In-house research often has a narrower scope, but can be invaluable in responding quickly to emerging policy questions and shaping more capital-intensive research efforts. A number of in-house research proposals are included in this Roadmap update.⁸

External Resources

The last potential source of funding for the research projects is partnerships with philanthropies, academic institutions and research organizations. In 2012, Congress authorized PD&R to enter into unsolicited, noncompetitive cooperative agreements with potential research partners. This authority allows PD&R to participate in innovative research projects that inform HUD's policies and programs. PD&R Research Partnerships create leverage for federal investments by requiring a 50 percent cost share from philanthropic organizations, other governmental agencies, or a combination of these entities.⁹ In 2015, PD&R invested \$1.5 million in research partnerships to leverage \$10.3 million in cost-sharing resources.¹⁰ PD&R expects to invest more than \$500,000 of FY 2016 funds in Research Partnerships.

Research Partnerships are bearing significant fruit, including the following initiatives:

- **How Housing Affects Young Children.** HUD is funding the Housing and Children's Healthy Development Study in partnership with the MacArthur Foundation, the National Institute of Child Health and Human Development (NICHD), and the Robert Wood Johnson Foundation. The study will examine how housing options and their links to neighborhoods and schools affect the socioemotional development, academic achievement, and health of children aged 3 to 10. Families with eligible children who have applied for housing assistance will be randomly assigned to obtain a housing choice voucher (HCV) or not. An innovative element in this research is that a sample of low-income families who did not apply for an HCV also will be studied. The study will investigate how families make housing choices, the impact of these choices on children's outcomes, and the impact of receiving an HCV on families' choices and children's outcomes. Data collection for this study will begin in 2017, and the first product will be a public use data set that will be housed at the University of Michigan. HUD is supporting the

⁸ Projects that are proposed to be conducted primarily by PD&R researchers address question numbers 14, 31, 75, 120, 207, 219, 232, 233, 236, 239. (Question numbers are identified in the footnote for each project and collected in the appendix.) Projects that include in-house research either as a proposed alternative to, or in combination with, procurement of external resources address question numbers 105, 176, 179 (two projects), 200, 237, 293, 443, 574.

⁹ http://www.huduser.org/portal/research/pdrrespartnerships_about.html

¹⁰ The full list of Research Partnerships to date is included as Appendix C.

study through an interagency agreement with NICHD and a research partnership award to Johns Hopkins University's Bloomberg School of Public Health.

- **Aging Gracefully in Place: An Evaluation of the Capability of the CAPABLE Approach.** This National Center for Healthy Housing (NCHH) research seeks to determine the effect of a tailored multi-disciplinary intervention, including home repair (aka: the CAPABLE approach), on an elderly population in low-income housing. The researchers hypothesize that the proposed intervention will improve the Activities of Daily Living (ADL) metrics of the housing residents. Prior studies have shown that older adults with higher ADL scores are more likely to stay in their homes and out of costly long-term care facilities. The researchers will use the ADL outcomes from this study to estimate the cost savings from avoided months of long-term care versus the costs of the interventions.
- **What Happens to Housing Assistance Leavers.** This research partnership leverages HUD's investment in the Moving to Opportunity experiment to examine why families stop receiving federal housing assistance and how they fare after leaving assistance. It thus will help address the important gap in knowledge about outcomes when program participation ends. The study also will examine how the coercive sexual environments found in some disadvantaged neighborhoods influences outcomes for female adolescents who reside there. HUD is supporting the research by providing the MTO data and a modest research partnership award to the Urban Institute.

HUD also collaborates with philanthropic partners in other ways. PD&R's Office of International and Philanthropic Innovation is strengthening connections with philanthropic research and innovation to identify and disseminate best practices through learning exchanges with U.S. and international partners.¹¹ The funds leveraged in this way provide a welcome complement to HUD resources outlined in this Roadmap. As significant research findings emerge from both PD&R-funded and philanthropic research initiatives, this public-private collaboration will accelerate progress in improving policy and program effectiveness.

Innovative HUD Research Mechanisms

In the effort to use research resources most effectively, HUD has initiated several efforts to improve research effectiveness:

- **Research NOFA.** HUD's Research Notice of Funding Availability (NOFA) encourages a collaborative partnership to undertake research projects that will have great value for the housing and community development fields. NOFAs permit external partners and researchers to engage in a cooperative agreement to address some of HUD's most pressing research needs, but do not require unsolicited proposals or cost sharing as Research Partnerships do. Rather, the NOFA approach involves substantial negotiation between HUD and the selected research teams to ensure that the research successfully answers the questions posed in the NOFA, produces high-quality research products, and generates datasets that are available for use by other researchers.

¹¹ http://www.huduser.org/portal/ipi/about_v2.html.

The NOFA process shares the strength of a competitive contracting approach in ensuring that the most qualified research organizations are engaged. NOFA applicants must meet the specific requirements and qualifications specified in the NOFA, including expertise in housing and service programs for low-income persons in general, the specific HUD programs and activities to be studied, and the specific research methods needed to undertake the study. A crucial advantage of the NOFA approach is that it enables the organizations to be pre-qualified before they undertake the costly process of developing a specific research approach in response to a statement of work. For the first year of the Research NOFA, FY 2015, PD&R awarded a project from the initial Roadmap that will assess how to speed the delivery of disaster recovery resources to stricken communities.

- **Multidisciplinary Research Team (MDRT).** The MDRT, established in FY 2013, has proven a highly effective mechanism for engaging experts in conducting rapid-response research projects. PD&R established a blanket purchase agreement with a research services firm to assemble and coordinate a team of qualified independent researchers, known as the MDRT. When HUD has a policy question requiring quick-turnaround research, typically using administrative data, then a task order is issued. The MDRT contractor selects three or more MDRT team members and solicits brief proposals responding to the task order. After consulting with HUD, the contractor selects one MDRT researcher on the basis of technical merit and value.
- **In-house Research and Interagency Collaborations.** PD&R staff possesses extensive housing-related experience, advanced degrees, and research skills that enable in-house research as well as technical monitoring of contract research. In-house research and deep knowledge of HUD administrative data and survey datasets creates valuable opportunities to collaborate with colleagues in federal sister agencies on policy-relevant research that spans agency cylinders. A number of recent and future staff collaborations are discussed in this Roadmap in connection with proposed research projects and data infrastructure.

In FY 2016, PD&R established staff-led Knowledge Collaboratives to support sharing of knowledge and expertise about policy domains of common interest, and to identify and undertake focused in-house research projects. The Housing Insecurity Module project in this Roadmap was developed by a Knowledge Collaborative, responding to a stakeholder's research question that was rated as high-priority.

2. Roadmapping Process

PD&R's vision is to be the preeminent source for research on housing, cities, and communities in the United States. To attain this vision, PD&R is committed to using its comparative advantages, including HUD's strengths, effectively while supporting partners in doing the same. Housing and community development research is too complex and too important to permit PD&R, HUD and our partners to attain effective, evidence-based policy in an unplanned or uncoordinated way.

This Roadmap and the research agenda it contains are strategic keys to PD&R's vision. A key element of the roadmapping process is engaging stakeholders in identifying research questions that are timely and relevant for HUD's mission, programs, and policy role. This focus on research questions first is a key distinction from more conventional approaches that solicit research project ideas. A small team of PD&R staff coordinated the roadmapping process and development of this Research Roadmap update:



1. **Collect Ideas and Research Questions:** To solicit a wide range of views and suggestions, PD&R Roadmap Coordinators engaged with internal and external stakeholders during FY 2016 using a variety of methods. In most cases, participants were asked to address Focus Areas that have been rapidly evolving in terms of public needs and policy and that now categorize the project proposals:
 - a. PD&R opened “Research Roadmap Forums” on huduser.gov, where stakeholders could submit ideas and research questions.
 - b. An email outreach to federal evaluators solicited views of research experts in program and policy domains that overlap with HUD's mission.
 - c. An electronic mailbox devoted to the Roadmap remains open for ongoing suggestions about important research questions on any HUD-related topic:
PDRResearchRoadmap@hud.gov.
 - d. Idea Lab meetings were held with HUD program offices, PD&R staff, and external federal stakeholders.

Through these sources, the Roadmap coordinators recorded over 500 suggestions from internal and external stakeholders and entered them into a database. Comments were identified by the session or medium in which they were received, but individual commenters remain anonymous.

2. **Compile and Organize Questions and Projects:** Coordinators compiled a database of the suggestions from stakeholders. Suggestions were classified primarily in two ways:¹²
 - **Research questions**—Foremost, PD&R sought suggestions from participants about important research questions to address during the next 5 years.

¹² Two other types of comments that HUD solicited for the first Roadmap were not emphasized for the Update: Assets, meaning elements under HUD's or PD&R's control that could be employed more fully; and Comparative Advantage, meaning thoughts about how PD&R's position and roles offer strategic opportunities for focusing or expanding efforts or collaborations.

- **Research project suggestions**—Rather than framing a general research question, some participants were more inclined to suggest proposals to use specific methods or data sources to examine a topic.

When necessary, the team reclassified the suggestions by Focus Areas to help PD&R prioritize the questions. The Focus Areas, which ranged from 17-78 questions, are:

- a) **Education:** Includes workforce training, early childhood development, early education.
- b) **Energy and Resilience:** includes energy-efficiency, resilience planning, disaster response.
- c) **Health:** includes aging in place, housing and services, smoke-free housing.
- d) **Housing Affordability (Markets):** includes housing finance and homeownership.
- e) **Housing Affordability (Programs):** includes subsidized and unsubsidized affordable housing production and preservation, LIHTC.
- f) **Mobility:** obstacles to household mobility, best practices to support mobility and the impact of mobility on a broader range of individual and community outcomes.
- g) **Place-based Strategies:** includes place-based initiatives (Promise Zones, Choice Neighborhoods, etc.); public safety, vacant properties.
- h) **Crosscutting/Other:** includes a number of topics that were originally listed under Secretarial priorities, including: fair housing, homelessness, technology, behavioral experiments, and anything that doesn't quite fit the other categories.

3. Prioritize Research Questions and Projects: The Research Roadmap gave PD&R staff the opportunity to weigh in on all of the projects and questions submitted for the Research Roadmap update. Respondents assigned a priority rating of 0 to 3 to each research question or project in the Focus group. The team used a heat mapping process to rank research questions or projects that are most critical to HUD's mission and that PD&R has substantial comparative advantage to address it effectively. PD&R's leadership and management team reviewed and discussed the top tier of ranked questions (those with average rating of 2.0 or greater), in some cases championing lower-ranked questions or posing new questions, and developed a priority list of 75 research questions and project suggestions to be assigned to SMEs for proposal development. The full list of priority questions is provided in Appendix B.

4. Develop Project Proposal Summaries: PD&R SMEs were asked to complete a project proposal summary for each prioritized research question using a standard template. Summaries of the resulting project proposals summaries are presented in Section 3.

Next Steps

HUD will pursue its research agenda using these sources of funding and means to implement both in-house and contract research. The Roadmap will guide PD&R in developing budget requests, providing assurance that projects completed from this list will prove valuable not only to the Department but also to stakeholders, partners, and beneficiaries of HUD programs. The Roadmap, however, is not the final word. In its entirety, the Roadmap is likely to be more ambitious than HUD's research budget will allow, and Congressional policymakers may endorse selected Roadmap priorities or different priorities. The

budget process ultimately will determine what research HUD is able to undertake and when projects are initiated.

This *Roadmap Update* represents a new phase in PD&R's journey that will integrate roadmapping more thoroughly into ongoing operations. The primary approach will be sustaining the Forum on huduser.gov and also making quarterly calls to the listserv participants and others for suggestions about emerging research questions and priorities. The electronic mailbox for such suggestions remains open at PDRResearchRoadmap@hud.gov. Such more frequent and consistent solicitations will keep the *Roadmap* more relevant to stakeholders, providing a stable venue for capturing the most innovative ideas and greatest opportunities.

In addition to making more frequent requests for research suggestions, PD&R intends to provide more frequent updates on Roadmap implementation. With this Roadmap update, HUD is releasing a new crosswalk between the *FY 2014–2018 Research Roadmap* priorities and the research response. Periodic updates of this accountability tool will close the feedback loop and support greater transparency about progress on new priorities as well.

3. The Roadmap: Proposed Research Projects

The research projects proposed in this Roadmap Update are organized by topical focus areas. The following project summaries provide a short description of the research, the motivation and impact, and PD&R's comparative advantage in undertaking the project.

Housing Affordability (Markets)

Housing markets establish the environment in which HUD operates to promote affordable housing goals. Housing markets involve such factors as the economic well-being of households, demographic trends, availability of housing capital, the supply of new residential construction and the rate of housing rehabilitation and maintenance.

Understanding and Defining Dimensions of Decent and Affordable Owner-Occupied Housing

Promoting decent affordable housing can mean addressing a package of housing services that flow from attributes including size, configuration, durability, interior and exterior features, and neighborhood amenities. Little research has focused on such issues for single-family homes that are purchased, operated, maintained, and financed by owner-occupants, typically with the aid of publicly-sponsored credit enhancements and tax incentives. Further, housing has changed dramatically in past decades in terms of size, space utilization, materials, systems, and costs for the housing itself and for associated consumer goods such as communications and entertainment. This project would begin a research program to identify the important metrics for defining "decent affordable owner-occupied housing," and to measure change in each metric over time. The goal is to ascertain the extent to which public policy (unlimited mortgage interest deduction, credit-enhanced lending for homes priced above area medians, relatively static and front-loaded mortgage qualification and underwriting standards, building codes and practices, and other factors) stimulates production and consumption of owner-occupant housing that is larger, less durable, and more expensive to operate and maintain than is necessary to meet a standard of decent and affordable. Initially, an in-house study will structure a broad framework aided by academic consultation and analysis of data including the American Housing Survey, Census and American Community Survey, Home Mortgage Disclosure Act reporting, and other agency data. Then PD&R could lay out a research program to be conducted through grant, contract, and in-house vehicles. PD&R is the only public organization with a portfolio ranging over all the issues raised and as such can take a broad perspective in crafting an organizational framework for the related component studies.¹³

Effect of Foreclosures on the Stock of Affordable Rental Units

After the homeownership crisis, HUD's field economists noted tightening rental markets, rapidly rising rents, and declining affordability across all apartment classes. At the same time, a large number of single-family homes were converted to rental units, including a large portion of conversions through

¹³ Addresses question 14, How has the relationship changed between home construction and purchase costs and the present value of long-term (30 years) maintenance, insurance, and operating costs? What are the implications for affordability and sustainable homeownership? This project also has relevance to questions 44 and 49, What are the most cost-effective strategies for lowering operating costs of housing? How has the useful life of building materials and systems changed, and what are the implications for housing affordability?

investor purchases of real estate owned (REO) properties. This staff working paper will combine census data with proprietary datasets on foreclosure completions to investigate whether the conversion of REO properties to rental housing significantly increased the inventory of affordable rental units in national, regional, and local markets. Understanding the dynamics of housing markets and ensuring their balance and affordability is central to HUD mission, and HUD’s field economists are ideally positioned to integrate national and local perspectives in conducting this research.¹⁴

Long-Term Foreclosure Outcomes of FHA Mortgage Modification Programs

In response to the foreclosure crisis, the Home Affordable Mortgage program (HAMP) was established to allow homeowners to modify their FHA-insured mortgages to reduce their monthly mortgage payments and help avoid foreclosure. FHA-HAMP allows the use of a partial claim against FHA’s mortgage insurance—up to 30 percent of the unpaid principal balance at the time of default—in combination with a loan modification. A HUD-contracted assessment of FHA-HAMP performance in comparison with standard FHA loan modifications and other loss mitigation interventions is near completion.¹⁵ Moreover, FHA has altered its loan modification program to use only the HAMP approach beginning in December 2016. This research will provide a longer-term evaluation of outcomes from existing FHA-HAMP modifications as well as an analysis of future modifications. An in-house research approach will make use of FHA performance data, as HUD has the comparative advantage of following the performance of loans that FHA insures and modifies.¹⁶

Addressing Affordable Housing Needs of Older Americans

As the population of low-income seniors is projected to grow rapidly during the next 15 years, HUD is expected to face major challenges in meeting aging population needs, such as providing affordable housing, assisting with activities of daily living, and facilitating aging in place. HUD already provides rental assistance to more than 1.4 million low income seniors, yet meets only 36 percent of the need. This research will assess and project the nature and trajectory of housing needs of very low-income seniors during the next 10 to 20 years. It will develop evidence-based strategies to best meet the need through housing production, preservation, financing, assistance, and supportive services integration. The contracted research will begin with an environmental scan and convening of diverse experts to assess the needs of low-income seniors, current program responses, and recommended housing assistance models or policy changes. This phase of the research should culminate in concrete policy recommendations or models to test. The next phase will pilot and rigorously test one or more housing assistance models based on the recommendations. These may include new financing models (e.g. combining Low Income Housing Tax Credits and Project-Based Rental Assistance), strategies for preservation, or supportive services models. PD&R is well-positioned to undertake the collaboration,

¹⁴ Addresses question 31, How are foreclosed units affecting the size of the affordable rental stock?

¹⁵ See “Analysis and Evaluation of FHA Loss Mitigation Efforts,” forthcoming. Prepared by the Urban Institute.

¹⁶ Addresses question 207, What has happened to [single-family loans that received mortgage modifications after the Home Affordable Mortgage program (HAMP) ended], and how many go into foreclosure?...Track the FHA modification and FHA-HAMP to determine the success and failure over the long term.

policy development, demonstration, and evaluation necessary to establish proven models to help HUD respond effectively to the demographic shift.¹⁷

Consequences of Home Equity Loss for Elderly Homeowners

As house prices approach peak levels nationally, some housing markets have been left out of the recovery. Indeed, some markets barely experienced the exuberance of the housing bubble but instead have experienced secular decline in house values over a period of decades. This study will examine how economic restructuring after the homeownership crisis affected trends in property values and the consequences for the housing stock and households in declining markets. It will emphasize places experiencing long-term decreases in housing demand, especially rural and small-to-midsize communities, and on senior households (65 years or older). A member of the Multidisciplinary Research Team would receive a task order to use two long-term panel datasets. First, the recently concluded 1981–2013 American Housing Survey panel would be used to study the trends and characteristics of the housing stock and households in declining markets. Second, a study using the Panel Survey of Income Dynamics would examine what happens to households after they sell their homes and move out of these communities. In both studies, structural decline in housing markets may be analyzed by comparing long-term trends in metropolitan area house prices with a Bartik (1991) instrument of labor demand based on the composition of local industries.¹⁸ Researchers could compare household outcomes in declining markets relative to other markets with similar households in other market based on housing and demographic characteristics. Outcome measures include net equity and wealth, labor market participation, housing expenditures and affordability (including home maintenance, repairs, and improvements, property taxes and insurance, etc.), rates of mobility, rates of mortality and morbidity. Such research is central to HUD’s mission of providing stable homeownership and supporting community revitalization, and understanding the consequences of depreciating home values would inform HUD programs.

Housing Affordability (Programs)

Affordable housing programs involve the financing, production, preservation, and administration of both subsidized and unsubsidized housing units, especially for disadvantaged populations. The successful operation of affordable housing programs involves issues such as their scale, costs, effectiveness, and ability to meet the needs of U.S. households.

Assessing Benefits of Reverse Mortgages for Seniors

Most senior homeowners report that they prefer to age in place rather than be forced to liquidate their home equity by selling their home. Reverse mortgage loans such as FHA-insured Home Equity Conversion Mortgage (HECM) loans are intended to facilitate aging in place by enabling seniors to use home equity for health expenses, home retrofits to increase accessibility, and other retirement costs. However, reverse mortgages remain a small, niche market and are not used uniformly by all groups of

¹⁷ Addresses question 188, How can we meet the expected affordable housing production need for older adults in the next 15 years?

¹⁸ Bartik, Timothy J. 1991. “Who Benefits from State and Local Economic Development Policies?” Kalamazoo, MI: W.E. Upjohn Institute.

senior homeowners. Accurate assessment of the benefits of reverse mortgages requires a comparison to similarly liquidity-constrained seniors. This in-house study will be conducted by PD&R staff in collaboration with other HUD offices and federal agencies such as the Census Bureau and Social Security Administration. The research will employ FHA's Home Equity Reverse Mortgage Information Technology (HERMIT) data on HECM endorsements and other data sources. The work will include descriptive and regression analyses, including survival analysis, comparing senior HECM borrowers with similar non-borrowers. Outcomes to be assessed include household finances, health status, mobility, and mortality. HUD has access to confidential information on reverse mortgage borrowers and also has the technical capacity to conduct the necessary analysis.¹⁹

Property Tax Defaults Among HECM Reverse Mortgages

The 2014 actuarial report of FHA by Integrated Financial Engineering estimated that 12 percent of FHA's active Home Equity Conversion Mortgage loans were in technical default for the nonpayment of property taxes and/or insurance. By comparison, the national tax delinquency rate in 2014 was estimated to be 2.6 percent. Given the relatively high rate of property tax delinquency for HECM properties, this study will assess whether HECM borrowers experience property tax default, and participate in property tax relief programs, at the same rate as otherwise similar property owners. The findings would inform policymakers about any changes necessary to assure the continued viability of the program. PD&R staff will conduct the research in collaboration with other HUD offices and the Social Security Administration. FHA's HERMIT data on HECM and other FHA loan endorsements would be linked with local administrative tax and assessment records and with Social Security income data. Survival analyses will evaluate relative rates of property tax delinquency and default. HUD is able to undertake this research through access to confidential information on reverse mortgage borrowers.²⁰

U.S.-Japan Housing and Finance Innovation Forum: Aging in Place in Urban Environments

The portion of the United States population that is 50 years or older is increasing. While the majority of older adults desire to remain in their homes as long as possible, many of these homes lack the necessary elements to support the residents' needs, and many communities lack services and resources that could enable adults to remain there as they age. Japanese housing policy and practice has rapidly evolved to address their fast-aging population, from establishing design standards to enabling market-based solutions to help meet the needs of older adults. In the U.S., Federal, state, and local governments are interested in creative policy and programmatic solutions that may allow older adults to age in place in their homes and in their communities. This is an atypical PD&R project, as the research will be conducted in partnership with the Government of Japan. Ginnie Mae-funded U.S. researchers will work alongside Japanese funded researchers to derive lessons for both bilateral partners. Specific research questions, datasets, and research plans are to be defined during a bilateral research planning meeting in early 2017. The findings from this comparative international research project may have lessons for U.S.

¹⁹ Addresses question 341, To what extent do Home Equity Conversion Mortgages benefit seniors?

²⁰ Addresses question 219, What is causing the increasing number of Home Equity Conversion Mortgage (HECM) defaults related to non-payment of taxes and insurance (T&I)? To what extent is it caused by fixed-income borrowers who rely entirely on Social Security income? What are the long-term implications for the housing industry, considering that nearly 19 percent of the total U.S. population will be 65 or older by 2030?

policy and practice on how seniors are enabled to age comfortably in their homes and communities. As the department leading U.S. housing policy, HUD is best positioned to commission this research, which responds to the changing demographics in the U.S. and informs steps to address them. Further, this research may inform future programming and policy to serve low-income seniors served by HUD.²¹

Olmstead Implementation and Impact on Existing Models of Supportive Housing for People with Disabilities

The Supreme Court’s 1999 Olmstead decision ruled that people with disabilities have the right to live in integrated settings rather than in institutions, and brought a major policy shift to supportive housing for people with disabilities. Housing provided by several HUD programs—such as Section 811, Section 202 Direct Loan, and Section 232 facilities²²—has been affected the Olmstead integration mandate and the resulting definition of home and community-based setting that the Centers for Medicare & Medicaid Services (CMS) established in 2014 as grounds for Medicaid reimbursement.²³ HUD has been addressing the problems affecting existing properties in multiple ways, such as using statutory authority to allow large Section 811 group homes to be restructured into smaller properties or using transfer authority to repurpose or dispose properties that do not conform with the integration mandate. HUD also is supporting new models of housing assistance that align with the integration mandate, such as the Section 811 Project Rental Assistance (PRA) program and housing choice vouchers for non-elderly persons with disabilities (NED vouchers). This project will help determine the scope of the problem; describe the characteristics of properties that have been most affected; develop case studies of Section 811, 202, and 232 properties; and propose statutory changes, strategies, and guidance to supportive housing providers. A contractor will employ mixed methods (a) to match and analyze HUD tenant data and CMS data to define the universe and examine characteristics of assisted properties and people that are likely to be affected by the Olmstead implementation and CMS home and community-based rule; and (b) to conduct site visits and interviews with state agencies and property owners to identify successful strategies to adapt the current assisted housing stock to the new policies. HUD has a direct interest in finding approaches to adapt its old stock of supportive housing for persons with disabilities to this new policy context.²⁴

Capital Needs of Section 202 Elderly Housing

HUD has periodically funded studies to assess the capital needs of the public housing stock (1985, 1998, and 2010) and HUD-insured multifamily housing stock (1990 and 1995). No capital needs assessment, however, has specifically covered the Section 202 program that provides assisted housing, often with supportive services, for the elderly. Forecasts of an aging population suggest that there will be high demand for subsidized housing for the elderly in the coming years, and housing experts are concerned

²¹ Addresses question 516, What have other countries (i.e. Hong Kong, Japan) learned from reverse mortgage programs similar to HUD’s Home Equity Conversion Mortgages (HECMs)? What policies differ and what are the outcomes?

²² For program descriptions, see Office of General Council (2016), “Programs of HUD.” <http://portal.hud.gov/hudportal/documents/huddoc?id=HUDPrograms2016.pdf>.

²³ See <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2014-Fact-sheets-items/2014-01-10-2.html>.

²⁴ Addresses question 189, What does the Olmstead decision mean for state-level housing needs and rebalancing efforts during the next 5 to 10 years to enable individuals with disabilities to live in the most integrated community settings?

about the preservation of existing units, including the potential for assisting Section 202 units with Project Rental Assistance Contracts as part of the Rental Assistance Demonstration. This contracted research would assess the current condition of Section 202 housing properties and examine options for recapitalizing properties that need investment. The study would use the methods and procedures established in prior capital needs studies, measuring capital needs directly from a statistical sample of properties. HUD's financial stake in the properties gives it a vested interest in measuring capital needs accurately and on a national basis.²⁵

Production and Affordability of FHA-Insured Multifamily Developments

FHA mortgage insurance under Section 221(d)(4) increases financing for profit-motivated sponsors of new construction or substantially rehabilitated multifamily rental housing for moderate-income households. Section 221(d)(3) formerly served a similar purpose for public, nonprofit, and cooperative mortgagors. Unlike (d)(3) developments, which have project-based assistance contracts, there are no income limits for families in (d)(4) units, and affordable rents result primarily from use with Housing Choice Vouchers. This contracted research project will examine the historical production under the programs, the loss of program units to the private market and demolition, the rental costs and locations of the units, and the use of rental assistance payments and vouchers by tenants residing in properties insured under these sections compared to those that are not. The research will be undertaken by a contractor and will include a literature review and consultation with experts, analysis of HUD administrative data,²⁶ a rental costs survey of insured projects, and case studies of projects that vary in their success at providing affordable units. PD&R's comparative advantages in conducting this important research result from access to program experts and experience with administrative data and rental cost surveys.²⁷

Study of Project-Based Rental Assistance (PBRA) Transfers

HUD has the authority to transfer PBRA contracts from one property to another. This can be done under Section 8(bb) authority or under authority provided in recent years through annual appropriations acts (Section 318, 212, or 214, depending on the year). There has been limited research on how these transfers are used—from basic questions like the number of properties and units transferred to more complicated questions about the effect on preservation of affordable housing, financial and physical conditions of projects involved, or the types of neighborhoods involved and the effect on tenants. This contracted research would review HUD records and internal data to describe how transfer authority is used and document the number of properties, units, and households affected. It would also characterize the effect of transfers by comparing the “sending” and “receiving” properties on dimensions such as location and neighborhood context, financial and physical conditions, and tenant characteristics. The

²⁵ Addresses question 205, Study the capital needs backlog in the Section 202 elderly housing portfolio to [assess whether the Rental Assistance Demonstration can work with the proposed Project Rental Assistance Contracts (PRACs) for Section 202] developments.

²⁶ Administrative data systems may include Integrated Real Estate Management System(iREMS), Development Application Processing (DAP), Multifamily Accelerated Processing (MAP), Real Estate Assessment Center (REAC) sources, and the Tenant Rental Assistance Certification System (TRACS).

²⁷ Addresses question 36, Examine the production of Sec.221(d)4 financed (New Construction/Substantial Rehab) properties, including cost and location of units, for potential use with vouchers.

research design will be informed by collaboration with the FHA Office of Asset Management and Portfolio Oversight. The study would require access to HUD records and internal data. Individual case studies could be conducted without HUD involvement, but only HUD is in a position to comprehensively study how transfer authority is used.²⁸

Leasing Performance and Success Factors in the Housing Choice Voucher Program

The success that Housing Choice Voucher recipients experience in leasing units with their voucher is central to the program's performance outcomes including cost per unit, tenant rent burdens, and HCV budget utilization. Previous research, including a success rate study in 2001, shows that lease-up success rates are affected by household size, age, and composition, which interact with the tightness of the rental market, payment standards, and occupancy standards. Since 2001, rental markets have changed significantly and the affordable housing shortfall has greatly worsened for renter households with incomes below 50 percent of area median. This study would draw on the previous methodology to examine current success rates, search times, and factors affecting lease-up success. In a pilot phase, an in-house team will survey 9 PHAs to assess feasibility and inform a larger contracted survey, with incentive payments, of 25 to 50 PHAs. The survey would capture qualitative data about leasing challenges (e.g., market factors, PHA management factors such as inadequate payment standards, housing quality, or other causes). A complementary quantitative analysis of administrative data, potentially supplemented by collection of detailed voucher issuance and expiration data from four Small Area Fair Market Rent Demonstration sites over time, would inform the effect of resetting payment standards and the implications for expanding housing choice. PD&R is ideally positioned to conduct this research because HUD administers the HCV program, maintains the administrative data, and has existing relationships with the PHAs.²⁹

Impact of Federal Rental Housing Investments in Rural Markets

Federal assistance can be critical to preserving the small existing stock of rural multifamily rental units and to encourage new construction, but the extent of federal assistance is unknown. No current study exists examining all federal rental housing subsidies and assistance in rural communities. Federal assistance for housing comes from HUD, the U.S. Department of Agriculture (USDA), and the Treasury Department, through Low Income Housing Tax Credits. The project seeks to evaluate the impact of federal rental housing investment in rural markets, determine how many affordable units receive federal assistance, assess the effects of these units on the market, and project the effect of subsidized units exiting the rural rental market. The research project will (1) use existing HUD and USDA data to develop unduplicated counts of federally assisted rental units and households in rural America across all major federal housing assistance programs and agencies; (2) conduct market assessment and case studies across a range of rural markets to understand the impact of federal investment and the effects of

²⁸ Addresses question 330, Does the revenue-neutral transfer of budget authority between multifamily properties under Section 8 (bb) improve the financial position of those properties, and their ability to recapitalize? How can the 8(bb) transfer authority best serve the need for affordable housing preservation?

²⁹ Addresses questions 431, What is the impact for housing choice and voucher lease-up rates of PHA failure to reset payment standards? What are the implications for increasing the number of households served versus expanding housing choice? And 497, What are the reasons for voucher recipients failing to lease up?

federally-assisted housing supply and rental assistance; and (3) collect and analyze data on preservation and production challenges from developers, operators, and funders/investors in rural rental housing across a variety of rural markets. The project would provide a baseline of data for Federally-assisted housing in rural communities and tools to expand access to affordable housing in rural communities in the future. The project will utilize data from HUD administrative data (including PIC, TRACS, and LIHTC databases), USDA Rural Rental Housing Section 515/514 Direct Loan Database, and the USDA Rural Rental Housing Section 538 Guaranteed Loan Database. HUD staff or contractors would work with USDA staff to match and analyze the data, conduct market assessment and case studies, and analyze data collected from developers, operators, and funders/investors. PD&R has a comparative advantage in addressing the research questions because of experience in matching large datasets, familiarity with HUD programs in rural areas, and collaborative relationships with USDA.³⁰

Evaluation of the Community Service and Self-Sufficiency Requirement

The Quality Housing and Work Responsibility Act of 1998 established the Community Service and Self-Sufficiency Requirement (CSSR) that every adult resident of public housing must contribute eight hours of community service per month, or participate in an economic self-sufficiency program for eight hours per month. Certain individuals, including individuals who are employed and individuals with disabilities, are exempt from this requirement.³¹ In 2016, HUD published a rule allowing PHAs to accept resident self-certifications of compliance with the CSSR if the PHAs validate a sample of self-certifications. PHAs must retain the records of this validation for two years for possible HUD review. For this research, an outside entity could be engaged through the research NOFA to design and conduct an evaluation of the CSSR. The evaluation should describe what community service and economic self-sufficiency work is being done by residents for the CSSR, who is doing such work, who is exempted, and whether participating residents are increasing their self-sufficiency. The evaluation should also describe how the CSSR experience differs for PHAs that allow self-certification. The research would involve reviewing original materials, interviews of HUD and PHA staff, analyzing tenant data, and analyzing validation records from PHAs that allow self-certification. HUD has unique access to records from the validation of self-certifications from PHAs and is also the main stakeholder in the results of this research.³²

Understanding Hassle Costs and Behavior for Wrap-Around Services

Research from the social and behavioral sciences has shown that seemingly small barriers to engagement, such as burdensome applications, can prevent programs from effectively reaching the people they are intended to serve. To address this, Federal and State benefits programs use direct certification, a process to verify eligibility for benefits based on enrollment in another program without the need to submit additional application or household information and verification. Such coordination streamlines the application process and enables people to participate in the programs that are intended

³⁰ Addresses question 443, What is the impact of federal rental housing investments in rural markets? How many affordable units receive federal assistance, and what is the effect of the presence of these units upon the market? What is the impact of the looming exit of subsidized rental units from rural markets on those tenants and communities?

³¹ As outlined in 24 CFR 960.601(b).

³² Addresses question 502, What purpose is served by the work and community service requirement for assisted tenants, and what are the costs and benefits of the policy?

to serve them. This project involves a series of low-cost experiments that provide HUD-assisted families with documentation of HUD assistance, application forms for benefits programs they may be eligible for, and information on how to apply. The take-up rates for different combinations of supports will be assessed. In partnership with the Social and Behavioral Sciences Team (SBST), in-house researchers will conduct a scan of benefits programs available to HUD-assisted families through direct certification (e.g., Lifeline) and choose several benefits programs to test with different outreach. Households will be randomly assigned to outreach treatments that vary on the basis of providing applications only versus applications with verification documents; providing messages with different framing about eligibility; and a control group with no outreach. Outcomes would be analyzed by linking HUD's administrative data with administrative data for the benefit programs. This research will provide opportunity to estimate the cost of verification requirements and the potential benefits of more seamless direct certification, an additional benefit to future policy discussions. HUD has unique access to data and contact information on HUD-assisted families, and can both determine eligibility for other benefits programs and reach out to them directly. It also has robust data-sharing potential with other agencies to measure enrollment outcomes.³³

Policy Lessons from Moving To Work Expansion

PD&R did not directly solicit research questions for this focus area from the full range of stakeholders. There was a parallel outreach effort, however, that was mandated by Congress in connection with the expansion of Moving To Work waivers to additional public housing authorities. Congress shares HUD's concern that MTW expansion must be properly evaluated and produce actionable evidence of what works to make public and assisted housing more cost-effective and produce better outcomes. Several priority research questions received from Roadmap contributors have been integrated into this focus area because the MTW expansion provides a unique opportunity to conduct rigorous experiments with direct implications for policy and programs.

Evaluating the Effects of MTW Flexibility on Small Housing Authorities

Congress has authorized HUD to expand the Moving-to-Work (MTW) Demonstration program to 100 new housing authorities, including nearly 50 smaller PHAs. To date, little is known about how PHAs use MTW flexibility or the effects of the policy changes administered using this flexibility, which is critical to the administration of HUD's largest programs. This study will evaluate the expansion of MTW to as many as 30 small PHAs (those assisting fewer than 1,000 families) to learn about the effects of providing small PHAs with increased flexibility on a variety of measures. This research with the first cohort of the MTW expansion PHAs will be conducted with both in-house and contract resources. In addition to documenting what PHAs do with the provided flexibility, the study will evaluate the effects of flexibility on the three statutory goals of MTW—cost-effectiveness, economic self-sufficiency, and neighborhood choice—among other dimensions such as number and types of households served. The data will include a mix of existing administrative records on PHA budgets and tenant characteristics, as well as new data collected through a baseline survey conducted during the application process and follow-on surveys

³³ Addresses question 440, Where could behavioral levers be used to advance program goals, including issues related to climate and disaster resilience, mobility, affordable housing preservation, and health?

over the course of 3 to 5 years. The quantitative component of this research will make use of a lottery process for approving MTW authorization to compare outcomes of PHAs that are lottery “winners” with lottery “losers.” Additional qualitative work on the how MTW changed PHA operations also may be included. This research will provide critical evidence on the efficacy and effectiveness of the MTW Demonstration. HUD’s comparative advantage in undertaking this research arises from detailed knowledge of HUD programs and operational issues facing PHAs, and from taking advantage of HUD’s forthcoming solicitation for MTW applications to conduct a random assignment experiment.³⁴

Incentives for Landlords to Accept Vouchers in MTW Expansion

Congress has authorized HUD to expand the Moving-to-Work (MTW) Demonstration program to 100 new housing authorities, including nearly 50 smaller PHAs. Some existing MTW PHAs have used the MTW flexibility to offer different types of incentives to landlords to improve landlord participation and expand choice in housing for HCV tenants. Agencies could propose some combination of payment standard flexibility, cash incentives to landlords, less frequent inspections, or similar. This research will employ both in-house and contract resources to examine landlord recruitment and retention policies and outcomes. The data being used in this study include a mix of existing administrative records on number of participating landlords and the locations of successfully leased units, and data collected at baseline and in follow-up periods on how PHAs recruit landlords at baseline and then after the intervention. Data would also be collected from PHAs to determine voucher lease-up success rates. If resources allow, this study would also include a satisfaction survey of landlords for both treatment and control PHAs. The quantitative component of this research will make use of a lottery process for approving MTW authorization to compare outcomes of PHAs that are lottery “winners” to lottery “losers,” involving the third of several cohorts. Additional qualitative work on the how MTW changed PHA operations may also be included. This research is critical to ensuring HUD’s largest and still growing program can ensure there is an adequate supply of willing landlords offering quality housing. This is uniquely important to HUD. It also demands a detailed knowledge of both HUD programs and operational issues facing PHAs. Further, HUD is developing the solicitation for MTW applications, providing a unique opportunity to shape this research.³⁵

Effects of MTW Rent Reform

Congress has authorized HUD to expand the Moving-to-Work (MTW) Demonstration program to 100 new housing authorities. One of three statutory objectives of MTW is to encourage economic self-sufficiency of assisted households. While HUD’s Rent Reform demonstration will provide evidence on one particular design of rent reform, MTW PHAs employ a range of different rent-setting policies that have not yet been rigorously evaluated, including stepped-up rents, tiered rents, and flat rents. This

³⁴ Addresses question (project suggestion) 176, Evaluate effects of the Moving-to-Work program on rents, payment standards, shifting of operating to capital expenses, limiting of portability, and the host of issues that have been raised by researchers and Government Accountability Office. Do a baseline of the newest PHAs admitted into MTW.

³⁵ Addresses question 179, How can landlord participation in the Housing Choice Voucher program be increased? What behavioral factors influence whether landlords accept vouchers, and what can HUD do about it? What incentives do landlords have to accept Housing Choice Vouchers in high-opportunity neighborhoods? What attitudes do they have toward Section 8 tenants? Are there best practices for PHAs that encourage landlords to accept vouchers, such as an insurance fund for landlords, security deposit assistance, timely HQS inspections and other procedures, or having a customer service focus?

contracted research will produce critical evidence on the effects of several types of rent reforms on such outcomes as economic self-sufficiency and housing stability. The study aims first to understand how rent reforms affect labor force participation, earnings, and housing stability of assisted tenants, as well as effects on program costs and variation of effects across different subgroups. The data will entail administrative data from PIC linked to other PHA records and administrative earnings records, as well as possibly Homeless Management Information System data or other data sets at the Census Bureau's CARRA research center. PHAs participating in this second MTW expansion cohort will be invited to propose one of several rent reform designs, with designation as MTW conditional on participation in the evaluation of the proposed design. The evaluation will require randomizing the rent reform at the tenant level so the effects of reform can be credibly estimated. This research requires a detailed knowledge of HUD programs and rent rules, and HUD's forthcoming solicitation for MTW applications presents a unique opportunity to rigorously evaluate rent reform options.³⁶

Energy and Resilience

The Energy and Resilience focus topic involves the interaction of HUD programs with important environmental issues such as their consumption of energy and the resilience of HUD-supported communities to natural disasters or economic shocks. These topics have important economic implications relating to the operating costs of HUD programs, the hidden risks posed by vulnerability to disasters, and the speed and completeness of recovery after disaster.

National Disaster Resilience Competition Case Studies

In January 2016, HUD awarded \$1 billion through the National Disaster Resilience Competition (NDRC) to 13 grantees to develop and implement strategies that will improve their ability to withstand and recover more quickly from future disasters. Unlike previous HUD disaster recovery efforts, this unique program focuses more on long-term mitigation of disaster risk and emphasizes comprehensive, place-based efforts. NDRC grantees vary greatly in terms of the challenges they are addressing (wildfire, flooding, others), the type of grantee and geographic scale (states, cities, counties), and amount of funding. A cross-disciplinary team contracted for this research will develop case studies for all 13 sites to characterize the full scope of the program, including extensive site visits of selected grantees. The information will be used to judge the extent to which NDRC investments are successful at improving resilience and the potential for replicating strategies in other communities. Existing HUD data to be used include application materials and data on activities, accomplishments, and performance metrics. Other existing data sources, primarily quantitative, could include scientific measures of ecosystem health, data on the built environment (such as parcel data), data on hazards (such as flood maps), and measures of social and economic resilience (such as a social vulnerability index, and data on economic activity). These data sources will be critically important to the project, as the long time horizon that is central to the concept of resilience means that disasters are unlikely to directly test resilience outcomes during the study time frame. For this reason, examining intermediate measures of resilience and

³⁶ Addresses question 500, What tenant behaviors, unintended consequences, and outcomes result from flat rents? How do over-income tenants respond to flat rents?

modeling their effect on reduced vulnerability to disaster will be necessary. HUD-funded researchers would be most likely to get the level of access and support required from NDRC grantees.³⁷

Evaluating Policies to Improve Property Hazard, Flood, and Earthquake Insurance Coverage

Approximately two-thirds of US counties have had a major disaster declaration in the past 5 years. For some disasters, thousands of homes are damaged or destroyed and very high proportions of homes lack insurance covering the damage. Homes and families with insurance recover relatively quickly, but those without insurance recover slowly or never fully recover.³⁸ Many households without insurance are poor or elderly, and an uninsured disaster event can have a severe impact on their quality of life and long-term wealth. Moreover, each year thousands of homes experience flooding despite locations outside the 100-year flood plains defined by the Federal Emergency Management Agency (FEMA). Very few such households of any income have insurance coverage for this damage. Property owners with a mortgage are required by federal law to carry hazard insurance and must carry flood insurance if located in a FEMA defined area with a 1 percent or greater risk of flooding each year. Many lenders require the insurance payment to be included in the mortgage payment and held in escrow and paid by the mortgage servicer. This research would: (1) Evaluate the effectiveness of the mortgage requirement, and the requirement to escrow on insurance coverage; (2) identify and evaluate any local policies that lead to higher rates of insurance coverage, including flood insurance coverage outside of 100-year flood risk areas and coverage for homes without a mortgage; and (3) provide theoretical analysis of the costs and benefits of other policies, such as tax deductions or credits or expanded requirements for holders of mortgages, that could be implemented by the federal government to improve hazard, flood, and earthquake insurance beyond the current requirements. This research will be conducted with contract and/or in-house resources. The study will use American Housing Survey data, FHA data (and possibly other administrative data such as the National Mortgage database), and publicly available FEMA data. It would also involve a metadata analysis of research conducted on this topic. Since the mid-1990s, HUD has become increasingly important as funding of last resort after a major disaster, providing CDBG-Disaster Recovery funds to communities to cover recovery costs not addressed by Insurance, FEMA, and the Small Business Administration. Experience has shown this is a costly and inefficient method to support recovery for housing, because recovery is much faster when property owners have insurance. It is in HUD's interest that a greater percentage of properties carry insurance for all perils, thus reducing the need for CDBG-DR to address housing recovery costs.³⁹

Effectiveness of Energy Benchmarking in Assisted or Insured Multifamily Housing

HUD's strategic plan identifies multiple initiatives to boost the energy efficiency of the housing stock that is insured by FHA (13,000 projects) or assisted through multifamily housing programs (23,000

³⁷ Addresses suggestion 129, Evaluate and conduct case studies of the National Disaster Resilience Competition to assess and support national replicability. Are communities that go through comprehensive, place-based planning efforts more resilient to disaster, and more effective in spending disaster recovery funds?

³⁸ A simple observation is that places devastated by tornadoes and fires recover much faster than places with flooding, primarily because many more homes carry insurance for these hazards.

³⁹ Addresses question 200, How well are home and other properties in at-risk communities insured against disaster risks? What insurance coverage is required? What are effective strategies to increase the degree to which individual property owners are carrying adequate hazard insurance?

projects). Evidence about the effectiveness of these initiatives, however, is limited by a lack of reliable data about energy consumption and costs. This contracted research will collect the necessary utility data for a representative sample of multifamily buildings and benchmark measured energy consumption against similar buildings to identify excessive operating costs. Research into the energy and financial conditions of multifamily properties will support balanced policies enabling FHA to continue to benefit communities through housing and community development and provide decent and safe rental housing for eligible low-income families, the elderly, and persons with disabilities. This contract research will quantitatively analyze the energy and financial performance of the insured and assisted properties and inform HUD about the feasibility and cost-effectiveness of benchmarking more broadly to reduce energy consumption in HUD programs. HUD's role in insuring and subsidizing multifamily properties provides a vested interest in weighing the energy and financial impacts of utility consumption.⁴⁰

Evaluation of the FHA Mortgage Insurance Premium Reduction Program for Multifamily Housing

A core purpose of FHA is increasing the availability of affordable housing capital by insuring single family and multifamily loans against default. Borrowers who receive FHA-approved mortgage loans pay mortgage insurance premiums (MIPs) up-front and annually (through monthly installments). In January 2016, the Department announced MIP reductions for certain FHA Multifamily Housing Insurance programs to promote green and energy-efficient affordable housing. Mortgagors with MIP reductions are required to construct their properties using nationally recognized green building standards, and use EPA's Portfolio Manager application to annually certify that their property has first achieved, and then maintained over the duration of the mortgage, an ENERGY STAR score of 75 or better. A contracted implementation evaluation will examine how this program has been introduced, administered and monitored based on a representative sample of Multifamily housing projects. The study also will evaluate how well MIP Reduction objectives are being achieved and the effectiveness of underwriting and quality control methods for assuring improved energy performance. Outcomes to be assessed include the financial and utility conditions of the study's participants, the validity of utility data and reported energy savings, the estimated costs in terms of revenue forgone per unit of energy saved, and potential financial risk that reduced premiums may pose for FHA's reserve funds. HUD's central role in insuring FHA-approved loans offers a compelling rationale for assessing the implementation of the MIP reduction, documenting the financial and energy outcomes for participating properties, and anticipating any potential risk for FHA's reserve funds.⁴¹

Assessing the Effectiveness of HUD's Multifamily Pay For Success Program

The Fixing America's Surface Transportation Act⁴² authorized HUD's Office of Multifamily Housing to implement budget-neutral, performance-based agreements in fiscal years 2016 through 2019 that result

⁴⁰ Addresses question 201, Will energy benchmarking decrease the amount of energy consumed by the FHA-insured properties and Low-income PHAs?

⁴¹ Addresses question 423, Which energy efficiency programs (e.g. Green Retrofit, the FHA MIP reduction, PACE, Better Buildings Challenge, Renew 300, Multifamily Pay for Success, energy benchmarking, EPCs, rate reduction incentive, etc.) have been most effective at achieving energy savings (in terms of consumption and dollars), and under what circumstances? What steps need to be taken to ensure the savings are sustained? As properties become more energy efficient using existing approaches, will new tools be needed to address energy use in the harder-to-reach properties?

⁴² Title LXXXI, Section 81001, Public Law 114-94.

in reductions in energy or water costs. This program operates under a Pay for Success (PFS) financing framework that allows HUD to enter into contractual agreements with outside entities to facilitate the improvements within HUD-assisted properties. Under this model, HUD specifies concrete, measurable outcomes that must be achieved prior to repaying the investors. This PFS pilot will be implemented in up to 20,000 assisted multifamily units participating in the Section 8 Project-Based Rental Assistance Program, Section 202 Supportive Housing for the Elderly Program, and Section 811 Supportive Housing for Persons with Disabilities Program. A contracted implementation evaluation will examine how this program has been introduced, administered and monitored based on a representative sample of Multifamily housing units. The study also will evaluate how well PFS objectives are being achieved and the effectiveness of contractual agreements and quality control methods for assuring improved energy performance. Outcomes to be assessed include the financial and utility conditions of the study's participants, and the validity of utility data and reported energy savings. Evidence illustrating the effectiveness of this initiative will be critical in determining whether this type of financing mechanism should be more broadly implemented. HUD's central role in executing these budget-neutral, performance-based agreements offers a compelling rationale for assessing the implementation of the PFS Program, and documenting the financial and energy outcomes of the study's participants.⁴³

Education

Education is an essential part of HUD's Housing as a Platform goal and objective to advance self-sufficiency and economic prosperity for HUD-assisted residents. Education topics can include workforce training, early childhood development, early education, and access to secondary education.

Early Development and Education of HUD-Assisted Children

Little is known about the extent of educational disadvantage of HUD-assisted children relative to other children, and whether housing assistance mediates that disadvantage. Researchers increasingly recognize early child development as critical for life outcomes and for interrupting intergenerational poverty. This low-cost research will use administrative data matching to examine these issues. Through an interagency agreement with the National Center for Education Statistics, the NCES data contractor will link administrative records for an estimated 1,000 HUD-assisted children with the Kindergarten 2011 cohort of the Early Childhood Longitudinal Study (ECLS-K:2011). ECLS-K:2011 combines direct and indirect assessments of students with surveys of parents, teachers, administrators, and providers of before- and after-school early care and education, and included annual follow-ups through 2016. In-house PD&R researchers and others will use the linked data under an NCES data license, employing multiple regression or other methods to compare school readiness and development of skills and competencies for HUD-assisted children relative to similar unassisted children. The four domains of child competency are cognitive, socioemotional, language, and executive function. Family processes, parenting, and parental involvement in education also will be examined. PD&R has the unique ability to

⁴³ Addresses question 423, the same as the previous proposal.

collaborate with federal statistical agencies and facilitate the linkage of tenant data with external datasets to study the role of housing as a platform for better child outcomes.⁴⁴

Increasing Financial Literacy in Public and Assisted Housing: A Randomized Experiment of Financial Education, Coaching, and Digital Prompts

Research has shown that lower-income households can benefit from financial literacy education and coaching, which can positively influence their behavior and outcomes. Many participants in the Family Self-Sufficiency Demonstration indicated that they signed up for FSS because they want to improve their credit scores. Expanding access to financial literacy education and coaching to all public and assisted households through HUD-approved counseling agencies would be a natural next step to use housing as a platform for improving financial well-being and self-sufficiency outcomes. Financial literacy is related to financial behavior, and interventions such as financial fitness courses and financing coaching have been shown to improve credit and savings—important for socioeconomic mobility purposes like moving, making home improvements, or saving to buy a house.⁴⁵ Building on the ConnectHome initiative that has provided broadband services to assisted populations, this behaviorally-informed experiment will offer free online financial literacy courses to randomized groups of public housing residents, comparing the impact of those online courses with impacts of in-person financial coaching or counseling delivered by HUD-approved housing counseling agencies in public housing communities. The experiment also could test text reminders related to paying down credit card debt, budgeting, and savings goals to see which are effective at influencing behavior. A similar experiment could be done with Housing Choice Voucher holders or residents of Project-Based Voucher properties, but it would be more difficult and more resource intensive. A contractor would need to design and implement the experiment and access data from a national credit bureau, as HUD cannot access individual credit bureau data. HUD’s programmatic relationship with PHAs, including the ConnectHome PHAs, makes it the ideal sponsor of such research. HUD’s Office of Housing Counseling also will play a role through its work with national counseling intermediaries and HUD-approved housing counseling agencies.⁴⁶

Health

The focus area of Health is also a strategic objective under HUD’s Housing as a Platform goal. Because the share of the gross domestic product consumed by healthcare increased from 4.4 percent in 1950 to 17.9 percent in 2011,⁴⁷ the role of housing in supporting health and wellness is too important to ignore. Issues related to health include the physical attributes and safety of the housing stock, the interaction of

⁴⁴ Addresses question 120: Do children of HUD tenants display disparities in early developmental milestones? Do children of HUD tenants begin school with disadvantages in socio-emotional skills and behaviors? Are there disparities in competencies of school-age children of HUD tenants? Does family structure mediate these competencies? Do trajectories of executive functioning competencies differ over time for HUD residents? Do family processes and parenting practices differ for HUD families, and do differences affect school readiness of children? Do early care and education arrangements differ for HUD tenants?

⁴⁵ See literature review, “Housing Counseling Works” at <https://www.huduser.gov/portal/publications/hsgfin/housing-counseling-works.html>.

⁴⁶ Addresses question 438, Collaborate on a financial counseling pilot or ways to integrate either basic financial literacy (banking options, etc.) or financial literacy with digital literacy into existing HUD programs.

⁴⁷ See Fuchs, 2013, “The Gross Domestic Product and Health Care Spending.” *New England Journal of Medicine*. 13,369:107-109. <http://www.nejm.org/doi/full/10.1056/NEJMp1305298>

housing with special needs of residents, and interactions between housing and public health programs and healthcare services.

Housing Accessibility for Seniors with Disabilities in HUD Multifamily Housing

Recent HUD research points to a significant gap between the number of households including persons with disabilities and the supply of housing that provides adequate accessibility for occupants with disabilities, even without reference to standards of the Americans with Disabilities Act and Fair Housing Act. Nearly 52 percent of low-income elderly persons have one or more disabilities as defined by the American Community Survey, and in HUD administrative data, 26 percent of households in Section 202 elderly housing and 98 percent of households in Section 811 housing for people with disabilities have at least one disabled senior.⁴⁸ Little is known about either the types of disabilities present or the accessibility features of the assisted multifamily housing stock. This contracted research would address the gap in knowledge by conducting a nationally representative survey of HUD-assisted senior residents in Section 202, 811, and other multifamily developments to quantify the prevalence of various types of disabilities and also to assess the extent to which accessibility modifications are needed to support aging in place. Tested survey questions about disabilities, including difficulties with activities of daily living (ADLs), instrumental ADLs, and mental health difficulties, could be adapted from the National Health Interview Survey. Questions about accessibility features could be adapted from the Accessibility module of the 2011 American Housing Survey, incorporating enhancements to the instrument in response to recent evidence of limitations.⁴⁹ The survey data would be complemented by on-site inspections by accessibility experts at a small sample of properties in order to address the building technology dimensions of the problem. HUD is an appropriate sponsor of such research, which will provide key evidence to support better program outcomes as the growing elderly population seeks affordable housing that supports their long-term health.⁵⁰

Aging in Place in HUD-Assisted Non-Elderly Housing

The anticipated growth in the elderly U.S. population as a result of the aging Baby Boomer generation will undoubtedly affect the number of and characteristics of residents living in HUD non-elderly assisted housing. This project will examine the types of residents living in assisted housing for the non-elderly who are most likely to age in place, and examine how the composition of this group changes over time. HUD would benefit from knowing more about the factors that affect the decision made by elderly (and near-elderly) residents to remain in assisted housing as they age so that HUD can prepare for the needs and impact of this growing population. This contracted research will use HUD administrative data (possibly linked with other administrative datasets through the Census Bureau's CARRA research center or interagency agreements to link Medicaid and Medicare data, mortality data, etc.), as well as survey

⁴⁸ Dawkins and Miller, 2015. "Picture of Disability and Designated Housing." <https://www.huduser.gov/portal/publications/mdrt/disability-designatedHousing.html>.

⁴⁹ Bo'sher et al, 2015. "Accessibility of America's Housing Stock: Analysis of the 2011 American Housing Survey (AHS)." <https://www.huduser.gov/portal/publications/mdrt/accessibility-america-housingStock.html>.

⁵⁰ Addresses question 91, Need to count and locate the unmet need for accessible housing by older persons already living in Sec. 202 housing, multifamily housing, and single family housing. What are the different aspects of accessibility that are needed by residents of Sec.202 housing, other multifamily housing, and single-family housing? Survey older residents of 202, MF and SF housing asking them what types of building or unit modifications they think they need to age in place.

data collected for this study. The research includes two complementary parts. First, tenant data will be used to identify individuals who are currently “aging in place” in assisted housing, examine their characteristics (demographics, health status, etc.), and identify trends in the population that could inform projections about how the group might expand, contract, or behave in the future. Second, a sample survey of current residents will assess the reasons why older adults choose to remain in assisted housing and answer questions about the special needs they have (or anticipate having) that would influence their decision to continue living in their current residence. Ideally, an additional survey could be administered to the elderly (and near-elderly) residents who are exiting assisted housing to determine why they are choosing to leave. HUD is knowledgeable about its own programs and it is most familiar with the questions being asked and data being used.⁵¹

HOPWA Assistance Experiment for HIV Viral Suppression

The United States has a vested interest in ending its Acquired Immunodeficiency Syndrome (AIDS) epidemic. While long-term viral suppression dramatically improves health outcomes and reduces risk of transmitting the human immunodeficiency virus (HIV) to others, only a quarter of persons with HIV/AIDS are virally suppressed. Housing stability such as that provided through the Housing Opportunities for Persons with AIDS (HOPWA) program is a key component to achieving viral suppression. Strong research evidence has shown critical links between homelessness, housing stability, HIV testing and diagnosis, linkage to and retention of medical care, access to antiviral therapy, and, ultimately, sustained viral suppression. This study will make two key contributions: first, by addressing the changing demographics and geography of HIV infection and revised targeting of HOPWA formula funding⁵² toward southern and rural high poverty regions; and second, by assessing the relative reach and cost effectiveness of different levels of intervention including “light touch” interventions compared with permanent housing or usual care. Targeted HOPWA short-term assistance such as Short-Term Rent, Mortgage, and Utility (STRMU) assistance may effectively buffer against interruptions in medical care and viral suppression in a constrained budgetary environment. This contracted research will use a randomized experimental design to test a model of priority access to various levels of HOPWA programming compared with usual care, with treatments such as permanent housing and STRMU assistance. The study will combine original data collection, including blood samples and measuring participant viral loads, with HOPWA grantee administrative data and HUD administrative data. HUD is a member of the HIV Care Continuum Working Group established by executive order in 2013 and is the primary federal resource for communities providing housing opportunities for persons with HIV/AIDS. As such, HUD has a special duty to work with key partners, like HHS, to ensure that federal resources are appropriately focused on implementing evidence-based interventions that improve outcomes along the HIV care continuum. HUD is especially well-positioned to scale up research evidence on the evolving role of housing stability as a key component to ending the AIDS epidemic in the United States.⁵³

⁵¹ Addresses question 100, What residents in assisted housing for non-elderly are most likely to age in place? How will the composition change over time?

⁵² The formula was revised by the Housing Opportunity Through Modernization Act (HOTMA).

⁵³ Addresses question 194, What type of housing assistance is most effective for HOPWA beneficiaries? How effective are HOPWA formula grant programs that provide only Short-Term Rent, Mortgage, and Utility (STRMU) assistance for achieving

Health Impact of HUD's Smokefree Housing Rule

In November, 2016, HUD finalized a regulation making public housing smokefree. The reasons for the rule include that smoking in assisted properties imposes health risks on neighboring tenants and increases operation and maintenance costs. As a key aspect of evidence-based policy, it is important to assess the rule's effect on short-term and long-term health outcomes for public housing and assisted multifamily housing residents. This research will be conducted in-house in collaboration with experts in HUD's Office of Public and Indian Housing, HUD's Office of Lead Hazard Control and Healthy Homes, and the Office on Smoking and Health of the Centers for Disease Control and Prevention. Researchers will use linked HUD-NHIS (National Health Interview Survey) and HUD-NHANES (National Health and Nutrition Examination Survey) data to examine health outcomes, following linkage of additional survey years to 2015 and beyond. Short-term outcomes such as asthma and serious psychological distress can be assessed between 2015 and 2020, but other smoking-attributable diseases such as heart disease cannot be finally assessed for 10 years or more. HUD-NHIS data will support assessments of change in smoking prevalence over time, and HUD-NHANES data can be used to assess environmental factors such as indoor air quality and mold, and biological markers such as cotinine levels, a measure indicative of exposure to tobacco products. Additionally, the Census Bureau is leading an effort to compile small area health estimates data that could be linked with inspection data from HUD's Real Estate Assessment Center to determine the relationship between health outcomes such as asthma and environmental factors such as mold and air quality. This can provide evidence about the rule's intended purpose to promote the health and wellbeing of HUD-assisted tenants and families. HUD's role in developing the rule and in collaborating internally and with CDC ensures that it is well-positioned to conduct this research at minimal cost by leveraging the linked CDC survey data resources.⁵⁴

Savings from the Smokefree Public Housing Rule

HUD adopted a smoke-free public housing rule in 2016 to improve indoor air quality, benefit the health of residents and staff, reduce the risk of catastrophic fires, and reduce overall maintenance costs. HUD's regulatory impact analysis for the rule estimated that going smokefree would reduce property maintenance costs for PHAs by \$16 to \$38 million annually.⁵⁵ Assessing true cost savings estimates could provide evidence about a key impact of the smokefree public housing rule. This research will use mixed methods and will be conducted in-house in collaboration with experts in HUD's Office of Public and Indian Housing, HUD's Office of Healthy Homes, and the Centers for Disease Control and Prevention, Office on Smoking and Health. The CDC office has already produced a preliminary assessment of the economic impact of smokefree rules in subsidized housing. The research will include a case study approach to collect information on maintenance and insurance savings and implementation challenges

housing stability among the service population? What is the best type of housing assistance for aging individuals living with HIV/AIDS who may lack family and social supports compared with aging heterosexual individuals?

⁵⁴ Addresses question 232, What is the longitudinal impact of smokefree housing rules on asthma rates in public and assisted housing, using the linked NCHS data? What are the health effects of the smoke-free policy in public housing? What is the relationship between indoor air quality and asthma in public housing facilities? Does evidence of the direct effects of smoking on health provide sufficient justification for HUD's smoke-free housing policy? Does the evidence hold up after controlling for mold and other environmental hazards?

⁵⁵ See <https://www.regulations.gov/document?D=HUD-2015-0101-1014>.

and successes, thus informing best practices for implementing smokefree policies, addressing barriers and increasing benefits. Second, some housing authorities and nonprofits have researched the financial burden of maintaining and turning over smoking units. Additional quantitative data collection could be used to model and predict cost savings associated with implementing smokefree policies. Quantifying the cost savings resulting from the smokefree rule is a basic application of evidence-based policy and accountability. Such research can provide evidence regarding the rule's intended purpose to lower overall maintenance costs.⁵⁶

Housing Insecurity, Housing Assistance, and Mental Health

HUD's FY 2010–2015 Strategic Plan established the Department's goal of using housing as a platform to improve quality of life. Developing a foundational understanding of the health of HUD-assisted tenants has been a major priority and research focus under the housing as a platform goal. As yet, relatively little is known about the mental health of HUD-assisted children and adults or the effects of housing on mental health. The National Health Interview Survey (NHIS) data of the National Center for Health Statistics (NCHS) contains several child and adult mental health measures, including the Child Mental Health (Brief Strengths and Difficulties Questionnaire), Child Mental Health Services Supplement, and the Kessler 6 (K6) mental health scale, a validated measure of non-specific psychological distress in adults. The 2018 NHIS redesign will add questions about housing insecurity, an important dimension of how housing stresses can influence mental health.⁵⁷ HUD can build on existing agreements with NCHS to link tenant administrative records with 2018 NHIS data to investigate the relationship between housing insecurity and child and adult mental health, including any moderating effect of housing assistance. HUD researchers can analyze the linked HUD-NHIS files at the NCHS Research Data Center. The linkage of HUD's administrative data with NCHS data and analysis using in-house expertise represents an important opportunity to leverage data assets in support of evidence-based policy at minimal cost.⁵⁸

Health Care Costs for Seniors

In 2010, HUD and the HHS Assistant Secretary for Policy and Evaluation (ASPE) engaged the Lewin Group to pilot linking of HUD administrative data with Medicare and Medicaid claims data from the Centers for Medicare and Medicaid Services (CMS).⁵⁹ The linkage of 2008 data across 12 jurisdictions supported better understanding of health status, healthcare utilization, and healthcare costs of HUD-assisted seniors (62 years or greater)—a critical issue for policy considering that public costs for healthcare greatly exceed costs of housing assistance on a per-household basis. However, the healthcare landscape,

⁵⁶ Addresses question 233, What savings do PHAs experience related to insurance and maintenance after adopting smoke-free policies?

⁵⁷ The draft revision of the NHIS Adult questionnaire includes questions about the number of places of residence in the past 3 years and about problems paying housing costs. See http://www.cdc.gov/nchs/nhis/2018_quest_redesign.htm.

⁵⁸ Addresses question 236, What is the relationship between housing insecurity and health and mental health? Is there a link between housing and violence—perhaps as an outcome of chronic stress? What proportion of child sexual abuse can be attributed to doubled-up housing situations?

⁵⁹ See Assistant Secretary for Planning and Evaluation, 2014. *Picture of Housing and Health: Medicare and Medicaid Use Among Older Adults in HUD-Assisted Housing*. Washington, DC: U.S. Department of Health and Human Services. <https://aspe.hhs.gov/basic-report/picture-housing-and-health-medicare-and-medicaid-use-among-older-adults-hud-assisted-housing>.

particularly for those enrolled in Medicaid, has changed dramatically since 2008. As the senior population continues to increase, HUD would benefit from additional research on healthcare utilization and costs, and how they vary across states. HUD can add to this body of research in two ways. First, as was done in 2010, HUD would use contract services to link HUD administrative data to more recent Medicare and Medicaid data to better understand the healthcare costs related to Medicare and Medicaid for HUD-assisted seniors. The linkage would create a national dataset, rather than a subset of 12 jurisdictions, that could be used to analyze expenditure differences by state and examine national and regional level trends. A second, complementary research initiative would involve in-house research using linked HUD-NHIS-CMS data, supplementing the currently linked 1999–2012 datafile maintained by the National Center for Health Statistics⁶⁰ with additional years of HUD assistance data. This linkage would allow for analysis of long-term health outcomes and the inclusion of NHIS variables that are unavailable in a straight HUD-CMS data match. Together, these two research initiatives would provide a rich data source for answering a variety of important policy questions about HUD assistance and health.⁶¹

Lead Awareness Module for the Current Population Survey

Despite major reductions in lead poisoning over several decades, the Centers for Disease Control still estimate that 3.1 percent of toddlers had elevated blood lead levels during 2007–2010,⁶² at great cost to their lifetime well-being and earning power. One factor that has supported major reductions in incidence is HUD’s Lead Disclosure Rule (24 CFR 35, subpart A), which mandated landlords and homeowners to disclose lead-paint hazards during real estate transactions for pre-1978 housing. In 1997, HUD sponsored a supplement in the Current Population Survey (CPS) to measure consumer awareness of the hazards of lead-based paint under the rule. This research effort will update the survey questions and support an interagency agreement with the Census Bureau to replicate the CPS supplement. Measuring the current awareness of lead-based paint hazards and assessing changes in awareness will help HUD determine whether the goals of the Lead Disclosure Statute (section 1018 of the Housing and Community Development Act of 1992) are still being met and whether any regulatory or legislative changes are needed. HUD’s ongoing partnership with the Census Bureau, including collaborations on the American Housing Survey and American Community Survey, makes HUD uniquely suited to sponsor the CPS lead hazard awareness supplement. HUD’s Office of Lead Hazard Control and Healthy Homes would contribute expertise in the survey content and interpreting research findings.⁶³

Effectiveness of Lead Safe Housing Rule

HUD’s Lead Safe Housing rule requires providers of assisted housing to examine target housing (mostly pre-1978 units) for lead hazards and then control problematic conditions. Past research suggests the

⁶⁰ See <https://www.huduser.gov/portal/datasets/nchs-hud-data-linkage.html>.

⁶¹ Addresses question 253, What are the health care costs of dual-eligible (Medicare and Medicaid) seniors who live in HUD-assisted housing compared to dual-eligible seniors living in other housing?

⁶² Based on blood lead levels of at least 5 micrograms per deciliter observed among children aged 1–2 years in the National Health and Nutrition Examination Survey. See <https://www.cdc.gov/mmwr/preview/mmwrhtml/su6302a6.htm>.

⁶³ Addresses suggestion 263, Replicate the lead hazard awareness module from the 1997 Current Population Survey to create current estimates and assess progress since 1997 at the metro level.

rule is generally effective: there are fewer lead-based paint hazards in assisted housing, lower blood lead levels among HUD-assisted children than comparable unassisted children, and control methods remain effective over time. Lead Safe requirements, however, vary by HUD program type. Public housing and project-based multifamily programs use lead risk assessments, and the housing choice voucher program uses visual assessments for deteriorated paint, by Congressional direction. This contracted research will assess the differential effectiveness of the two types of examination on the likelihood of lead exposures that would be associated with children getting elevated blood lead levels. Field survey methods will involve both visual assessment and risk assessment in each unit by qualified, independent sets of personnel. Surveyed units will be selected using a random stratified nationwide sample of target housing units (assisted and, possibly, unassisted). The analysis will determine what types and extents of lead-based paint hazards are not identified by visual assessments but are by risk assessments, and then will apply existing models of the relationships between lead-based paint hazards and children's blood lead levels to assess the risk of elevated blood level for children. HUD's Office of Lead Hazard Control and Healthy Homes has experience with all of the aspects of the research and with peer-reviewed publications on these subjects. This study will make a significant contribution to the literature by addressing the differential implications, if any, of the different types of housing assistance on the likelihood of an elevated blood lead level.⁶⁴

Understanding How State Medicaid Waiver Programs Affect HUD Programs

Medicaid Waiver programs allow states to provide home and community based long-term care services to people who otherwise would be in an institution, nursing home, or hospital. Waivers are a mechanism to support aging-in-place for seniors as well as provide services for person with disabilities, and may directly benefit those served by HUD's Section 202 and 811 programs for elderly and disabled populations. However, HUD knows little about how Waivers affect HUD programs, particularly because there is so much interstate variability in the coverage, eligibility, and administration of Waiver programs. This project involves using the research NOFA to enter into cooperative agreements with academic researchers or other parties to study how Waiver programs can benefit HUD-assisted seniors and persons with disabilities, particularly those being served by Section 202 and 811 housing developments. Such research would likely require data use agreements brokered at the local level in order to access Medicaid program data. Outcomes of interest would include the rate of transitions to institutionalized care, health, and well-being, to develop an understanding whether the needs of seniors and persons with disabilities are being adequately met in a home or community setting. Where possible, research should focus on longitudinal trends, and also could compare those being served by Waivers with those on a waitlist for a Waiver. A substantial proportion of HUD's tenant population would be eligible for state Medicaid Waiver programs, establishing a large stake for HUD in better understanding how to meet the needs of such residents and align housing programs with Waiver programs.⁶⁵

⁶⁴ Addresses question 312, How well does using the Lead Safe Housing Rule reduce the chance that children under age 6 will get elevated blood lead levels in targeted public and assisted housing?

⁶⁵ Addresses question 503, What are the implications for HUD of an aging tenant population in assisted housing? How do Medicaid waivers affect HUD programs?

Strengthening the Housing-Health Nexus of Community Health Needs Assessments

Under the Patient Protection and Affordable Care Act, the Internal Revenue Service requires tax-exempt charitable hospitals to conduct a community health needs assessment (CHNA) every three years and adopt an implementation strategy to address identified needs.⁶⁶ Ensuring that a community's housing issues receive appropriate consideration in their hospital's CHNAs represents a significant opportunity both to heighten community awareness about the role housing plays in the health of its residents and to move toward community-based solutions. Such linkages are particularly important in communities where poverty and inadequate housing are concentrated and where hospitals serve areas much less distressed than their immediate surroundings. Housing-health connections that relate directly to HUD include concentrations of health-related needs among HUD beneficiaries,⁶⁷ the Department's funding of service-enriched housing programs, and FHA Section 242 financing for hospitals. HUD needs to better understand how hospitals are responding to the CHNA requirement and whether existing CHNAs provide models for leveraging the attention and services of the healthcare community toward the housing needs of its residents. This study will begin with an in-house review of a sample of CHNAs to better understand the extent to which the assessments address housing-relevant needs and respond with strong, hospital-based housing-community health collaborations. The research will document innovative plans and strategies for addressing the housing-health nexus as community health needs are assessed across the country. HUD's role in addressing housing problems, its programs that require parallel community planning efforts, and its collaboration with the Department of Health and Human Services are reasons why this project presents a unique research opportunity for PD&R.⁶⁸

Mobility

The Mobility focus area addresses the geographic mobility of assisted renters and the resulting access to opportunity in neighborhoods with richer socioeconomic networks, employment opportunities, and amenities for personal development. The Mobility topic includes obstacles to household mobility, best practices to support mobility, and the impact of mobility on a broader range of individual and community outcomes.

Targeted Landlord Outreach for Housing Choice Voucher Participation

Research has shown that where one lives matters, as living in opportunity areas can enhance economic, education, and health-related outcomes. The HCV program enables assisted families to access affordable, private rental housing in the neighborhood of their choosing. However, there is a shortage of available units for HCV households in opportunity neighborhoods. This project would test behaviorally-informed strategies of messaging potential landlords in quality neighborhoods to join the program. Partnering with the Social and Behavioral Sciences Team (SBST), PD&R would partner with a third-party housing search aggregator such as GoSection8 or Trulia. With in-house staff or with the assistance of an

⁶⁶ Section 501(r) of the Internal Revenue Code.

⁶⁷ See Helms et al. (2017) "Health Picture of HUD-Assisted Adults, 2006–2012." Washington, DC: Department of Housing and Urban Development, Office of Policy Development and Research; and a forthcoming HUD report about how PHAs and Federally Qualified Health Centers can collaborate to improve health outcomes for HUD-assisted families.

⁶⁸ Addresses question 239, How are hospitals interpreting and responding to the Affordable Care Act's requirement that they have a plan for providing housing? What supports are needed from HUD?

outside academic, PD&R will analyze data and develop an algorithm to identify landlords currently listing units that fall within fair market rent limits and are located in opportunity neighborhoods. Neighborhood quality indicators can be created from existing HUD data, such as those used for affirmatively furthering fair housing or the Opportunity Project. Appropriate rental units and corresponding landlords would be identified by merging to the third-party housing search aggregator. Outcome data could include agreements in principle by landlords to accept vouchers (e.g., clicking a button saying they agree) or by merging to HUD lease-up information over a longer time horizon. The intervention would be direct messaging through email or via an account the landlord has with the third party. Messages would leverage behavioral insights designed to overcome common myths about the HCV program or highlight particularly salient benefits. Different versions of messaging could be tested experimentally against one another or against a control group. HUD would design the materials with help from the SBST behavioral science experts. HUD also could consider the use of financial or non-financial incentives. HUD has access to lease-up information that can help identify opportunity areas that are currently under-served. As the department that controls the HCV program, HUD can provide authoritative information about the program.⁶⁹

Implementation of Choice-Mobility Vouchers in the Rental Assistance Demonstration

The Rental Assistance Demonstration (RAD) allows participating PHAs to convert public housing units to Section 8 contracts—either project-based vouchers (PBV) or project-based rental assistance (PBRA). The idea behind RAD is that converting to Section 8 contracts will enable PHAs to obtain private financing to help stabilize the physical and financial state of their developments. As part of such conversions, many projects will be rehabilitated to improve housing quality. To ensure that existing residents can benefit from such improvements, RAD guarantees that residents of a converting unit can move back to the project after construction is complete without undergoing a new intake review. Part of the ongoing RAD evaluation will analyze this right of residents to move back to see how many original tenants move back. Any resident who moves back to the project and lives there for a period of time (1 year for PBV conversions or 2 years for PBRA conversions) is entitled to a Choice-Mobility Voucher, allowing them to obtain a housing choice voucher if one is available or go to top of the wait list if a voucher is not immediately available. This contracted study will evaluate how PHAs are implementing and using the RAD Choice-Mobility option, and how implementation varies between PBV and PBRA conversions. The research will use tenant data from the PHA-administered and assisted multifamily programs, possibly supplemented with primary data collection and interviews of PHA staff. HUD has taken a number of steps to ensure that the RAD program benefits current residents, and this research will inform policy about whether the Mobility-Choice option has been effective.⁷⁰

⁶⁹ Addresses, generally, question 62, Where could behavioral levers be used to advance program goals, including issues related to climate and disaster resilience, mobility, affordable housing preservation, and health? And, specifically, question 179, How can landlord participation in the Housing Choice Voucher program be increased? What behavioral factors influence whether landlords accept vouchers, and what can HUD do about it? What incentives do landlords have to accept Housing Choice Vouchers in high-opportunity neighborhoods? What attitudes do they have toward Section 8 tenants? Are there best practices for PHAs that encourage landlords to accept vouchers, such as an insurance fund for landlords, security deposit assistance, timely HQS inspections and other procedures, or having a customer service focus?

⁷⁰ Addresses question 338, How do tenants use the mobility option of the Rental Assistance Demonstration?

Reasons for Housing Assistance Exits and Outcomes After Exit

At present, little is known about either why households move out of assisted housing, or how they fare after exiting. Such knowledge would improve HUD's understanding of the behaviors and outcomes of the population it serves, enhancing ability to improve monitoring and evaluation of housing programs and services for better outcomes. The two distinct but related aspects of this study are to survey a sample of exiting households to ascertain whether the reasons for exit are positive, negative, or neutral, and then to use linked data to examine how they fare after exit. This contracted or NOFA-issued research will link HUD administrative data with data from the exit survey, wage data, and other social program data to track how assisted households fare after exiting. The data linkage and research could be conducted most easily at the Census Bureau's CARRA research center. HUD is knowledgeable about its own programs and is most familiar with the questions being asked and data being used.⁷¹

Assessing the Role of the Low Income Housing Tax Credit in Locational Outcomes for Voucher Families

The Low Income Housing Tax Credit (LIHTC) is the nation's largest resource for production of relatively affordable housing, and an important source of housing for rent by households with Housing Choice Vouchers. The location of LIHTC developments is largely determined by state housing finance agencies, which make varying efforts to steer development to neighborhoods that offer good living environments and opportunities. This research will assess the role LIHTC does or could play in improving neighborhood conditions (such as school quality and poverty concentration) for voucher families, including families with children. The work could be conducted in-house, or through the Multidisciplinary Research Team, or through research partnerships. The research would utilize HCV tenant data and LIHTC property data maintained by HUD, as well as neighborhood data from the American Community Survey. By linking tenant data with LIHTC data, the researchers will first examine how voucher families currently fare in LIHTC, providing a descriptive picture of the voucher households that access LIHTC. The study will compare neighborhoods of voucher families in LIHTC properties with neighborhoods of all LIHTC properties, of voucher families in non-LIHTC developments, and the previous residence of the voucher family. The research then will then exploit variation across states and metropolitan areas to consider whether there are federal, state, or local policies that appear to drive those patterns. Such policies may include Fair Market Rent and voucher payment standards, specific features of state Qualified Allocation Plans, the use of centralized waitlists by PHAs, or local fair housing ordinances providing source of income protection. Research products will include a final report and a linked dataset. HUD's role in administering the voucher program and equities in locational outcomes for HCV families gives it a comparative advantage in sponsoring this research.⁷²

⁷¹Addresses questions 498 and 203, How often do households move out of affordable housing for positive reasons, including progress under the Family Self Sufficiency program, or for negative reasons? How do these families fare after moving? Conduct a follow-up study on LIHTC and Qualified Allocation Plans (QAPs), distinguishing between rehabilitation/preservation and new construction when analyzing the location of LIHTC properties. Are Qualified Census Tracts classified properly for good LIHTC locational outcomes?

⁷² Addresses question 514, What role does the Low Income Housing Tax Credits program play in the Housing Choice Voucher program? Do HCV households gain access to LIHTCs in better neighborhoods, and newly constructed developments, or are they

Transit Access and Work Participation of Assisted Renters

The long-standing spatial mismatch between jobs and housing for low-income households is a key motivation for HUD's mobility initiatives. Trends in urban development, however, may affect the extent and nature of this spatial mismatch. This project will examine the effect of transit accessibility on labor market outcomes of HUD-assisted renters, using neighborhood-specific public transit data and HUD administrative data for employment rates and other household characteristics. Data linkage with the Current Population Survey also could be included to assess the labor participation rate, which includes adults actively looking for work. The most relevant transit indicator is the travel time from residence to a job center; also important are measures of the level of service such as transit frequency and connectivity. The transit data could be assembled from public sources or purchased from a commercial vendor. Because households that desire employment are more likely to settle in such a way as to increase their chance of finding stable employment, this research will not be able to uncover a causal impact. Nonetheless, comparison between tenant characteristics and programs, and comparison with non-assisted renters using Census data, will shed important light on the spatial interaction of assisted housing and transit access. Examining the economic opportunity inherent in the assisted housing neighborhoods will provide vital insights for strengthening HUD's efforts to increase tenant self-sufficiency.⁷³

Place-based Strategies

Place-based strategies are programs with a focus on spatially concentrated needs or initiatives to engage stakeholders in a collaborative process to address issues in a neighborhood or larger geographic area. HUD place-based initiatives include Choice Neighborhoods, Promise Zones, Neighborhood Stabilization Partnership, and Strong Cities/Strong Communities. Place-based topics may include public safety, vacant properties, or transportation and planning.

Evaluating Community Development Block Grants and HOME Block Grants

The Community Development Block Grant program is HUD's largest community development program at \$3 billion annually. Yet there has been little evaluation and research about its effects in the past decade. The program's block grant structure makes it difficult to evaluate, as local programs reflect local priorities. Eligible CDBG activities are varied, including public infrastructure, housing, administration and planning, public services, economic development, and property acquisition. Data limitations also pose a barrier to effective evaluation.⁷⁴ Detecting a statistically significant impact of CDBG may be difficult given a grant's modest size compared to a city's economy and external factors. Nonetheless, some HUD-supported research has produced revealing and statistically significant results, such as finding no

concentrated in higher poverty neighborhoods and rehabilitated developments? Do Fair Market Rents and payment standards influence that pattern? Is variation in the ability of voucher families to access LIHTCs near good schools driven by QAP priorities or other practices? Also addresses question 259, Where do people come to housing assistance from? Are well-situated LIHTC and other subsidized properties attracting residents of high-poverty/low-opportunity neighborhoods? What strategies expand catchment areas?

⁷³ Addresses question 142, Do HUD renters who live in neighborhoods with better transit have greater work participation?

⁷⁴ Government Accountability Office (2013), "Community Development Block Grants: Reporting on Compliance with Limit on Funds Used for Administration Can Be Improved." GAO-13-247 <http://www.gao.gov/products/GAO-13-247>.

association between spending and positive local outcomes unless CDBG spending is spatially targeted.⁷⁵ The HOME Investment Partnerships block grant program poses evaluation difficulties similar to the CDBG program. Rather than attempting comprehensive evaluations of these block grant programs, this project seeks to engage local researchers to conduct in-depth evaluations and case studies of local CDBG and HOME programs administered by entitlement grantees. Competitively awarded research grants would support evaluations that produce nuanced understanding of local program implementation, activities, cost-effectiveness, administration, and risk management.⁷⁶ The grant competition could favor research proposals that identify appropriate counterfactuals for isolating program impacts. This proposal combines HUD's comparative advantages, including administering a grant competition and providing administrative data and grantee access, with a recognition of the limits of centralized, comprehensive evaluation efforts.⁷⁷

Choice Neighborhoods Follow-up Evaluation

The Choice Neighborhoods demonstration was established in 2010 to test innovations that would build on the HOPE VI program. Choice provides grants up to \$30 million to redevelop severely distressed public and assisted housing and to spur broader neighborhood transformation. Because neighborhood revitalization is a lengthy process, PD&R's evaluation is being conducted in phases. The evaluation's first phase, completed in 2014, examined the program's implementation and documented baseline conditions in the pilot sites awarded the first five grants in 2011. By the end of 2017 these initial sites will have spent their Choice funding and should be seeing results. This second phase of the evaluation will build on the first phase to assess whether the Choice demonstration is successfully achieving its intended outcomes, including improving housing conditions and increasing economic opportunity. This study will entail a substantial effort and should be conducted by an external partner, via contract or grant. One of the most important data sources for the study will be a survey of approximately 1,600 residents in the Choice developments and surrounding neighborhoods. PD&R has already invested substantial resources to conduct a baseline survey and to track respondents so that this follow-up survey will have a high response rate. Secondary data on neighborhood conditions (such as Census data and local crime data) and HUD administrative data will be used to create a counterfactual based on changes in comparable neighborhoods. The research team would conduct interviews and site visits to obtain qualitative information about neighborhood change and the effects of the Choice investment. The strong foundation of baseline data under the first phase of this evaluation reinforces PD&R's comparative advantage in sponsoring this research without duplication of effort.⁷⁸

⁷⁵ Galster et al, 2004, "Measuring the Impact of Community Development Block Grant Spending on Urban Neighborhoods." *Housing Policy Debate*. 15, 4: 903–934.

⁷⁶ PD&R has previously included this competitive evaluation grants proposal in Congressional budget requests.

⁷⁷ Addresses questions 269, What are the neighborhood impacts of CDBG, and 282, Considering the highly stable distribution of CDBG activities over time, are there jurisdictions that do make significant changes, and what types of local factors influence such changes?

⁷⁸ Addresses suggestion 124, Follow-up/impact evaluation of Choice Neighborhoods.

Neighborhood Stabilization Program Follow-up Evaluation

Between 2008 and 2010, Congress appropriated \$7 billion in Neighborhood Stabilization Program (NSP) funds to address the fallout from the subprime mortgage crisis by countering the harmful spillover effects of foreclosures and abandoned housing. HUD expected that concentrated NSP investments would slow or reverse trends of declining property values and increasing foreclosure and vacancy rates. PD&R published an evaluation of NSP in 2015 that found that the program had limited success in achieving its intended effects, as improvements of NSP neighborhoods were not significantly greater than of other similar neighborhoods. However, because neighborhood outcomes were tracked only through February 2013, a substantial number of NSP activities remained incomplete or only recently completed. Through one or more research grants, this study will explore alternative methodologies for evaluating the effects of NSP place-based investments—complementing the propensity score matching used for the previous study—and will incorporate more recent outcome data and information about such government-funded activities as Treasury’s Hardest Hit Fund. Outcome data focusing on property values, foreclosure activity, and vacancies can be obtained from proprietary sources. The research grant funding approach can spur innovation in evaluation methodology that could pay dividends for other place-based programs such as CDBG and Choice Neighborhoods. PD&R has already developed a strong foundation of NSP data under the evaluation that was completed in 2015. These data, which include detailed information about the type, scale, and location of NSP activities, are a valuable resource that is currently underutilized.⁷⁹

Long-Term HOPE VI Assessment

Through the HOPE VI Revitalization program, HUD provided \$6 billion to rehabilitate, replace, or demolish nearly 100,000 severely distressed public housing units. HOPE VI was arguably the most innovative, ambitious, and controversial HUD place-based program since the urban renewal programs of the 1950s and 1960s. There is wide agreement that the program resulted in higher quality public and affordable housing, but researchers and advocates have vigorously debated the program’s effects on neighborhoods and public housing residents. HUD sponsored several research efforts meant to enable a long-term program evaluation, but there has been very little research examining long-term effects since the pace of HOPE VI investments slowed in 2004. To this day, researchers and advocates continue to debate questions such as whether baseline residents benefited from HOPE VI investments, and whether HOPE VI consistently led to broader neighborhood improvement. Unfortunately, there is very little data or evidence to ground these debates. In 2011, HOPE VI was replaced by Choice Neighborhoods, but the open questions about the effects and effectiveness of HOPE VI remain important. Choice Neighborhoods and the Rental Assistance Demonstration share many of the same core programmatic elements of HOPE VI, and it is essential to understand more about the mixed-income, mixed-finance redevelopment model that HOPE VI helped to launch. This study would have two distinct components: the first would rely entirely on existing data (such as HUD administrative data and American Community Survey data) to characterize the entire universe of 260 HOPE VI revitalization grants. The second component would

⁷⁹Addresses questions 125 and 274, Follow-up analysis of the Neighborhood Stabilization Program, incorporating new data on outcomes as well as hardest hit funds demolition data. What are the long-term impacts of Neighborhood Stabilization Program, including the land banking component? Are there lessons for CDBG?

focus on a sample of HOPE VI grants and would support the collection of more in-depth data; this component could serve as the final phase of the HOPE VI research that PD&R has already funded (including a baseline assessment completed in 1996 and an interim assessment completed in 2003). This second component would include a household survey and detailed analysis of HOPE VI resident outcomes. The study would be conducted by an external research entity, under contract or grant. An evaluation of HOPE VI would have to rely substantially on HUD administrative data. Further, other entities may be unwilling to invest adequate resources in an evaluation of HOPE VI, given that the program has been phased out. HUD, however, would still benefit from research on HOPE VI because of the similarities with ongoing programs like Choice Neighborhoods and RAD.⁸⁰

Impacts of Regional Planning through the Sustainable Communities Initiative

Reflecting the fact that local problems often spill over jurisdictional boundaries, a number of place-based initiatives have been created in recent years to strengthen coordinated planning at the regional level. Among the most visible are the Strong Cities Strong Communities (SC2) initiative, the Sustainable Communities Initiative (SCI), and the most recent Prosperity Playbook. This research project examines one of these programs—the Sustainable Communities Initiative—to assess how well HUD investments in regional place-based planning totaling about \$240 million have improved outcomes for families by reducing the structural barriers to housing, effective transportation, jobs and other valuable community amenities. A rich database of SCI grantee program activities will be used to examine the extent to which institutional change (e.g., coordinated planning), policy change (e.g., reduction in burdensome and exclusionary land use regulation), and efforts to mitigate regional economic instability yielded positive outcomes for both urban and rural communities. HUD’s Office Economic Resilience houses the data on 143 SCI grantees including coordinated planning activities, implementation of comprehensive plans, strategies for addressing community problems through citizen engagement and participation, and outcome information compiled through the Community Capacity grants. Grantees from each year (2010 and 2011) also could be selected to assess how they used federal resources to reduce fragmented government, enhance coordinated planning, and achieve their goals. HUD’s central role in administering the various place-based strategies offers a comparative advantage arising from valuable data on the role of the regional governing entities (Metropolitan Planning Organizations and Councils of Governments) and their coordinated activities with local governments.⁸¹

Crosscutting—Fair Housing

Fair Housing is a crosscutting focus area for HUD. The Fair Housing Act, in addition to prohibiting private housing discrimination, requires HUD to affirmatively further fair housing (AFFH) in federal programs. The Fair Housing focus includes issues such investigation and enforcement of housing discrimination,

⁸⁰ Addresses suggestions 143 and 511, Follow-up on HOPE VI communities, to the greatest extent possible, to assess the long-term quality of these neighborhoods. What has been the impact of the HOPE VI mixed-income model after 20 years? What was the impact on children?

⁸¹ Addresses question 275, What are the long-term impacts of the Sustainable Communities Initiative planning grants? Do SCI planning grants, and USDA programs with a regional focus, promote resilience across jurisdictional boundaries?

public awareness of fair housing law, regulatory barriers that limit affordable housing and exclude population groups, and the accessibility of the housing stock for people with disabilities.

Understanding and Reducing Regulatory Barriers

Nearly 20 years ago, HUD initiated a national call to action, encouraging municipal governments to examine existing local ordinances to identify outdated, burdensome, and exclusionary land use practices. The initiative resulted in the development of the Regulatory Barriers Clearinghouse (RBC)⁸² that documents practices that restrict the supply or increase the cost of affordable housing, as well as inclusionary initiatives that counteract such barriers. Regulatory barriers are an important reason for the increasingly severe affordable housing gap documented in HUD's worst case needs reports. Local land use standards such as caps on density and minimum lot sizes or frontage add to housing costs and price out low-income families. This research will build on the existing evidence about regulatory barriers, beginning with an in-house review of the RBC and the research literature to document research gaps and policy opportunities to reduce exclusionary land use practices. Contracted follow-up research could include enhancement and field testing of PD&R's previously developed regulatory barriers survey, or taking advantage of emerging information opportunities such as parcel-level land use data. This research will leverage the underutilized RBC and has important policy implications for how local governments can affirmatively further fair housing and build stronger communities by improving housing stability.⁸³

Updating and Modernizing the Fair Housing Act Design Manual

HUD's *Fair Housing Act Design Manual* provides comprehensive information about accessibility requirements for the design and construction of multifamily housing covered by the Fair Housing Act. It provides a clear statement of HUD's interpretation of the accessibility requirements of the Act to inform readers of what actions will provide them with a "safe harbor" for compliance and makes nonbinding recommendations of alternative accessibility approaches that are at least minimally compliant. The manual is widely used by housing professionals and therefore is one of the most highly demanded documents on HUDUSER, even though it was last updated in 1998. The proposed effort will update the manual to incorporate important notices and directives that HUD has issued, and make it more useful with web-accessible components that fully comply with Section 508 standards to ensure full electronic

⁸² See <https://www.huduser.gov/portal/rbc/home.html>.

⁸³ Addresses question 105, What incentives can HUD create to reduce regulatory barriers that hinder integration? What are effective strategies to prevent communities from effectively blocking low-income residents (zoning, density limits, etc.)? How do restrictive local development practices affect the production of affordable housing and the federal cost of providing housing assistance? What exclusionary rezoning or other practices do local governments use to block development of affordable housing or housing that is inclusive of units for HIV/AIDS households? What support and guidance from FHEO field staff is needed to promote inclusionary zoning passage by local policy makers? How does local government fragmentation (i.e. areas split into any small governments) affect affordable housing? What are the effects of zoning regulations on affordable housing production, and how can HUD influence zoning regs? Research the role of restrictive land use regulation in high housing costs (in some cities and metros) and other problems of spatial inequality.

accessibility by people with disabilities.⁸⁴ HUD is uniquely suited to undertake this update because of its statutory responsibilities under the Fair Housing Act and its ownership of the original manual.⁸⁵

Process and Implementation Study of Affirmatively Furthering Fair Housing

In 2016, HUD adopted a final rule implementing the Affirmatively Furthering Fair Housing (AFFH) requirement of the Fair Housing Act. The rule provides that each jurisdiction, or cluster of jurisdictions, benefiting from HUD block grants will conduct an Assessment of Fair Housing (AFH) that uses and considers evidence from HUD-provided data and analytic tools. This contracted study will assess the process and implementation of the AFFH planning requirement for HUD program participants, including a review of costs and staff burden. The Office of Management and Budget's approval of the AFFH assessment tools stipulates that HUD will conduct an in-depth burden assessment of actual grantee experiences. Data collection will include a survey, interviews, focus groups, and case studies. The study will consider burden and costs for grantees across different locations, sizes, and types (entitlement jurisdictions, States, PHAs, Insular Areas, and HOME Consortia) that have completed (or are in progress of completing) their initial AFH. The research will provide a general overview of the planning process, including goal setting, barriers or obstacles, and costs. Cost information will include staff time and costs, and direct and indirect costs (consultants, contractors). Implementation costs can include conducting community participation (preparing materials, advertising, holding meetings), training, completing the assessment tool, and information technology needs. PD&R was responsible for estimating the regulatory burden for the AFFH Final Rule and all of the assessment tools. An evaluation is necessary to collect data on actual costs and grantee burden of implementation.⁸⁶

Assessment of the Fair Housing Education and Outreach Initiative

The Office of Fair Housing and Equal Opportunity (FHEO) funds fair housing Education and Outreach (E&O) activities through Fair Housing Initiatives Program (FHIP) competitive grants. FHEO seeks an evaluation of the E&O initiative, but an initial assessment suggests the activity is not evaluable because of the national scope of its marketing. This project would assist FHEO in developing outcome metrics

⁸⁴ See U.S. Access Board, <https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards>.

⁸⁵ Addresses suggestion 152, Update Fair Housing Act Design Manual to incorporate the most recent guidance and make the document more useful to those in the field.

⁸⁶ Addresses question 280, What are the effects of implementing the Affirmatively Furthering Fair Housing rule, relative to the previously required Analyses of Impediments to fair housing? With Analyses of Fair Housing required by 2017, how are communities defining areas of opportunity? Are they able to put together coherent, actionable AFFH plans? What is the impact? What types of technical assistance do smaller entitlement communities need to increase capacity, address funding and other administrative challenges, and develop effective administration and implementation of affirmatively furthering fair housing? In what ways are jurisdictions struggling to complete and submit their Assessments of Fair Housing? What are short- and long-term measures of success for AFH, considering what jurisdictions can meaningfully address? Also addresses question 451, What is the impact of AFFH implementation on rural communities? How relevant are the definitions and tools employed to rural communities and regions? Does AFFH drive investments toward rural communities or away from them, and does it lead to equitable outcomes nationally? How are federal block grants including CDBG, HOME, and the new National Housing Trust Fund being used to Affirmatively Further Fair Housing in rural communities? How do differences in state and local implementation affecting rural communities and regions? Do the funding guidelines and income targeting approaches work for rural areas, particularly in persistent poverty or hard to serve areas? In promoting racial and ethnic integration through AFFH, are there thresholds of community size, rurality, or concentrated cultural heritage that make such efforts infeasible or counterproductive?

and collecting performance data. The agreed metrics will determine the scope of work, whether contracted or in-house, and the data sources and methods. As HUD funds the FHIP E&O initiative, PD&R is well-positioned to sponsor this project.⁸⁷

Performance Assessment of the Fair Housing Assistance Program

Under the Fair Housing Act, HUD certifies state and local fair housing agencies as protection against housing discrimination that is “substantially equivalent” to the federal statute. HUD supports the investigation and enforcement activities of substantially equivalent agencies through the Fair Housing Assistance Program (FHAP). An important question for HUD is whether state and local FHAP agencies are as effective and efficient as HUD’s Office of Fair Housing and Equal Opportunity (FHEO) at investigating fair housing complaints and enforcing and resolving claims. This contracted evaluation will examine how much is spent per complaint, the proportion of complaints resolved or found baseless, the distribution and per-capita rate of fair housing complaints filed under Federal or state jurisdiction, and the importance of spatial proximity to a FHAP office for complaints to be filed. The study will supplement administrative data in FHEO’s Title Eight Automated Paperless Office Tracking System (TEAPOTS) by collecting program data from FHAP agencies, and will include comparative analysis of program metrics. HUD is ideally situated to conduct such an assessment because it funds investigation services through both FHEO and the FHAP program.⁸⁸

Housing Discrimination in Non-Advertised Housing Units

HUD has relied on paired testing methodology to estimate the prevalence of housing discrimination about once per decade since demonstrating the method’s usefulness in 1983.⁸⁹ In recent years, observers have identified limitations of the paired testing method, such as the fact that it measures discrimination only among advertised housing units and therefore may underestimate total discrimination. This study will be a first step toward assessing discrimination in the unadvertised stock, and will explore goals and strengthen methods for measuring housing discrimination in the 2020 Housing Discrimination Survey. The contracted research will involve a purposive sample of rental units based on fair housing complaints that HUD receives and on geographic areas investigated for systemic discrimination. Local fair housing organizations funded through Fair Housing Initiatives Program grants will assist in identifying units to sample and in conducting paired testing of sampled units. Strengthening methods of housing discrimination measurement has been a core aspect of PD&R research for several decades, and must continue as housing markets evolve in the digital age.⁹⁰

⁸⁷Addresses question 293, How effective is the Fair Housing Initiatives Program, including both fair housing investigation and education/outreach activities? How effective is the education and outreach of the Fair Housing Initiatives Program? Has fair housing knowledge changed since the last How Much Do We Know survey? What types of media and ads, whether funded by FHIP or donated, are most effective in increasing fair housing knowledge and motivating submission of meritorious complaints? Where do meritorious fair housing complaints come from other than FHIP agencies; are there commonalities?

⁸⁸ Addresses question 294, How effective is the Fair Housing Assistance Program and enforcement by substantially equivalent state and local agencies?

⁸⁹ HUD 1983. “The Fair Housing Enforcement Demonstration.”
https://www.huduser.gov/portal/publications/fairhsg/fair_hsg_enforcement.html.

⁹⁰Addresses question 310, To what extent does housing discrimination occur by landlords who are not advertising the availability of housing units.

Crosscutting—Building Technology

The Building Technology questions that stakeholders raised in the roadmapping process are considered crosscutting because they involve housing construction and purchase markets, the affordability and durability of housing—as well as the preservation of affordable housing—and the ability of housing units to meet the changing needs of their occupants.

Reducing Housing Preservation Costs through Technology

Preserving an existing home is significantly less expensive than constructing new affordable housing, reducing costs by over one-third according to the National Housing Trust. In communities with high land costs, the cost of building new affordable housing can be as much as double the cost of preserving existing housing. Previous research on building technologies—including research sponsored by PD&R through the Partnership for Advancing Technology in Housing (PATH)—has identified advanced materials, methods, and systems that have reduced the cost of building construction and renovation. Such technologies can provide more modern housing that is more affordable than new construction and the energy efficiency and health aspects of the home. PD&R would sponsor this research through contracts or interagency agreements with a federal laboratory such as the National Institute of Standards and Technology. The research will examine existing and emerging building technologies and their effective use; identify best practices in using technology in renovation in terms of the life-cycle costs; and explore methods to increase the use of suitable building technologies in preserving affordable housing, such as by addressing behavioral factors limiting their use. HUD is uniquely suited to research questions involving the intersection of affordable housing preservation and building technologies.⁹¹

Effects of Housing Technology on Total Cost of Homeownership

The total cost of homeownership includes the cost of purchasing, operating, and maintaining a home from initial purchase through its final sale or disposal to reclaim the value of the land. This study will focus on understanding and reducing the cost of operation and maintenance as influenced by decisions made during design and construction. Assuming proper design and installation, operational costs can be straightforward, although homeowners still need to make decisions about preventive maintenance and periodic rebuilding and replacements. To the extent that builders surprise homebuyers with inferior components and less efficient or less durable systems that may become apparent only much later, there is potential for better information to increase the economic benefits of homebuying. Life cycle cost analysis (LCCA) has increased in importance as green and energy efficient elements have been integrated into building codes. Understanding the costs of homeownership more completely will upgrade the housing stock as designers, builders, owners, lenders, and insurers incorporate such awareness into their market actions. This study will engage a contractor or a federal laboratory, such as the National Institute of Standards and Technology, to assess strategies for increasing such consideration across various time frames. This work will likely use mixed methods, identifying previous and current LCCA practices through literature review, case studies, and focus groups. The research will determine how the useful life of building materials and systems has changed since the incorporation of

⁹¹ Addresses question 41, How are builders undertaking affordable housing preservation using new building technologies to reduce renovation costs and related costs?

specific green and energy efficiency building codes or other building practices such as LEED, and product and systems updates such as EnergyStar ratings. The research also will analyze the implications for housing affordability. HUD’s mission focus on housing affordability and markets and PD&R’s history of building technology research makes it well-suited to address these overarching research questions related to operating costs and useful life of housing.⁹²

Engineering Broadband to Individual Dwelling Units

Broadband access to the Internet is increasingly critical for residents of assisted housing—just as for the broader population—to support community connectivity, education, and social awareness. This research will describe the actions necessary to affordably connect individual units in assisted housing. The research will identify strategies that will lead to broadband connectivity in typical types of multi-family housing. The research will be conducted by a contractor that will identify structural typologies for multi-family properties. The contractor will identify essential attributes for the installation (which could include maintainability, durability, initial cost, and life-cycle cost). Potential technical strategies will be identified based on successful installations in similar structures. The contractor will consult with experts in housing operations and communications to identify specific strategies for broadband installation that prioritize selected attributes. This analysis would include specific site requirements so development managers that use the study will best understand the decision process for implementing broadband. HUD’s commitment to the needs of assisted housing residents will help to focus the results on performance and affordability.⁹³

Crosscutting—Other

Several important research questions that may involve multiple HUD objectives or programs are included in this category.

Housing Insecurity Module

PD&R often fields requests by other agencies, researchers, and practitioners for a vetted list of housing insecurity survey questions. However, as highlighted by recent research reports, there is no consistent definition of housing insecurity that captures its various dimensions across a continuum of security. PD&R has the opportunity lead efforts to develop and leverage a common language of housing insecurity, similar to the transferable U.S. Food Security Survey Module developed by the U.S. Department of Agriculture. A transferable survey module will help researchers build a more robust and coherent body of knowledge around housing needs, trade-offs, and correlates, enhance the quality and consistency of policy-relevant research, and amplify visibility of the continuum of housing needs.

1. The initial stage of this research would engage a prominent expert, in collaboration with PD&R’s staff-led Knowledge Collaborative for “Housing as a Platform,” to review the literature and write a discussion paper, laying out the key characteristics of housing insecurity.

⁹² Addresses question 44, What are the most cost-effective strategies for lowering operating costs of housing? How has the useful life of building materials and systems changed, and what are the implications for housing affordability?

⁹³ Addresses suggestion 111, Review/evaluation of the building and unit modifications that were required to get broadband access in the building or unit.

2. A panel of stakeholders will be convened to develop specific, measureable indicators, which ideally would cover a spectrum of severity and a hierarchy of detail, to permit tailoring the indicators for a variety of data collections. Their joint recommendations would be embodied in a report.
3. HUD survey design experts will operationalize the indicators by drafting questionnaire items that the target population would be willing and able to answer.
4. Draft items will be cognitively tested by the survey organization tasked with first implementing them (Census Bureau or contractor, depending on the circumstances). After testing, the list of questions would be considered available for incorporation in other data collections.

This will not be a data-intensive project, relying primarily on the research literature. Specific points may be clarified by using the standard household surveys (ACS, AHS, SIPP, PSID, etc.) or HUD administrative data. HUD's role in this effort is necessitated by its position at the confluence of all the factors relevant to housing insecurity: data, analysis, policy, and programs. PD&R is well-positioned to understand and implement these measures through administrative data, special surveys, and the AHS. HUD has a significant needs for such measured because of programs intended to aid owners, assist renters, re-house the homeless, and stabilize neighborhoods. The ability to recognize early signs of housing instability is a key stepping stone to designing interventions that prevent worse problems that seriously harm victims and are more costly to fix.⁹⁴

Tradeoffs Between Housing and Food

Approximately one-third (34 percent) of low-income households face food insecurity. According to recent HUD analysis of linked National Health Interview Survey data with HUD administrative data, 37 percent of HUD tenants report household food insecurity. The severe rent burdens faced by very low-income renters force trade-offs between rent, food, and other household expenses such as transportation, medical expenses, and childcare. This in-house study will use the American Housing Survey 2015 Food Security module to assess the relationship between housing cost burdens and food insecurity as well as such outcomes as health, child stability, education. The association of housing assistance and food security also will be assessed and compared with rates found in linked HUD-NHIS linked data, as starting in 2011, NHIS also began including a food security module. For this research, PD&R staff will collaborate with staff of USDA's Economic Research Service. Follow-on geographic research will use the USDA Food Atlas data to examine associations with food access and neighborhood characteristics and ESRI Business Location data to examine the locality of food outlets in relation to HUD-assisted housing. Although food security issues have generated a great amount of interest in recent years, data have not previously been available for national assessments of connections between housing cost burdens and food insecurity, or the relationship between housing assistance and food insecurity, health food access, and outcomes for HUD-assisted households.⁹⁵

⁹⁴ Addresses suggestion 237, Develop a battery of questions to identify when an individual is housing insecure, beginning with a literature review and expert convening.

⁹⁵ Addresses question 75, What does the AHS 2015 food insecurity module tell us about the impact of severe housing cost burden on households? Explore the 2015 AHS and its supplement which included USDA questions on food security by urban/rural differences. What is the relationship between housing, food, and health? Potential data sources include the National Health Interview Survey (NHIS) that includes questions on food security, housing assistance, and health survey

Understanding the Role of Housing in Successful Transitions of Refugee Populations

Refugee populations who enter U.S. communities are expected to accomplish a transition into permanent housing and obtain access to employment, healthcare, and other services. The receiving communities have a vital interest in ensuring that resettlement and integration is rapid and comprehensive. The Office of Refugee Resettlement (ORR) in the Department of Health and Human Services has the federal lead in providing refugee resettlement services, and state and local partners are responsible for actually providing the assistance and services, including housing. ORR's current monitoring and evaluation of refugee outcomes is limited to measures of employment, receipt of cash assistance, and the use of social services. Although housing is the largest household expense for refugee households, just as it is for many households, there is no tracking of the characteristics of housing occupied by refugees. By studying the housing situation of refugees, HUD can learn about the unique challenges that refugees face and develop policy responses to aid this vulnerable population. ORR has administrative data on refugees currently receiving services, and also administers the Annual Survey of Refugees to track refugees' outcomes for up to 5 years after entry. An additional survey may also be needed to assess refugees' current housing situations and anticipated housing needs. ORR's mission focus on refugee populations suggests that collaboration would be most productive, with HUD contributing expertise in affordable housing and the role of housing as a platform supporting positive outcomes for disadvantaged populations.⁹⁶

Evaluation of Family Self-Sufficiency Services in Multifamily Housing: Phase I Implementation Study

The \$75 million Family Self-Sufficiency (FSS) program serves about 160,000 families in the Housing Choice Voucher and public housing programs. Participants work with service coordinators to develop a 5-year Individual Service and Training Plan (ISTP) that identifies goals and connects them with referral services that support long-term financial stability. In 2016, HUD announced that it will allow private owners of multifamily housing to participate in FSS. This competitively funded study will evaluate the implementation of Multifamily FSS. Similar to the implementation analysis of the National FSS Demonstration, the study will address how owners use HUD funds to recruit families into FSS, train service coordinators, design programs and services, and develop ITSPs for families. The assessment will involve site visits to observe program implementation and operations, and also will include focus groups with owners to learn about effective strategies. There are several sources of HUD's comparative advantage in conducting this research: HUD's administration of tenant data systems and ability to develop a Multifamily FSS module; the lessons gained from the Implementation and Participation analysis of the ongoing National FSS Demonstration; and the ongoing longitudinal analysis of earned income across all programs served by FSS.⁹⁷

outcomes. How do households make decisions between food and shelter, and what are the policy and program implications for housing and food assistance programs? What is the relationship between food access, transportation and housing in rural America?

⁹⁶ Addresses question 190, How successfully do refugee populations who enter U.S. communities achieve the transition into permanent housing with access to employment, healthcare, and other services?

⁹⁷ Addresses question 339, As the Family Self-Sufficiency program is introduced to the assisted multifamily program, how successful is the implementation and impact?

Preserving Confidentiality of Eligibility Information for Assisted Households

Under the Privacy Act, HUD has a statutory right and responsibility to preserve the confidentiality of the information provided by assisted renter households on the HUD-50058 and HUD-50059 forms for determining their subsidy eligibility. The Freedom of Information Act (FOIA), however, requires that HUD provide these data to “any person” who requests it. The only means HUD has to restrict access to HUD administrative data from FOIA requests is through FOIA’s exemption 6, which states that agencies can withhold “Information that, if disclosed, would invade another individual’s personal privacy.” A recent court order⁹⁸ has disallowed HUD from claiming exemption 6 because “HUD has not shown a sufficient causal nexus between such release and discovery.” The court order goes on to say, however, “HUD may be able to substantiate this practice (redaction) and show that there is a substantial probability that release of...data would lead to the identification of voucher recipient households, resulting in a clearly unwarranted invasion of privacy.” The objective of this project is twofold: 1) show that release of un-redacted household level data is an invasion of privacy; and 2) generate a set of standards and redaction protocols that allows for disclosure of information, but preserves privacy. This research could be undertaken by interested academics or data security firms under a contract or through a Multidisciplinary Research Team task order. The work will require providing access to actual tenant data by implementing security protocols. The researchers will attempt to show conditions under which households and individuals can be re-identified by combining administrative data with other sources of public or semi-public data. No private information will actually be revealed to the public by this research. Once researchers have re-identified households, the important work will focus on determining what methods and standards are necessary to ensure disclosed information does not jeopardize households’ privacy. HUD must perform this work to preserve the confidentiality of beneficiaries’ HUD-50058 and HUD-50059 submissions, as the unacceptable alternative would be for HUD to change its System of Records Notice (SORN) and routine use declarations to inform households that their income, assets, household characteristics, and some health information may be made public if they receive assistance.⁹⁹

Data Infrastructure

Research and data are inextricably linked, because reliable and pertinent data are the foundation for all research and evidence-based policy. HUD administers a broad range of programs intended to improve housing and communities across America. To know which of these programs are working well and to inform policy decisions, it is imperative to have reliable data and contextual evidence. Acquiring reliable data is an essential part of operating any complex organization, institution, or economy. Public investments in acquiring and making data available provide a vital public good that support a vital economy and cost-effective public and private actions. In this way, data can be viewed as a form of infrastructure similar to highways and bridges in the physical world. The national data infrastructure for housing policy and research is the focus of this section.

⁹⁸ See United States District Court, Northern District of Texas, Dallas Division, Civil Action No. 3:14-CV-3333-B.

⁹⁹ Addresses question 513, Does the "rule of eleven" define an appropriate minimum subgroup to prevent disclosing identity of HUD beneficiaries in releases using administrative data?

Survey Data Enhanced with Administrative Data Linkages

Linking administrative data with survey data is an increasingly important and cost-effective way to address key research and policy questions for the assisted housing population. Administrative linkages leverage the value of public investments in survey data. Where some datasets cover one domain deeply or many topics shallowly, integrated data can fill in knowledge gaps, supporting a comprehensive understanding of outcomes across different social domains and time periods. Data integration involves minimal cost to the government and no additional burden either to respondents or program participants.¹⁰⁰

Researchers now have access to the following survey datasets that include HUD-assisted household flags based on administrative data:

- American Housing Survey (AHS; 2011, 2013, 2015). The HUD-linked AHS data are available in the national public use files with a HUDADMIN flag. More complete data are available for restricted use. Additionally, “Characteristics of HUD-Assisted Renters and Their Units” reports based on linked data are available on huduser.gov.
- American Community Survey (ACS; 2010–2015). In addition to a linkage of assisted households with ACS microdata (restricted-use only), HUD funds the Census Bureau to produce Comprehensive Housing Affordability Strategy (CHAS) tabulations of the ACS that link local HUD income limits to enable better analysis of housing needs. The CHAS data are available on HUDUSER.gov and the linked ACS data are available through the Census Bureau’s Research Data Center (RDC). HUD-linked ACS data are not available in the public use file, but a PD&R has developed a synthetic HUDADMIN flag that researchers without restricted-use access can use to develop code with the ACS Public Use Microdata Sample (PUMS) that can be submitted to HUD to be run on the restricted-use files.
- National Health Interview Survey (NHIS; 1999–2012). These data, which include longitudinal information for HUD-assisted individuals, are available through the NCHS RDC. NCHS has also linked the NHIS data with Medicare, Medicaid, and mortality data.
- National Health and Nutrition Examination Survey (NHANES; 1999–2012). These data, which include longitudinal information for HUD-assisted individuals, are available through the NCHS RDC. NCHS has also linked the NHANES data with Medicare, Medicaid, and mortality data.

In addition to matching assisted tenant data to surveys, HUD has sponsored linkage of proprietary CoreLogic data with the AHS. 2013 CoreLogic data were matched to the 2013 AHS to study the feasibility of using administrative data to replace survey questions or to impute missing data to reduce respondent burden and improve data quality. Survey responses were validated against variables on local property tax records including structure type and features, lot size, unit size, year built, year acquired, and expenses for property tax, sewer, and water. Future work will address open liens and automated

¹⁰⁰ See presentation by Melissa Chiu, <http://www.census.gov/content/dam/Census/about/about-the-bureau/adrm/data-linkage/events/2016-10/CBdataLinkInfra-AEAEval-2016.pdf>.

valuation models. Based on this research, the 2015 AHS used public record data for imputation of lot size and year built.

Role of CARRA in Administrative Data Linkage

The Census Bureau's Center for Administrative Records Research and Applications, or CARRA, manages the data infrastructure for linking administrative records with Census data and supporting cutting-edge research of those data. CARRA assumes responsibility for housing those data and merging them using addresses or personal identifiers, and facilitates researchers who hold sworn Census status in obtaining access to the data at 24 Federal Statistical RDCs around the country.¹⁰¹ RDCs provide data access with information security for research involving personally identifiable information and other highly sensitive data. Such infrastructure support includes disclosure reviews to authorized researchers with approved research projects.

HUD and the Census Bureau have entered an interagency agreement (IAA) for CARRA to link data from HUD's tenant databases and randomized control trials (RCTs)¹⁰² with the Bureau's survey data collection and other administrative data collected under its Title 13 authority. These RCT datasets are the first intervention data added to Federal Statistical RDCs by any federal agency. This data linkage provides an opportunity to build evidence about such outcomes for HUD-assisted tenants as their health and well-being, financial circumstances, post-secondary education participation, and wage earning. Formalizing a relationship with the Census Bureau will allow HUD to engage in a process of knowledge discovery and evidence-building on critical non-housing outcomes among those housed.

- HUD's tenant databases are already maintained within the RDC. Access to these data is restricted to researchers with Special Sworn Status who have HUD approval.
- During FY 2016, HUD contracted with the Census Bureau through an IAA to move MTO data into the RDC. During FY 2017, data and documentation from the Moving to Opportunity (MTO) experiment and Family Options study (FOS) will become available in RDCs. As PD&R evaluations yield other HUD data that are ripe for knowledge discovery and evidence-building, the IAA likely will be amended to include them as a public information resource.
- To jumpstart research projects using the MTO and later FOS data, the Census Bureau will partner with HUD during FY 2017 to solicit research proposals using MTO data with non-housing data already in the RDCs or to be added.

HUD and the Census Bureau also are signing a Joint Statistical Project Agreement (JSPA) committing to a partnership on research projects linking housing data to non-housing data sources already acquired by Census. Each organization is committing to partner on up to 4 projects involving a commitment of up to 1.25 full-time equivalent staff from each organization. Because HUD is a survey sponsor, HUD staff

¹⁰¹ A list of Federal Statistical RDCs and their locations can be found at <http://www.census.gov/about/adrm/fsrdc/locations.html>. An additional six Federal Statistical RDCs are scheduled to open in 2017: Georgetown University, Illinois-Urbana Champaign, Kentucky-Lexington, Philadelphia, Rocky Mountain-Colorado, and Texas-Austin.

¹⁰² Examples of RCTs that produced data with long-term research value include Moving to Opportunity, Family Options, Rent Reform, and Family Self-Sufficiency.

working on these projects is able to access the linked data remotely through a secured computing environment within PD&R.

A number of projects summarized in this Roadmap propose to rely on data linkage and analysis at CARRA:

- Reasons for Housing Assistance Exits and Outcomes After Exit
- Effects of MTW Rent Reform
- Aging in Place in HUD-Assisted Non-Elderly Housing

PD&R Data Licenses for Administrative Data

Housing market data and program data generated by HUD is a public asset for better housing and community development policy, provided it is used responsibly and protects personally identifiable information (PII). PD&R has the authority to enter into Data License Agreements with research organizations for research projects that inform HUD's policies and programs. Such licenses are appropriate when (1) important policy-relevant research questions can only be answered by using, among other resources, PII in HUD's systems and datasets; (2) the research organization can offer adequate safeguards for the confidentiality of the shared data; (3) the research organization does not need funding or other resources from HUD to carry out the research project; (4) the research organization will destroy all PII received from HUD when the license expires.¹⁰³

PD&R-Sponsored Surveys

The housing surveys that HUD funds represent a crucial part of the nation's housing data infrastructure, and consume the largest share of R&T appropriations.

- **American Housing Survey (AHS)** provides national, regional, and metropolitan area estimates of the characteristics of the nation's housing stock. Originating in 1973, the statutorily mandated AHS gathers data biennially across a longitudinal sample of housing units. For 2015, PD&R worked with the Census Bureau to redesign the survey and draw a new sample of units. The new survey design includes a rotating panel of question modules that address special topics.¹⁰⁴ The AHS supports several key PD&R research products: Worst Case Housing Needs reports to Congress, Components of Inventory Change (CINCH) reports about how uses and costs of housing units change over time, and the Housing Affordability Data System.
- **Survey of Construction (SOC)** provides current national and regional statistics on housing starts, completions, and size and other characteristics of new, privately-owned single-family and multifamily housing units, as well as sales of new single-family houses. It supports key economic indicators for the residential construction market, such as PD&R uses in U.S. Housing Market Conditions and regional and local Comprehensive Housing Market Analyses.¹⁰⁵

¹⁰³ See https://www.huduser.gov/portal/research/pdr_data-license.html.

¹⁰⁴ The 2015 AHS topical modules included 1) health and safety hazards in the home, 2) food insecurity, 3) the use of housing counseling services, and 4) the presence of arts and cultural opportunities in the community.

¹⁰⁵ See <https://www.huduser.gov/portal/ushmc/home.html>.

- **Survey of Market Absorption of Apartments (SOMA)** supplements the SOC by sampling residential buildings containing five or more units, and collecting information on amenities, rents or sales prices, number of units, type of building (including senior housing), and the number of units rented or sold (absorbed). SOMA provides the key rental market indicator of the rate at which new multifamily units are leased up, along with other key estimates of multifamily housing uptake that are valuable for government and industry.
- **Manufactured Homes Survey (MHS)** is statutorily mandated to produce estimates of the production, shipments, and placements of manufactured homes for the nation, for each of four Census regions, and at least annually, for each state. MHS provides estimates by average sales price, floor area, and unit type, and is used by the public and private sectors to monitor housing production, affordability, and residential investment.
- **Rental Housing Finance Survey (RHFS)** collects data on the financial, managerial, and physical characteristics of rental properties nationwide on a biennial basis. First collected in 2012, RHFS is useful for federal policy and business relating to multifamily housing finance and management.

4. [Appendices](#)

Appendix A. Prioritized Research Questions

The following list of research questions originated with the research questions suggested by stakeholders during the Idea Lab listening sessions and other venues during FY 2016. They were consolidated, refined, and prioritized by PD&R staff and then by PD&R managers and leaders. These are the questions assigned to SMEs for development of the proposals listed in Section 3.

Question IDs	Priority Questions
14	How has the relationship changed between home construction and purchase costs and the present value of long-term (30 years) maintenance, insurance, and operating costs? What are the implications for affordability and sustainable homeownership?
31	How are foreclosed units affecting the size of the affordable rental stock?
36	Examine the production of Sec.221(d)4 financed (New Construction/Substantial Rehab) properties, including cost and location of units, for potential use with vouchers.
41	How are builders undertaking affordable housing preservation using new building technologies to reduce renovation costs and related costs?
44, 49	What are the most cost-effective strategies for lowering operating costs of housing? How has the useful life of building materials and systems changed, and what are the implications for housing affordability?
75, 457, 458, 459, 460	What does the AHS 2015 food insecurity module tell us about the impact of severe housing cost burden on households? Explore the 2015 AHS and its supplement which included USDA questions on food security by urban/rural differences. What is the relationship between housing, food, and health? Potential data sources include the National Health Interview Survey (NHIS) that includes questions on food security, housing assistance, and health survey outcomes. How do households make decisions between food and shelter, and what are the policy and program implications for housing and food assistance programs? What is the relationship between food access, transportation and housing in rural America?
91, 96, 98	Need to count and locate the unmet need for accessible housing by older persons already living in Sec. 202 housing, multifamily housing, and single family housing. What are the different aspects of accessibility that are needed by residents of Sec.202 housing, other multifamily housing, and single-family housing? Survey older residents of 202, MF and SF housing asking them what types of building or unit modifications they think they need to age in place.
100	What residents in assisted housing for non-elderly are most likely to age in place? How will the composition change over time?
105, 61, 178, 234, 104, 21, 35, 472	What incentives can HUD create to reduce regulatory barriers that hinder integration? What are effective strategies to prevent communities from effectively blocking low-income residents (zoning, density limits, etc.)? How do restrictive local development practices affect the production of affordable housing and the federal cost of providing housing assistance?

What exclusionary rezoning or other practices do local governments use to block development of affordable housing or housing that is inclusive of units for HIV/AIDS households? What support and guidance from FHEO field staff is needed to promote inclusionary zoning passage by local policy makers? How does local government fragmentation (i.e. areas split into any small governments) affect affordable housing? What are the effects of zoning regulations on affordable housing production, and how can HUD influence zoning regs? Research the role of restrictive land use regulation in high housing costs (in some cities and metros) and other problems of spatial inequality.

- 106 Expanding access to mainstream housing for homeless households: 1) Could re-administer survey of PHA admission preferences; 2) case studies of communities where HCV preference for homeless households have been adopted; 3) economic analysis of the extent to which a homeless preference induced households to become homeless in order to access housing assistance
- 111 Review/evaluation of the building and unit modifications that were required to get broadband access in the building or unit.
- 120, 121, 122, 123 Do children of HUD tenants display disparities in early developmental milestones? Do children of HUD tenants begin school with disadvantages in socio-emotional skills and behaviors? Are there disparities in competencies of school-age children of HUD tenants? Does family structure mediate these competencies? Do trajectories of executive functioning competencies differ over time for HUD residents? Do family processes and parenting practices differ for HUD families, and do differences affect school readiness of children? Do early care and education arrangements differ for HUD tenants?
- 124 Follow-up/impact evaluation of Choice Neighborhoods
- 125 Follow-up analysis of the Neighborhood Stabilization Program, incorporating new data on outcomes as well as hardest hit funds demolition data.
- 129, 353 Evaluate and conduct case studies of the National Disaster Resilience Competition to assess and support national replicability. Are communities that go through comprehensive, place-based planning efforts more resilient to disaster, and more effective in spending disaster recovery funds?
- 142 Do HUD renters who live in neighborhoods with better transit have greater work participation?
- 143 Follow-up on HOPE VI communities, to the greatest extent possible, to assess the long-term quality of these neighborhoods.
- 152 Update Fair Housing Act Design Manual to incorporate the most recent guidance and make the document more useful to those in the field.
- 176 Evaluate effects of the Moving-to-Work program on rents, payment standards, shifting of operating to capital expenses, limiting of portability, and the host of issues that have been raised by researchers and Government Accountability Office. Do a baseline of the newest PHAs admitted into MTW.
- 179, 60, 494, 495 How can landlord participation in the Housing Choice Voucher program be increased? What behavioral factors influence whether landlords accept vouchers, and what can HUD do about

it? What incentives do landlords have to accept Housing Choice Vouchers in high-opportunity neighborhoods? What attitudes do they have toward Section 8 tenants? Are there best practices for PHAs that encourage landlords to accept vouchers, such as an insurance fund for landlords, security deposit assistance, timely HQS inspections and other procedures, or having a customer service focus?

185	Study housing discrimination more regularly and at the metropolitan level, to provide metro-level indicators of housing discrimination to link to segregation as well as health measures.
188	How can we meet the expected affordable housing production need for older adults in the next 15 years? Assess need in terms of housing assistance, unit sizes, development types, locational preferences, accessibility features, and long-term services and support needs. Identify the most cost-effective ways and best private sector investment strategies to increase affordable housing production for the elderly.
189, 114, 227, 296, 506	What does the Olmstead decision mean for state-level housing needs and rebalancing efforts during the next 5 to 10 years to enable individuals with disabilities to live in the most integrated community settings? Assess need in terms of housing assistance, unit sizes, development types, locational preferences, accessibility features, and long-term services and support needs. Outside of Section 811 housing, how are states managing their transitions of persons with disabilities into community-based settings? What housing is being accessed for these individuals? What is the affordability of the housing? How much is HUD assisted? Complete the "State Olmstead Plans and Assessment of Demand, Available Resources, and Need" study proposed in the current Roadmap (p.14). What capacity do states have to implement Olmstead agreements for community-based housing of people with disabilities? How can the use of type 2 Housing Choice Vouchers be increased for transitioning people with disabilities out of care facilities? Is there a communication problem affecting successful utilization of vouchers for this purpose?
190	How successfully do refugee populations who enter U.S. communities achieve the transition into permanent housing with access to employment, healthcare, and other services?
194, 196, 197	"What type of housing assistance is most effective for HOPWA beneficiaries? How effective are HOPWA formula grant programs that provide only Short-Term Rent, Mortgage, and Utility (STRMU) assistance for achieving housing stability among the service population? What is the best type of housing assistance for aging individuals living with HIV/AIDS who may lack family and social supports compared with aging heterosexual individuals?
200	How well are home and other properties in at-risk communities insured against disaster risks? What insurance coverage is required? What are effective strategies to increase the degree to which individual property owners are carrying adequate hazard insurance?
201	Conduct a demonstration, evaluation, and cost-benefit analysis of energy benchmarking as an approach to measuring utility consumption and costs in PHAs. The demonstration should be informed by recommendations from the FY 2013 grant to Bright Power.
203, 161, 245, 398, 441, 444	Conduct a follow-up study on LIHTC and Qualified Allocation Plans (QAPs), distinguishing between rehabilitation/preservation and new construction when analyzing the location of LIHTC properties. Are Qualified Census Tracts classified properly for good LIHTC locational outcomes? What are the best practices for state housing finance agencies in administering

LIHTC and mortgage revenue bonds to improve program success? What Qualified Allocation Plans and other policies support development of smaller rural LIHTC projects? If the optimum size for LIHTC projects is 60-80 units, what can a state do to encourage successful development in smaller rural communities that are experiencing population and job growth? Where is existing rural affordable housing located – subsidized and unsubsidized – versus where is the demand? ERS has a new project examining USDA RHS multifamily properties through newly released public data that could be built upon to include HUD and LIHTC properties in rural areas. How well does LIHTC serve rural preservation and production, including geographic distribution, locational outcomes, and pricing?

205	Study the capital needs backlog in the Section 202 elderly housing portfolio to [assess whether the Rental Assistance Demonstration can work with the proposed Project Rental Assistance Contracts (PRACs) for Section 202] developments.
207	What has happened to [single-family loans that received mortgage modifications after the Home Affordable Mortgage program (HAMP) ended], and how many go into foreclosure? We could track the FHA modification and FHA-HAMP to determine the success and failure over the long term.
219	What is causing the increasing number of Home Equity Conversion Mortgage (HECM) defaults related to non-payment of taxes and insurance (T&I)? To what extent is it caused by fixed-income borrowers who rely entirely on Social Security income? What are the long-term implications for the housing industry, considering that nearly 19 percent of the total U.S. population will be 65 or older by 2030?
232, 504, 386, 318	"What is the longitudinal impact of smokefree housing rules on asthma rates in public and assisted housing, using the linked NCHS data? What are the health effects of the smoke-free policy in public housing? What is the relationship between indoor air quality and asthma in public housing facilities? Does evidence of the direct effects of smoking on health provide sufficient justification for HUD's smoke-free housing policy? Does the evidence hold up after controlling for mold and other environmental hazards?
233	What savings do PHAs experience related to insurance and maintenance after adopting smoke-free policies?
236, 376, 471	What is the relationship between housing insecurity and health and mental health? Is there a link between housing and violence--perhaps as an outcome of chronic stress? What proportion of child sexual abuse can be attributed to doubled-up housing situations?
237	Develop a battery of questions to identify when an individual is housing insecure, beginning with a literature review and expert convening.
239	How are hospitals interpreting and responding to the Affordable Care Act's requirement that they have a plan for providing housing? What supports are needed from HUD?
244, 268, 408	What is the long-term opportunity cost of failing to provide affordable housing? What has been the impact of HOME funding cuts, controlling for the effect of the recession? What effect does housing assistance have on the full spectrum of well-being outcomes, such as jobs, health, graduation, school performance of the next generation, etc.?

253	What are the health care costs of dual-eligible (Medicare and Medicaid) seniors who live in HUD-assisted housing compared to dual-eligible seniors living in other housing?
259	"Where do people come to housing assistance from? Are well-situated LIHTC and other subsidized properties attracting residents of high-poverty/low-opportunity neighborhoods? What strategies expand catchment areas?"
263	Replicate the lead hazard awareness module from the 1997 Current Population Survey to create current estimates and assess progress since 1997 at the metro level.
269, 282	What are the neighborhood impacts of CDBG? Considering the highly stable distribution of CDBG activities over time, are there jurisdictions that do make significant changes, and what types of local factors influence such changes?
274	What are the long-term impacts of Neighborhood Stabilization Program, including the land banking component? Are there lessons for CDBG?
275, 278, 322, 346, 347, 365, 367, 369, 368	What are the long-term impacts of the Sustainable Communities Initiative planning grants? Do SCI planning grants, and USDA programs with a regional focus, promote resilience across jurisdictional boundaries? What are the quantifiable impacts of SCI planning and implementation grants in terms of community development outcomes and grantee capacity? How effective are HUD investments in regional planning? Do place-based planning efforts using an equity frame increase the extent to which disadvantaged voices are heard, improve outcomes, and reduce disparities? Do buffering approaches and increased community engagement make a difference? To what extent do SCI planning efforts (new plan, zoning change, regional mobility plan, sustainability plan, Comprehensive Economic Development Strategy) represent a paradigm shift from conventional planning approaches and practice? How well has SCI planning succeeded with respect to effective process, formal plan adoption, zoning or regulatory changes, implementation, and community outcomes including livability principles, local goals, equity, satisfaction? What parts of the AFFH engagement and planning in SCI planning process led to meaningful equity outcomes in communities? What factors in SCI planning account for success in terms of formal plan adoption and zoning or regulatory changes?
280, 488, 321, 307	What are the effects of implementing the Affirmatively Furthering Fair Housing rule, relative to the previously required Analyses of Impediments to fair housing? With Analyses of Fair Housing required by 2017, how are communities defining areas of opportunity? Are they able to put together coherent, actionable AFFH plans? What is the impact? What types of technical assistance do smaller entitlement communities need to increase capacity, address funding and other administrative challenges, and develop effective administration and implementation of affirmatively furthering fair housing? In what ways are jurisdictions struggling to complete and submit their Assessments of Fair Housing? What are short- and long-term measures of success for AFH, considering what jurisdictions can meaningfully address?
293, 298, 299, 300	How effective is the Fair Housing Initiatives Program, including both fair housing investigation and education/outreach activities? How effective is the education and outreach of the Fair Housing Initiatives Program? Has fair housing knowledge changed since the last How Much Do We Know survey? What types of media and ads, whether funded by FHIP or donated, are most effective in increasing fair housing knowledge and motivating submission of meritorious

	complaints? Where do meritorious fair housing complaints come from other than FHIP agencies; are there commonalities?
294	How effective is the Fair Housing Assistance Program and enforcement by substantially equivalent state and local agencies?
310	To what extent does housing discrimination occur by landlords who are not advertising the availability of housing units?
312	How well does using the Lead Safe Housing Rule reduce the chance that children under age 6 will get elevated blood lead levels in targeted public and assisted housing?
330	Does the revenue-neutral transfer of budget authority between multifamily properties under Section 8 (bb) improve the financial position of those properties, and their ability to recapitalize? How can the 8(bb) transfer authority best serve the need for affordable housing preservation?
338	How do tenants use the mobility option of the Rental Assistance Demonstration?
339	As the Family Self-Sufficiency program is introduced to the assisted multifamily program, how successful is the implementation and impact?
341	To what extent do Home Equity Conversion Mortgages benefit seniors?
419	In an experiment for families on rental assistance waiting lists (similar to the Family Options study), examine a range of rental subsidy models (vouchers, project-based assistance, shallower and/or time-limited subsidies) and evaluate their impacts on employment, earnings, education, well-being and housing stability.
423	Which energy efficiency programs (e.g. Green Retrofit, the FHA MIP reduction, PACE, Better Buildings Challenge, Renew 300, Multifamily Pay for Success, energy benchmarking, EPCs, rate reduction incentive, etc) have been most effective at achieving energy savings (in terms of consumption and dollars), and under what circumstances? What steps need to be taken to ensure the savings are sustained? As properties become more energy efficient using existing approaches, will new tools be needed to address energy use in the harder-to-reach properties?
431	What is the impact for housing choice and voucher lease-up rates of PHA failure to reset payment standards? What are the implications for increasing the number of households served versus expanding housing choice?
438	Collaborate on a financial counseling pilot or ways to integrate either basic financial literacy (banking options, etc.) or financial literacy with digital literacy into existing HUD programs.
440	Where could behavioral levers be used to advance program goals, including issues related to climate and disaster resilience, mobility, affordable housing preservation, and health?
443, 442	What is the impact of federal rental housing investments in rural markets? How many affordable units receive federal assistance, and what is the effect of the presence of these units upon the market? What is the impact of the looming exit of subsidized rental units from rural markets on those tenants and communities?
447	How does loss of home equity affect rural homeowners, particularly those who are aging?

451, 452, 319	What is the impact of AFFH implementation on rural communities? How relevant are the definitions and tools employed to rural communities and regions? Does AFFH drive investments toward rural communities or away from them, and does it lead to equitable outcomes nationally? How are federal block grants including CDBG, HOME, and the new National Housing Trust Fund being used to Affirmatively Further Fair Housing in rural communities? How do differences in state and local implementation affecting rural communities and regions? Do the funding guidelines and income targeting approaches work for rural areas, particularly in persistent poverty or hard to serve areas? In promoting racial and ethnic integration through AFFH, are there thresholds of community size, rurality, or concentrated cultural heritage that make such efforts infeasible or counterproductive?
469	What are some best practices for tenant relocation when redeveloping public housing?
497	What are the reasons for voucher recipients failing to lease up?
498, 68	How often do households move out of affordable housing for positive reasons, including progress under the Family Self Sufficiency program, or for negative reasons? How do these families fare after moving?
500	What tenant behaviors, unintended consequences, and outcomes result from flat rents? How do over-income tenants respond to flat rents?
502	What purpose is served by the work and community service requirement for assisted tenants, and what are the costs and benefits of the policy?
503	What are the implications for HUD of an aging tenant population in assisted housing? How do Medicaid waivers affect HUD programs?
511	What has been the impact of the HOPE VI mixed-income model after 20 years? What was the impact on children?

Appendix B. HUD Program Evaluation Policy Statement

AGENCY: Office of the Assistant Secretary for Policy Development and Research, HUD.

ACTION: Notice.¹⁰⁶

SUMMARY: This policy statement of HUD's Office of Policy Development and Research articulates the core principles and practices of the office's evaluation and research activities. This policy reconfirms the Department's commitment to conducting rigorous, relevant evaluations and to using evidence from evaluations to inform policy and practice.

DATE: December 6, 2016.

I. Background

The mission of HUD's Office of Policy Development and Research (PD&R) is to inform HUD policy development and implementation to improve life in American communities through conducting, supporting, and sharing research, surveys, demonstrations, program evaluations, and best practices. Within HUD, PD&R is responsible for nearly all program evaluations. The office provides reliable and objective data and analysis to help inform policy decisions. Program evaluation has been a core activity of PD&R since its formation in 1974.

In July 2016, the Government Accountability Office (GAO) issued a report entitled "Department of Housing and Urban Development: Actions Needed to Incorporate Key Practices into Management Functions and Program Oversight," (GAO 16-497) in which GAO presented a broad assessment of HUD's management of its operations and programs.¹⁰⁷ In the report, GAO examined HUD efforts to: (1) Meet Federal requirements and implement key practices for management functions, including performance planning and reporting, human capital, financial, acquisition, and information technology (IT) management; and (2) oversee and evaluate programs.

PD&R is the primary office within HUD responsible for data analysis, research, program evaluations, and policy studies that inform the development and implementation of programs and policies across HUD offices. PD&R undertakes program evaluations, often by using a process that includes convening expert panels. However, GAO found that PD&R had not developed agency-wide, written policies for its program evaluations, nor documented the criteria used to select the expert panels and review the quality of program evaluations.

This policy statement responds to the GAO report by setting out the core principles and practices of PD&R's evaluation and research activities. This statement incorporates some language from a policy statement by the Office of Policy, Research, and Evaluation of the Administration for Children and Families of the U.S. Department of Health and Human Services.

¹⁰⁶ Published in the Federal Register, December 6, 2016. Docket No. FR-5985-N-01, FR Doc. 2016-29215.

¹⁰⁷ See <http://www.gao.gov/assets/680/678551.pdf>.

II. HUD Program Evaluation Policy

PD&R has identified the following core principles and practices as fundamental to ensuring high-quality and consistent evaluation results: rigor, relevance, transparency, independence, ethics, and technical innovation. This policy applies to all PD&R-sponsored evaluations and economic analyses of regulations; they apply as well to the selection of projects, contractors, and PD&R staff that is involved in evaluations.

Rigor

PD&R is committed to using the most rigorous methods that are appropriate to the evaluation questions and feasible within budget and other constraints. Rigor is not restricted to impact evaluations, but is also necessary in implementation or process evaluations, descriptive studies, outcome evaluations, and formative evaluations; and in both qualitative and quantitative approaches. Rigor requires ensuring that inferences about cause and effect are well founded (internal validity); requires clarity about the populations, settings, or circumstances to which results can be generalized (external validity); and requires the use of measures that accurately capture the intended information (measurement reliability and validity).

In assessing the effects of programs or services, PD&R evaluations use methods that isolate to the greatest extent possible the impacts of the programs or services from other influences such as trends over time, geographic variation, or pre-existing differences between participants and non-participants. For such causal questions, experimental approaches are preferred. When experimental approaches are not feasible, PD&R uses the most rigorous approach that is feasible. PD&R ensures that contractors and grantees conducting evaluations have appropriate expertise through emphasizing the capacity for rigor in requests for proposal and funding opportunity announcements.

PD&R also employs a strategic human capital development plan to hire, train, and retain a workforce that ensures the staff has the tools and resources to accomplish the mission.

Relevance

The PD&R evaluation agenda reflects the legislative requirements and policy issues related to HUD's mission. PD&R solicits input from stakeholders, both internal and external, on the selection of programs to be evaluated, initiatives, demonstrations, and research questions. For new initiatives and demonstrations in particular, evaluations will be more feasible and useful when planned in advance, in concert with the development of the initiative or demonstration, rather than as an afterthought.

PD&R disseminates findings in ways that are accessible and useful to policy-makers and practitioners. PD&R partners with other HUD program offices to inform internal and external stakeholders through disseminating evidence from PD&R-sponsored evaluations.

Transparency

PD&R will release methodologically valid evaluations without regard to the findings. Evaluation reports must describe the methods used, including strengths and weaknesses, and discuss the generalizability of the findings. Evaluation reports must present comprehensive results, including favorable, unfavorable, and null findings.

PD&R publishes a 5-year Research Roadmap that outlines the research and evaluation that we believe would be of greatest value to public policy. PD&R lists all ongoing evaluation projects at the HUDUSER.gov Web site, and updates it monthly. PD&R will release evaluation results timely, usually within 4 months of receiving the final report.

PD&R will, where possible, archive evaluation data for secondary use by interested researchers. PD&R typically builds requirements into contracts to prepare data sets for secondary use.

Independence

Independence and objectivity are core principles of evaluation. Agency and program leadership, program staff, service providers, and others participate actively in setting evaluation priorities, identifying evaluation questions, and assessing the implications of findings. However, it is important to insulate evaluation functions from undue influence and from both the appearance and the reality of bias. To promote objectivity, PD&R protects independence in the design, conduct, and analysis of evaluations. To this end:

- PD&R conducts evaluations through the competitive award of grants and contracts to external experts who are free from conflicts of interest.
- PD&R also conducts evaluations in-house and supports unsolicited external evaluation proposals with funding, data, or both.
- The Assistant Secretary for PD&R has authority to approve the design of evaluation projects and analysis plans; and has authority to approve, release, and disseminate evaluation reports. The Assistant Secretary does so, in consultation with career staff.

Ethics

PD&R-sponsored evaluations must be conducted in an ethical manner and safeguard the dignity, rights, safety, and privacy of participants. PD&R-sponsored evaluations must comply with both the spirit and the letter of relevant requirements such as regulations governing research involving human subjects. In particular, PD&R protects the privacy of HUD-assisted households and HUD-insured borrowers through the Rule of Eleven; that is, PD&R allows no disclosure of information about the characteristics of any group of individuals or households numbering less than eleven by PD&R staff, contractors, grantees, or licensees.

Technical Innovation

PD&R supports and employs new methods of data collection and analysis that more reliably and efficiently answer research questions than old methods do.

Application of These Principles to Economic Analysis of Regulations

Economic analysis of regulations, properly conducted, is a critical tool in improving public policy. In any PD&R Regulatory Impact Analysis:

- PD&R analyzes whether the issues addressed by the regulation stem from a market failure, government failure, or other systemic problem, and whether the regulation addresses the root causes of those problems.

- PD&R uses and as necessary produces the best objective estimates of the benefits, costs, and transfers resulting from the regulation, taking into account gaps and uncertainties in the available data.
- Where clear alternatives to the regulatory actions exist, PD&R objectively estimates the benefits, costs, and transfers of those alternatives as well.

Dated: November 30, 2016.

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

Appendix C. Research Partnerships

PD&R has engaged in numerous Research Partnerships under the statutory authority granted in FY 2012. Many research partners came forward with unsolicited research ideas and matching resources to seek PD&R's assistance and collaboration. Listed below are the research partnerships that PD&R has entered into.

Research Project	Research Partner	Status
High Cost Lending in Rural America and the Great Recession	Middlebury College, U.S. Department of Agriculture-Economic Research Service	Completed January 2014
Mining MTO: Housing Assistance Leavers and Vulnerable Female Youth	Urban Institute	Completed February 2014
Housing Opportunity and Services Together (HOST) Demonstration	Urban Institute	Completed June 2014
Aging in Place: Managing the Use of Reverse Mortgages to Enable Housing Stability	Ohio State University	In Progress
Bringing Life Course Home: Improving Health Through Housing Stability and Support	Boston Medical Center, Boston University	In Progress
Brokering the Geography of Opportunity: How Landlords Affect Access to Housing and Neighborhood Quality Among HUD Assisted Renters	Johns Hopkins University, Harvard University	In Progress
Chicago Regional Housing Choice Initiative Evaluation	RAND Corporation	Completed April 2016
How Housing Affects Young Children	Johns Hopkins Bloomberg School of Public Health	In Progress
The Impact of Children's Housing on Their Long-Term Economic Outcomes: Linking Intergenerational Labor Market Outcomes, Residential Mobility, and Neighborhood Quality for Households Receiving Housing Assistance	University of Maryland, Census Bureau, Harvard University	Completing Closeout
Jobs-Plus Cost Study	New York City Center for Economic Opportunity Social Innovation Fund (CEO SIF), Mayor's Fund to Advance New York City	Completed November 2016
Relationship Between Receipt of Housing Assistance and Social Health	Washington State Department of Social and Health Services	In Progress
Rethinking FSS: A Plan for Building More Evidence on What Works to Improve Employment Outcomes and Economic Security for Recipients of Section 8 Housing Choice Vouchers—Resubmission	MDRC	Completed January 2015
Using Parcel and Household Data to Evaluate the Low- Income Housing Tax Credit and Housing Choice Voucher Programs: Transportation, Crime, Education and Tenant Choice	University of Florida Shimberg Center for Housing Studies	In Progress
Coming Home: An Evaluation of NYCHA's Family Reentry Pilot	Vera Institute for Justice	In Progress

Moving to Opportunity: Platform to Improve Health	Johns Hopkins University	In Progress
The High Cost of Cities, Gentrification and Voucher Use: Exploring Access to Quality Homes and Neighborhoods	New York University- Furman Center	In Progress
HOPE VI: Data Compilation and Analysis	Case Western University	Completing Closeout
Housing Opportunity and Services Together (HOST II) Demonstration	Urban Institute	In Progress
The Economic Boom in Eagle Shale: Impacts on Accessible and Affordable Housing for the Vulnerable Populations	University of Texas San Antonio	In Progress
Evaluation of Innovative Family Self-Sufficiency (FSS) Programs Administered by the Nonprofit Working Capital Compass in Partnership with the Massachusetts Public Housing Authority	Abt Associates	In Progress
Housing Tenure, Disaster, Damage and Displacement: An Analysis of the New Orleans American Housing Survey 2004–2009	Brown University	In Progress
Light-Gauge Cold-Formed Steel Framed Building Shake Table Test Program	University of California San Diego	Completing Closeout
Rental Data: Improving Renter’s Security through Credit Reporting Payment Data	Policy Economic Research Council (PERC)	In Progress
Understanding the Market for Reverse Mortgages	Columbia University	In Progress
Voices of Youth	Chapin Hall at the University of Chicago	In Progress
Modeling Temporary, Interim, and Permanent Housing Demand & Capacity for Medically Fragile and Vulnerable Population	Old Dominion University	In Progress