HUD
Research
Roadmap

FY 2020 — **FY** 2024

PD&R

HUD Research Roadmap: 2020 Update

U.S. Department of Housing and Urban Development
Office of Policy Development and Research

November 2020

Foreword

I am pleased to present this *HUD Research Roadmap: 2020 Update*, a research agenda that supports evidence-based policymaking for the Department of Housing and Urban Development. Building evidence in support of effective policy is the central purpose of the Office of Policy Development and Research (PD&R). Over the past decade, PD&R has taken a strategic, consultative approach to planning housing and community development research and developing the nation's housing data assets by preparing multi-year Research Roadmaps for both 2014 and 2017.

In the spring of 2019, PD&R kicked off the stakeholder outreach process with Shaping HUD's Research, a panel discussion and conference held at HUD Headquarters in Washington, DC. In his opening remarks, Secretary Ben Carson drew on his original vocation as a pediatric neurosurgeon to highlight parallels between the growth of evidence-based medicine and the need for evidence-based policymaking to make federal policies and programs more effective. Over the next several months, PD&R staff launched an impressive engagement strategy soliciting research questions and stakeholder feedback. By the end of the year, PD&R staff received over 600 research questions for HUD to pursue over the next four years. These research questions came from every corner of the housing policy community including researchers, academics, advocates, and HUD-assisted tenants as well as partners from state and local government, HUD's program offices, and the research offices of other federal agencies. These conversations and contributions were truly invaluable and informed every step of the development of the Roadmap.

As the process of developing the Roadmap drew to a close in early 2020, the COVID-19 pandemic emerged and the Department took unprecedented measures to mitigate its impact on housing and community development. At that point, PD&R staff had refined that extensive list of research questions down to develop 104 proposed research projects that reflect the contributions of our stakeholders and expertise of our staff. Faced with this existential shift in so many aspects of public life, PD&R has adapted some critical elements of our planned research for the coming years. The Research Roadmap charts a course for needed evidence-based improvement of HUD's programs, but, at its heart, remains a living document that supports the nimble and timely work of PD&R and other HUD offices. HUD has always been at the forefront of thinking strategically about building evidence and the 2020 Research Roadmap will be a valuable guide in the years to come.

Thank you to everyone—across HUD and across the country—who contributed to this effort. Your work, as embodied by this document, is an important step in ensuring that HUD's programs are efficient and effective and meet the evolving housing and community development needs of our nation.

Seth D. Appleton
Assistant Secretary for Policy Development and Research
U.S. Department of Housing and Urban Development

Contents

1. Introduction

The U.S. Department of Housing and Urban Development (HUD) administers a diverse array of programs including, among others, low-rent public housing, assisted multifamily housing, and tenant-based rental assistance; Federal Housing Administration mortgage insurance; the Ginnie Mae guaranty on mortgage-backed securities; lead hazard control and healthy homes grants; fair housing and civil rights investigation, compliance and enforcement; and community development and housing block grants, homeless assistance grants, and disaster recovery support (HUD, 2018a). Since HUD was established from its predecessor agencies in 1965, research, statistics, and other evidence have been central in shaping policy. Research is especially key to the Office of Policy Development and Research (PD&R) mission of 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. In this way, PD&R helps drive HUD's evidence-based policymaking, promoting the best possible policies and programs 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 5-year research agenda.

This Research Roadmap identifies key research opportunities for PD&R to highlight for Congress in budget requests and Annual Evaluation Plans while assuring strategic alignment to generate a robust pipeline of research. More than previous Roadmaps, this plan integrates evidence-building priorities for research and data collection from across the Department. This Roadmap represents a renewed process of stakeholder outreach and collaboration to identify the most policy-relevant and timely research questions and evidence-building challenges in the fields of housing and community development.

How the Evidence Act Shapes the Research Roadmap

In recent years an evidence-based policy movement has transformed the Federal context for research, evaluation, and evidence-building. Building on the recommendations of the Commission on Evidence-Based Policymaking (2017), in 2019 President Trump signed the bipartisan Foundations for Evidence-Based Policymaking Act ("Evidence Act").[1] The Act and the Office of Management and Budget's implementing guidelines establish a number of important new requirements for federal agencies:[2]

- Appointing Evaluation Officers, Chief Data Officers, and Statistical Officials to better govern and support the development and use of evidence across the enterprise

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[1] Public Law 115–435 (132 STAT. 5529). ''Foundations for Evidence-Based Policymaking Act of 2018.'' https://www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf.

[2] The primary implementation guidance is found in Memorandum M-19-23 (OMB, 2019a) and Circular A-11 (OMB, 2019b; see Section 290, Evaluation and Evidence-Building Activities). M-19-23 notably defines evidence broadly to include program evaluation, performance measurement, foundational fact-finding, and policy analysis.

- Developing "evidence-building plans" or learning agendas that are aligned with departmental strategic plans and include these elements:

    o Policy-relevant questions for which evidence will be developed

    o Data to be acquired to facilitate the use of evidence in policymaking

    o Methods and analytical approaches for developing evidence

    o Challenges for evidence development, including restrictions to data access

    o Steps to be taken to develop evidence for policymaking

- Developing Annual Evaluation Plans, based on learning agenda priorities, that identify the key questions each planned "significant" evaluation study will address and the key information collections or acquisitions to be initiated

- Conducting agency-wide Capacity Assessments relating to the ability to generate and use evidence

- Developing data governance strategies in support of HUD's Open Data Policy of collecting and creating information in ways that allow for easy access and reuse by the public

- Strengthening statistical standards and confidentiality protections

OMB (2019b) usefully characterizes a learning agenda as a "systematic plan for identifying and addressing policy questions relevant to the programs, policies, and regulations of the agency" and a "systemic way to identify the data agencies intend to collect, use, or acquire as well as the methods and analytical approaches to facilitate the use of evidence in policymaking."

Updating HUD's Research Roadmap

HUD released its first *Research Roadmap FY 2014–FY 2018* in July 2013.[3] Input and support from members of the 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 second *Research Roadmap: 2017 Update* employed a similar, although streamlined and more focused process, to address specific topics more fully. The nation's housing and communities are always evolving. 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. As new challenges and questions emerge, it becomes crucial to regularly update a learning agenda (OMB, 2019a).[4]

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[3] PD&R launched the first research roadmapping process in response to an assessment by the National Research Council (2008) that 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.

[4] Agencies must revisit their learning agendas at least annually and update them as needed to reflect progress toward meeting goals and objectives, shifting priorities, changing contexts, and emerging needs.

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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.gov website provides a central portal for disseminating HUD-related data and research, supporting one million downloads per month during FY 2019.

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This third *Research Roadmap* again seeks to address HUD's business areas comprehensively in responding to emerging issues, while also looking ahead to the Evidence Act requirements for learning agendas. HUD's Research Roadmaps have been shaping and guiding evidence-building activities for 8 years. The Roadmap will continue to guide fiscal year (FY) budget requests and prioritize research projects and initiatives under the Evidence Act.

HUD's Strategic Plan and Looking Ahead

The Evidence Act closely associates learning agendas with agency strategic plans. Strategic plans are required to include material on evidence building and are to be chronologically aligned with learning agendas and shaped by knowledge gained through evidence-building activities. HUD's final learning agenda will be incorporated in and aligned to HUD's next Strategic Plan and will incorporate much of the information contained in this Roadmap (OMB, 2019b).[5]

The priorities established in this Roadmap are grouped into 11 crosscutting Focus Areas:

- Community Development and Place-based Initiatives
- Core Housing Programs
- Disaster Response and Preparedness

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[5] Learning agendas are required to be finalized in February 2022 as part of the final FY 2022–2026 Strategic Plan that will be published in February 2022.

- Fair Housing

- Housing Finance and Affordable Housing Supply

- Housing and Health

- Indian and Rural Issues

- Self-sufficiency and Economic Opportunity

- Single Family Homeownership

- Vulnerable and Special Populations

- Enhanced Data and Methods

The priorities for each of these Focus Areas were based on the research questions and project ideas proposed by stakeholders. HUD first asked stakeholders to identify questions that are critical to HUD's mission and that HUD could contribute the most toward answering. HUD recorded 606 suggestions for research priorities to pursue for the next 5 years. This focus on HUD's mission and comparative advantage then was sharpened as staff winnowed and evaluated the suggestions and then developed specific project proposals to address priority research questions. The resulting list of projects and their underlying questions constitutes Section 2 of the Roadmap.

The Roadmap is already influencing the future of research at HUD. This Roadmap, however, is not the final word on HUD's evidence-building activities. Proposed approaches are likely to evolve with further development and with future external events. PD&R will collaborate with other HUD Offices on disseminating the results and identifying programmatic implications of the research conducted under the Roadmap. Additionally, the Roadmap in its entirety is likely to be more ambitious than HUD's research budget will support, 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, and HUD's annual evaluation plans will summarize the specific evaluations the agency plans to undertake.

A list of abbreviations and acronyms used throughout this Roadmap appears in Appendix D.

2. Priority Research Proposals for Evidence Building

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. The 11 focus areas and the distribution of the research proposals are presented in Exhibit 1; key research questions addressed by each proposal are identified in the footnotes.

Exhibit 1. Number of Priority Research Questions and
Research Proposals by Focus Area

Focus Areas	Priority Research Questions	Research Proposals
Community Development and Place-based Initiatives	8	6
Core Housing Programs	16	18
Disaster Response and Preparedness[6]	15	15
Fair Housing	3	5
Housing Finance and Affordable Housing Supply	16	13
Housing and Health	6	8
Indian and Rural Issues	3	3
Self-sufficiency and Economic Opportunity	9	10
Single Family Homeownership	7	8
Vulnerable and Special Populations	17	18
Enhanced Data and Methods	9	10
Total	109	114

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[6] Disaster Response and Preparedness includes nine multi-part research questions and placeholder proposals associated with the COVID-19 pandemic.

Community Development and Place-based Initiatives

Use and Effectiveness of CDBG in Local Jurisdictions[7]

The Community Development Block Grant (CDBG) program is designed to provide its state and local government grantees with substantial discretion and flexibility in using the resources to address local needs. Such flexibility limits the feasibility and usefulness of national program evaluations. Understanding how CDBG funds are used across various locales and the effectiveness of various strategies will help HUD and local partners administer the program more effectively in different contexts. This research could be conducted by external organizations chosen through a competitive grant Notice of Funding Availability (NOFA) process, or potentially through PD&R's Multidisciplinary Research Team (MDRT) vehicle. The Integrated Disbursement Information System (IDIS) data are essential for this research and may be combined with other national and local datasets. HUD administers the CDBG program and the IDIS data and is better positioned than any other organization to sponsor the research. The use of modest research grants will help HUD leverage the expertise and access to other data of a variety of external researchers.

Tracking Vacancy and Neighborhood Change[8]

Neighborhood change can indicate decline or redevelopment. Developing an early indicator of change could provide a tool to jurisdictions so they can take action to fight decline, promote stability, and protect current residents. For this research, PD&R staff will use longitudinal vacancy data to identify contraction or expansion of neighborhoods. The geospatial analysis would include numerous independent variables to better understand neighborhood change, including changes in demographics of the neighborhood. HUD used a similar approach to measure the recovery time after Hurricane Katrina in New Orleans. PD&R purchases the vacancy data from the U.S. Postal Service at the Block Group/Tract summary level every quarter, using scripts that HUD's contractor has set up to run when data are received. HUD is the only organization to which the U.S. Postal Service (USPS) has granted access to the data, which date back to 2006.[9]

Outcomes and Decisions of Tenants in Neighborhoods Experiencing Redevelopment[10]

Using restricted administrative data on Housing Choice Voucher (HCV) program participants, Ellen and Torrats-Espinosa (2016) found that, in metropolitan areas where rents are increasing more rapidly, voucher households tend to move more frequently to other neighborhoods, experience higher rent burdens, and become more spatially concentrated, but the poverty rate in their neighborhoods tends to decrease. PD&R published the (2018b) "Displacement of Lower Income Families in Urban Areas Report" in response to the request by House and Senate Appropriations committees for HUD to examine the

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[7] Addresses question 289, "How effective are Community Development Block Grants given local discretion about priorities, targeting, approaches, and monitoring?"

[8] Addresses question 299, "Can USPS vacancy data be used to better track neighborhood growth and development?"

[9] HUD makes the data available to researchers and practitioners from registered governmental entities and non-profit organizations. See https://www.huduser.gov/portal/datasets/usps.html.

[10] Addresses question 60, "What are the personal motivations, outcomes, and destinations of households "displaced" by gentrification? What motivations and perceptions of neighborhood change influence the choices of leavers and stayers?"

effects of rapidly rising rents in urban areas across the nation and avoid displacement. HUD is particularly well positioned because of its access to HCV program administrative data and relationships with PHAs to study the motivations, positive and negative outcomes, and destinations of households leaving neighborhoods experiencing redevelopment. For this study, a contracted researcher would build on existing analysis of HCV administrative data by conducting site visits in metropolitan areas that have experienced significant rent increases. HCV program participants from neighborhoods with rising rents will be interviewed to ascertain the motivations and perceptions that influenced their decisions to remain in or leave the neighborhood. The study will examine any patterns or disparities in the program participants' motivations, outcomes, or destinations, as well as any related effects of historic or present discrimination.

Evaluability of Opportunity Zone Impacts[11]

The Tax Cuts and Jobs Act of 2017 established capital gains tax advantages for investments within Opportunity Zones (OZs) made by Qualified Opportunity Funds. Capital gains tax deferrals and waivers available under the OZ program are expected to generate substantial private investment activity in the designated OZs, which include more than 8,700 lower-income census tracts. The program's design as a tax expenditure, however, creates significant data limitations resulting from the confidentiality of tax records held by the Internal Revenue Service (IRS), the limited data the IRS collects from investments utilizing the OZ benefit, and the decentralized nature of the OZ investments. Given such data limitations, any evaluation of the impact of OZs will require a thoughtful research design. This evaluability assessment will scan for and evaluate various data sources that could support an evaluation of OZ impacts, such as Census data, local data, IRS data, and primary data collection through developer surveys or other approaches. The assessment also will assess appropriate methods for conducting an impact evaluation using such information resources.

Case Studies of Mission-Driven Qualified Opportunity Funds[12]

Qualified Opportunity Funds include funds with investors driven primarily by pecuniary interest as well as mission-driven funds. This project would scan for publicly known Qualified Opportunity Funds (or fund coalitions), identify those that are explicitly and publicly pursuing the community development outcomes as described in the OZ legislation, and develop case studies around them. These case studies would be designed to answer research questions relating to the targeting and selection of OZ investments, the implementation of OZ investments, and early results of the investments. Detailed case

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[11] Addresses questions 65, "How much affordable housing is created within—and as a result of—Opportunity Zone investment areas? How well do resources from housing tax credits and Opportunity Funds work together to meet housing needs?" and 382, "Does Opportunity Zone designation affect affordable housing development? Commercial development? Industrial development?"

[12] Addresses questions 65 and 382 (see previous footnote) and question 467, "What impediments do Qualified Opportunity Funds experience in investing in particular Opportunity Zone tracts? What tract characteristics offset tract disadvantages?" PD&R determined that another priority question about OZs, 732, "Among census tracts eligible for Opportunity Zone designation, how do designated and undesignated tracts differ both overall and between adjacent tracts? What is the distribution of economic need across Opportunity Zones based on the various designation criteria? How does the distribution of need compare with the distribution of funding?" was adequately covered by the Urban Institute. See : https://www.urban.org/policy-centers/metropolitan-housing-and-communities-policy-center/projects/opportunity-zones and Theodos et al., 2018.

studies will provide detailed—albeit selective—evidence about the potential of the OZ program concept, challenges and successful practices, and qualitative evidence to begin filling in the picture of what the public gains from the OZ tax expenditure.

Effectiveness of Homeowner Rehabilitation Programs[13]

This research will examine the effectiveness of homeowner rehabilitation subsidies flowing through the HOME Investment Partnerships block grant program (HOME) and the Federal Housing Administration (FHA)-insured Section 203k mortgage. Each of these programs provide additional funds to homeowners to rehabilitate their homes. HOME programs operated by participating jurisdictions may finance rehabilitation work through grants or through loans. FHA 203k loans, whether providing Standard financing for major structural work or Limited financing for less intensive rehabilitation, increase the balance of the mortgage loan by the additional amount needed. This research will examine the effects of these programs for homeowners, including effects on property value, housing quality, quality of life, and accessibility for occupants with disabilities. The analysis will also include a comparison of 203k loans taken out in OZs, where the 203k Limited loan limit is increased to $50,000, rather than $35,000 outside of OZs.

Core Housing Programs

Assessing the Impact of the Implementation of Small Area Fair Market Rents[14]

Small Area Fair Market Rents (SAFMRs) are constructed to provide Public Housing Agencies (PHAs) managing the Housing Choice Voucher (HCV) program the authority to (1) increase payment standards in neighborhoods of opportunity and (2) reduce payment standards in less costly sections of a metropolitan area. This study will assess what strategies families employed to find units in neighborhoods of opportunity (neighborhoods with attributes, such as lower poverty rates, that are associated with improved economic mobility for disadvantaged residents), and whether search strategies and success varied on the basis of demographic factors. Further, for neighborhoods where the SAFMR is below the metropolitan-area-wide fair market rent (FMR), this study will assess neighborhood change associated with the SAFMR designation. The research will utilize contract researchers who have experience working with socioeconomic data and are skilled in working with HCV families. HUD administrative data (Form HUD-50058 tenant data) and FMRs will be used to identify families moving into neighborhoods of opportunity. The families will be surveyed to ascertain the strategies they used to find their unit and to gather information on what criteria were most important in choosing their housing unit, for example, high quality schools, lower crime rates, transportation, or employment opportunities.

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[13] Addresses question 292, "How effective are homeowner rehabilitation programs at improving individual and neighborhood quality of life? Do person-based or place-based programs yield better outcomes?"

[14] Addresses question 43, "How are families choosing to move to areas of opportunity? What happens to neighborhoods left behind when Small Area FMRs increase landlord participation in other areas?"

Impact of the Rental Assistance Demonstration[15]

Authorized by Congress under the FY 2012 HUD appropriations act, the Rental Assistance Demonstration (RAD) works by allowing PHAs and owners of other HUD-assisted properties to convert units from their original sources of HUD financing to project-based Section 8 contracts, with corresponding differences in their regulatory context. Owners of converted public housing units—whether PHAs or their selected developer partners—can tap into a broader range of subsidies and financing tools to rehabilitate the units and have a more predictable revenue stream around which to design their management of the units. Through September 2020, RAD enabled PHAs and their partners to leverage more than $9.9 billion to construct and rehabilitate more than 139,000 public housing units. This research effort will assess the solvency of the converted public housing units, the extent to which affordable housing is being preserved, and the effect of conversion on housing providers and tenants, including tenants of various demographic subgroups. Additional analysis could evaluate the impact of the second component of RAD, which issues new project-based vouchers, on tenants and costs of providing tenant-based assistance. The research will be conducted in-house by PD&R staff with occasional contracted technical support, using administrative data and data from site visits. HUD's ready access to these resources makes an in-house study a feasible and cost-effective way to provide basic program accountability.

Incentives to Increase Landlord Participation in the Housing Choice Voucher Program[16]

Recent research finds that there is a low acceptance rate of voucher holders by landlords in the private rental market, especially in low-poverty neighborhoods and in areas without Source of Income (SOI) voucher protections, and that there are several financial and other reasons why landlords do not participate in the HCV program. [17] A recent study provided insights on innovative practices that PHAs have implemented to try to increase landlord participation. Furthermore, ongoing research is exploring landlord participation across markets and the variation in voucher success rates, as well as the impact of SOI laws and PHA practices on landlord participation. HUD's Landlord Task Force, established in response to this growing body of research, confirmed findings from these studies and provided HUD with a richer understanding of what incentives and improvements HUD can make to increase landlord participation in the HCV program. In the fourth cohort of the Moving to Work (MTW) Expansion, PHAs will implement landlord incentives and this evaluation will examine whether those incentives increase landlords' willingness to participate in the voucher program.

Effect of Project-Based Housing Quality on Tenant Outcomes[18]

Public and assisted multifamily housing is found with a broad range of physical conditions. Housing quality problems may result from age of the stock, obsolescence, and inadequate funding for capital

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[15] Addresses question 77, "How do the costs of the Rental Assistance Demonstration (RAD) compare to public housing?"

[16] Addresses questions 94, "What are the most important ways of engaging with and attracting landlords to the voucher program?" and 170, "What characteristics of housing markets and PHA activities are associated with the rate of landlords' acceptance of vouchers?"

[17] Such reasons may include the cost of fixing defects before occupancy, property damage caused by tenants, legal fees related to evictions, and tenant shares of rent not collected by landlords upon eviction.

[18] This is one of three proposed projects addressing question 428, "How does housing quality affect self-sufficiency, quality of life, and assisted housing tenure of public housing and HCV tenants?"

needs through grants (public housing) or rental reserves (multifamily housing). Inadequate housing quality influences tenant decisions to remain assisted or leave the programs and has potential to affect tenant health and self-sufficiency outcomes. This study will analyze Real Estate Assessment Center (REAC) physical inspection scores and other REAC information alongside tenant length of stay based on tenant data and employment outcomes using National Directory of New Hires (NDNH) data. Existing access to these data sources makes this research cost-effective for HUD to pursue.

Association of Public Housing Conditions with Tenant and Neighborhood Characteristics[19]

This Multidisciplinary Research Team (MDRT) task order will explore relationships between public housing project characteristics and the characteristics of the tenants and their neighborhoods. Project characteristics include size, tenant demographics, and REAC physical inspection and financial management scores.[20] Neighborhood characteristics to be assessed include structure types, tenure mix, poverty concentration, and concentrations of public housing. Changes observed over time may be associated with several public housing initiatives including HOPE VI, Choice Neighborhoods, and RAD, as well as with external factors. Descriptive tabulations, spatial autocorrelation, and econometric methods will be used to explore possible causal relationships to support future evidence building.

Assessing Housing Quality in the Housing Choice Voucher Program[21]

Between 2000 and 2002, HUD conducted an annual survey of a representative sample of Section 8 vouchers at all PHAs. This survey provided a valuable source of independent data on the living conditions of assisted families, as well as on their neighborhoods and experiences with landlords and PHAs, for a modest cost ($1.7 million (in April 2020 dollars) per year). PHAs and HUD currently do not have independent information to verify compliance with the HCV program's Housing Quality Standards (HQS) requirements. The Senate Appropriations Committee identified this lack of information as a major concern and directed HUD to "take meaningful and timely steps to strengthen oversight and quality control of PHA performance in the critical area of inspections." This project will fund design and testing of an updated and revised survey instrument. PHAs can use the results of a fully implemented survey directly to improve the communication, oversight, training, and enforcement of their inspectors (who are often contractors). HUD can use the survey results to identify program improvements (for example, landlord outreach, alignment with the HOME Investment Partnerships Program block grants and other programs for rehabilitation needs, lead safety management in older homes with young children, mobility counseling), to help inform development and implementation of the National Standards for Physical Inspection of Real Estate (NSPIRE),[22] and to target technical assistance and oversight resources in a cost-effective manner. This design phase will provide a reliable foundation for the Department's subsequent

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[19] This is one of three proposed projects addressing question 428, "How does housing quality affect self-sufficiency, quality of life, and assisted housing tenure of public housing and HCV tenants?"

[20] The transition of REAC physical inspections from PASS to NSPIRE beginning in 2017 may limit the longitudinal analyses of physical conditions for more recent years to those defects such as mold, infestation, and electrical hazards that have the same definition in both systems.

[21] This is one of three proposed projects addressing question 428, "How does housing quality affect self-sufficiency, quality of life, and assisted housing tenure of public housing and HCV tenants?"

[22] See the NSPIRE homepage, https://www.hud.gov/program_offices/public_indian_housing/reac/nspire.

funding requests to implement the validated survey. The survey could seek consent from respondents to match information to administrative data to assess whether there is correlation between earned income and housing quality.

Property Standards for the HUD-Assisted Stock[23]

Ensuring physical quality of public and assisted housing properties is essential for providing safe, decent housing and maintaining sound management of physical assets. HUD's Real Estate Assessment Center (REAC) uses property standards as the basis for inspections of HUD's real estate portfolio. The researchers will begin by examining the literature about property standards, including the HUD (2003) report on the FHA Minimum Property Standards for single-family homes. A cross-sectional and longitudinal analysis of REAC inspection data will examine the effects of HUD's different property standards—Housing Quality Standards, Uniform Property Condition Standards, and NSPIRE, as it is implemented—on such outcomes as resident health and safety, landlord participation, and housing availability. The final report will include suggestions to simplify and streamline property standards across all HUD programs. Property standards examined in this research will not include accessibility requirements associated with the Fair Housing Act, Section 504 of the Rehabilitation Act, and the Americans with Disabilities Act.

Leasing Performance and Success Factors in the Housing Choice Voucher Program[24]

The success that HCV 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 HUD (2001) success rate study, 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 (for example, market factors, PHA management factors such as inadequate payment standards, housing quality, duration of the lease-up period, or other causes),[25] as well as potential program and data reporting enhancements that could increase success rates. A complementary quantitative analysis of administrative data, potentially supplemented by collection of detailed voucher issuance and expiration data from four Small

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[23] Addresses question 360, "How should HUD Minimum Property Standards (MPS) and Housing Quality Standards (HQS) be updated in response to new materials, codes, and technologies since the 1994 publication of MPS?"

[24] Addresses question 435, "How successful are Housing Choice Voucher holders and the overall program in leasing up? What factors (for example, market tightness, household characteristics, and PHA policies and procedures) affect probability of successful lease up across the nation? What enhancements to HUD-50058 tenant data collections are needed to assess and improve lease up success?"

[25] OLHCHH requested FY 2021 funding for a demonstration to test whether requiring lead risk assessments affects HCV lease-up success. See https://www.hud.gov/sites/dfiles/CFO/documents/36_FY21CJ_Program_OLHCHHv3.pdf.

Area Fair Market Rent Demonstration sites over time, would inform the effect of resetting payment standards and the implications for expanding housing choice.

Portability in the Housing Choice Voucher Program[26]

Portability of vouchers has long been a vexing issue for the HCV program because of the costs and complexities of administering and absorbing assisted households who "port in" from other areas, costs on the originating PHA when a tenant "ports out" to a higher cost area, and the desire to preserve family choice and mobility in the HCV program. This project would conduct case studies of nine PHAs that have high rates of portability (both origination and destination PHAs). The findings would be used to design survey questions for a larger sample of PHAs with above-average portability rates and an analysis of administrative data to examine PHA program operation and cost outcomes as well as voucher tenant outcomes in terms of pre- and post-portability neighborhood characteristics (including economic opportunity and minority concentration) and earned income. Research questions of interest include understanding the pattern and distribution of voucher portability, the impact of portability on the origination and destination PHAs, and potential policy levers that HUD might consider to limit the impact of "port outs" on smaller PHAs' Housing Assistance Payments (HAP) budget and the overall number of families they can serve in their community. The study should highlight portability policies, including those used by regional PHA consortia, that seem to be more effective, with the long-term objective of proposing a portability demonstration to test the impact of different promising strategies.

Effect of Energy Standards on the Long-term Viability of RAD Conversions[27]

In 2012, Congress authorized the Rental Assistance Demonstration (RAD) to serve as an effective approach to meet the capital improvement needs of the public housing stock. Under RAD, PHA-owned properties convert to Section 8 rental assistance, which provides project-based rental assistance or project-based voucher assistance over long-term contracts. These commitments to subsidize tenant rents can serve as a reliable income stream to attract long-term debt and equity from the syndication of Low-Income Housing Tax Credits (LIHTC). Capital secured in conjunction with a RAD conversion allows the owner to upgrade facilities and reduce backlogs of unfunded capital improvements. Although Congress initially limited the RAD program to 60,000 units, its ceiling has been lifted to 455,000 units. Thirty-six percent of the capital improvement and housing replacement projects under RAD have leveraged LIHTC funds. The RAD Notice requires that projects undertaking rehabilitation with energy efficiency and health upgrades must use "the most energy- and water-efficient options that are financially feasible and that are found to be cost-effective."[28] Some states also may establish preferences or requirements for energy efficiency in their Qualified Allocation Plans (QAPs) for awarding LIHTC tax incentives. For this study, contracted researchers will evaluate RAD projects to assess energy and financial performance, describing energy-related improvements and their relationship to the

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[26] Addresses question 442, "What is the pattern and distribution of voucher portability, including portability cascades? What is the impact of voucher portability on the originating and destination PHAs (including costs of administration and absorption) and their tenants? What key issues for PHAs should inform design of a program demonstration?"

[27] Addresses question 613, "How do energy standards affect the long-term viability of RAD conversions?"

[28] See notice H-2019-09/PIH-2019-23, "Rental Assistance Demonstration—Final Implementation, Revision 4" (https://www.hud.gov/sites/dfiles/Housing/documents/H-2019-09-PIH-2019-23_RAD_Notice%20Rev4_20190905.pdf).

"financially feasible" and "cost effective" criteria, and to the extent reliable data are available, measuring post-conversion energy performance against previous energy use.

Preserving Affordability: Identifying Potential Expiring Use Agreements or Opt-outs in Federally Subsidized Housing Programs[29]

Subsidized housing programs include several features that present possible sources of loss of ongoing affordability: expiring Section 8 contracts that allow owners to "opt out" of the project-based Section 8 program; LIHTC 15- and 30-year affordability terms; and public housing demolitions and dispositions.[30] Understanding the scale and scope of these phenomena can aid policymakers in formulating alternatives to preserve and maximize affordable housing options. This study will update previous PD&R research on opt-outs and supplement it using data sources including the National Housing Preservation Database, state housing finance agency websites, and HUD data on Tenant Protection Vouchers issued in response to project-based Section 8 opt-outs, Section 8 contract terminations, and public housing demolition and disposition.

Housing Choice Voucher Mobility Demonstration Evaluation[31]

The HCV program offers families with vouchers the opportunity to live in neighborhoods of their choice, including low-poverty opportunity neighborhoods. Yet, HCV families may encounter numerous barriers to using their voucher in communities with expanded opportunities. Recent research also shows that growing up in low-poverty neighborhoods improves children's academic achievement and long-term chances of success and reduces intergenerational poverty. Some PHAs have implemented "housing mobility programs" to help reduce barriers for families with vouchers to live in neighborhoods of their choice, including opportunity neighborhoods with high-performing schools, access to jobs, low crime, parks, and other amenities. Although there is no universally agreed-upon definition of a housing mobility program, these programs often include "mobility-related services" such as pre- and post-move supports, family financial assistance (for example, security deposits), landlord outreach, and housing search assistance. The Housing Choice Voucher Mobility Demonstration will allow participating PHAs throughout the country to provide voucher assistance and mobility-related services to families with children to encourage such families to move to lower-poverty areas and expand access to opportunity areas. The 2019 HUD Appropriations Act requires HUD to evaluate the effectiveness of the housing mobility strategies pursued under the demonstration. To meet that requirement, HUD will conduct a random control experiment to assess the extent to which mobility-related services facilitate moves to areas of lower poverty and higher opportunity, and the length of time families remain in opportunity areas.

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[29] Addresses question 385, "How much subsidized affordable housing is set to expire on an annual basis? What is the probability that the affordability contracts will be renewed? What is the cost of the renewal to the developer/owner? What social protections are in place locally to ensure transition to new affordable housing when affordability contracts expire?"

[30] Demolition and disposition may not result in loss of affordable units if it is part of rehabilitation, modernization, voluntary conversion to tenant vouchers or project-based voucher outside of RAD, or occurs with replacement.

[31] Addresses question 39, "What does it mean to be a "better" or "opportunity" neighborhood? Are there different types of opportunity that are relevant?"

The Project-Based Voucher Program and its Asset and Property Management Approach[32]

The Project-Based Voucher (PBV) program provides subsidies, through PHAs, to private owners of rental housing for low-income households that are associated with the building (the "project"). The program has doubled in size in the past 4 years, rising from just under 110,000 assisted households in 2016 to approximately 228,000 households in mid-2020. The PBV portfolio is expected to grow even more with the ongoing conversion of up to 455,000 public housing units to project-based assistance under the Congressionally authorized Rental Assistance Demonstration. As of May 2020, there were approximately 77,000 RAD-converted PBV units. HUD has very limited data on PBV properties and on the adequacy of its property and asset management practices where PHAs maintain effective control and ownership of the property. HUD is processing a new data collection request to OMB that is expected to provide basic information about the universe of PBV properties and units by the end of 2021. HUD is also conducting an evaluation of the RAD program that includes an assessment of the adequacy of asset management practices of RAD-PBV properties relative to industry best practices, but the evaluation does not include the majority of PBV properties (which are not part of RAD conversions) and does not include an assessment of property management practices. This contracted research project will use the newly available data on PBV properties to provide a picture of the PBV portfolio and will use interviews with a sample of PHAs and property owners to understand the adequacy of asset and property management practices of non-RAD PHA-owned PBV properties. A contractor will employ a mixed-methods research approach that will combine descriptive analysis of administrative and publicly available data for PBV properties and a qualitative analysis of PBV asset and property management approaches. The study is needed to provide basic information on the PBV portfolio and help inform whether HUD needs to apply additional regulations to, collect additional data on, and perform more extensive monitoring of, the program.

Expansion of the Project-Based Voucher Program and Effect on HUD's Target Populations[33]

The Housing Opportunity Through Modernization Act (HOTMA) of 2016 included many provisions that expanded the portfolio of PBVs, by allowing non-MTW PHAs to (1) increase the 20-percent limit of PBVs within their HCV programs (for example, PBVs tied to special populations or in low-poverty areas), and (2) exclude PBV units from the limit (for example, RAD and HUD-VASH PBVs). As a result, as of March 2020, 154 of the 672 non-MTW PHAs that had PBV units exceeded the 20-percent limit, including 85 PHAs that had 30 percent or more of PBV units in their HCV program. There is concern that the large share of PBV units in some PHAs can limit access to housing assistance for families do not fit the unit characteristics or service conditions required for many PBV units. This research project will use administrative data and a few case studies in PHAs with a large share of PBVs to understand the possible mismatch between PBV units (size, location, service requirement, physical accessibility) and characteristics of households with worst-case needs for housing assistance in the area. A contractor or PD&R staff person will employ a mixed-methods research approach using HUD administrative data and

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[32] This is one of two proposals addressing question 434, "Can you document the evolution of the Project Based Voucher program, including its growth, management practices, and location/concentration of units?"

[33] This is the second of two proposals addressing question 434, as shown in the preceding footnote.

interviews with PHAs, property owners, and resident organizations in a selected number of sites. The study is needed to assess the effect of the PBV expansion on HUD's target populations.

Policy Lessons from the MTW Expansion

FY 2016 Appropriations language directed HUD to expand the MTW Demonstration program by adding 100 public housing agencies to the program over a 7-year period. PHAs will be added to the MTW program in cohorts, with each cohort being subject to rigorous evaluation by HUD. Several priority research questions received from Roadmap contributors have been integrated into this focus area. The following four research proposals reflect the unique opportunity provided by the MTW expansion to conduct rigorous experiments with direct implications for policy and programs.

Evaluating the Effects of MTW Flexibility on Smaller Housing Authorities[34]

Congress has authorized HUD to expand the 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, HCV and Public Housing. This study will evaluate the expansion of MTW to approximately 30 small-to-medium-sized 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 over the course of 3 to 5 years. The quantitative component of this research will make use of a lottery process for awarding MTW designation to compare outcomes of PHAs that receive designation with those that do not. 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.

Effects of MTW Rent Reform[35]

Congress has authorized HUD to expand the Moving to Work Demonstration program to 100 new housing authorities. One of three statutory objectives of MTW is to encourage economic self-sufficiency of assisted households. HUD's Rent Reform Demonstration will provide evidence on one particular

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[34] Addresses questions 48, "What regulatory burdens and financial gaps create the greatest stress for small PHAs?" and 592, "How does the size of a PHA affect its efficiency in operating programs? What is an appropriate threshold (funding dollars, family served) used to determined different size classes of PHA (what is a large, medium, and small PHA)? Does this vary by program?"

[35] Addresses question 84, "How do stepped rents affect self-sufficiency and negative tenant outcomes?"

design of rent reform, but 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 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 the Public and Indian Housing Information Center (PIC) linked to other PHA records and administrative earnings records, as well as possibly Homeless Management Information System data or other data at the Census Bureau's research data center. PHAs participating in this second MTW expansion cohort will be invited to propose one of several rent reform designs, with designation as MTW conditioned 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.

Effects of MTW Work Requirements[36]

The concept of implementing a work requirement policy is rooted in two of the three statutory objectives of the MTW program: (1) to reduce cost and achieve greater cost effectiveness in federal expenditures, and (2) to give incentives to families with children where the head of household is working, seeking work, or preparing for work by participating in job training, educational programs, or programs that assist people to obtain employment and become economically self-sufficient. Nine of the current 39 MTW agencies have implemented a work requirement policy at some point, and 8 MTW agencies currently have a work requirement policy in place.[37] Aside from one study of the impact of work requirements at the Charlotte Housing Authority (now known as INLIVIAN, Rohe et al., 2015), there is limited rigorous evidence regarding the impact of work requirements policies in assisted housing. This cohort of the MTW expansion will rigorously evaluate the impact of establishing a work requirement in HUD's assisted housing programs through a multi-site, random control trial. The primary outcome of interest is whether households subject to a work requirement earn more income than assisted households that are not subject to a work requirement policy. In addition to measuring changes in earned income, however, the evaluation will also document how PHAs design and implement a work requirement policy; measure changes in key outcomes for households beyond earned income, such as housing tenure and material hardship; and assess the financial costs and benefits to PHAs of implementing a work requirement policy.

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[36] Addresses question 443, "What is the impact of PHA work requirements on subsidized households' income, tenant payment, and assisted housing tenure, and on their children's education, employment, and assisted housing tenure?"

[37] PHAs that have implemented work requirements include: Atlanta Housing Authority, Housing Authority of Champaign County, Charlotte Housing Authority (INLIVIAN), Chicago Housing Authority, Delaware State Housing Authority, Lawrence-Douglas County Housing Authority, Lexington Housing Authority, Louisville Metro Housing Authority (LMHA ended their work requirement in 2016), and Housing Authority of the County of San Bernardino.

Incentives for Landlords in MTW [38]

Congress has authorized HUD to expand the 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 awarding MTW designation to compare outcomes of PHAs that receive designation with those that do not within 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.

Disaster Response and Preparedness

Recovery Outcomes of Assisted Homeowners Impacted by Major Disasters[39]

HUD allocates Community Development Block Grant-Disaster Recovery (CDBG-DR) grants following major disasters when resources from other Federal, local, and private entities are not enough to meet the needs of the community. Many CDBG-DR grantees establish homeowner recovery programs that provide needed assistance for homeowners to rehabilitate their homes or relocate to permanent housing elsewhere. Even with multiple sources of recovery aid, homeowners often are unable to fully recover within a reasonable amount of time and may face additional problems including increased debt and loan delinquency, delayed disaster rehabilitation needs, neighborhood decline, or unemployment. Although HUD tracks the number of homeowner households assisted and occupying their properties with CDBG-DR assistance, little more is known about their conditions and unmet non-housing recovery needs, or whether they have better outcomes than homeowners that did not receive such assistance. For this evaluation, external contract researchers will survey homeowners affected by Hurricane Harvey 4 years after the 2017 Houston disaster, when average recovery timelines indicate they should be fully recovered. The survey will address insurance coverage, the recovery process, homeowner

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[38] Addresses question 94, "What are the most important ways of engaging with and attracting landlords to the voucher program?"

[39] Addresses question 100, "What outcomes did households affected by key disasters experience after receiving the full amount of assistance from the Federal government?"

decisionmaking, and how the decisions and funding sources affected overall recovery and speed. The survey will assess disparities in receipt, amounts, or priority of assistance associated with protected demographic characteristics. The survey will provide information about outcomes including immediate housing needs, long-term household recovery, financial health and employment, mental and physical health, employment, and youth school and mental health outcomes. Survey data will be combined with federal administrative data and other data sources in a mixed methods approach. HUD will collaborate with agencies including HHS, CDC, Census, and FEMA in designing and conducting this research. Because Community Development Block Grant-Disaster Recovery is the last resource available for stricken homeowners and offers a flexible source of recovery aid that must be coordinated with all other sources of funding, HUD is both well-positioned to sponsor such research and obliged to better understand the outcomes of CDBG-DR beneficiaries and strengthen the program's role in the most cost-effective application of recovery funds.

Exposure of HUD-assisted Properties to Flood Damage[40]

HUD assists (at varying levels) many residential properties across the nation with public investments ranging from significant annual investments for public housing units to basic mortgage insurance for single-family properties. Owners of HUD-assisted units may be uninsured, or underinsured, for flood risk, which increases financial risk to HUD and risks the loss of affordable housing to the communities. This study, conducted through a contract or cooperative agreement, would determine the flood risk exposure of public housing and the multifamily housing portfolio, including Section 202/811 properties. The research will use HUD data on tenants and properties to assess flood risk based on FEMA regulatory flood plain (Special Flood Hazard Area (SFHA)) maps—differentiating floodways and coastal high hazard areas—and 0.2-percent (500-year) flood zones. The research would quantify the aggregate exposure at the community (or lower) level and permit aggregation at higher geographic levels. Based on the SFHA risk exposure analysis, the researchers would use more detailed analytical systems (likely proprietary products and or National Flood Insurance Program loss claims data) on a smaller geographic area to seek to correlate the predictive capabilities of flood risk data with actual flood losses, and to extrapolate to a national level. Such an analysis would help HUD understand the fiscal implications of flood hazard risk to its portfolios. The results will inform potential strategies to address risks through physical mitigation and other policies and permit HUD to establish priorities for targeted assistance to the national cohort of HUD grantees. HUD's responsibility for providing housing subsidies and assistance and mitigating disaster risks establishes the importance of sponsoring this research.

Strategic Data Sharing to Streamline and Accelerate Disaster Recovery[41]

In the wake of a natural disaster, survivors must rebuild their lives by cobbling together resources from a variety of sources—personal savings, assets, or loans; private insurance; charity; and government programs. Government programs are typically designed to fill in remaining gaps after other resources

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[40] Addresses question 121, "What HUD-assisted properties are repeatedly impacted by floods and what is the cost to HUD?"

[41] Addresses question 102, "What enhancements to disaster-related data collection and sharing between agencies are needed to improve coordination and accelerated recovery? Are data collected on inspections, environmental reviews, and benefits cost-effective and appropriately accessible?"

are exhausted. HUD's CDBG-DR program is meant to address unmet needs after hazard insurance and all other government disaster aid has been utilized. If CDBG-DR grantees had ready access to high-quality data on unmet needs, the information could substantially accelerate the recovery process, reduce waste and fraud, ease the paperwork burden for survivors, and lead to more strategic program design. HUD has recently negotiated a computer matching agreement to share data with FEMA and is developing a tool known as the Disaster Recovery Data Portal (DRDP) to share data with CDBG-DR grantees. This data enhancement project will follow completion of DRDP by engaging a contracted research team to conduct one or more case studies of how data can be used to support disaster recovery. The research team would conduct a thorough review of the data sources and specific pieces of information that CDBG-DR grantees require. The research team would work with a CDBG-DR grantee that has access to HUD-FEMA data via DRDP, to determine whether DRDP met the grantee's data needs. The research team would discuss specific successes or shortcomings of DRDP and the HUD-FEMA matched data and propose enhancements for HUD to pursue. The researchers also would explore other federal data sources, such as environmental reviews, flood insurance claims, and FEMA inspections, that could be useful to CDBG-DR grantees. Finally, the research team would use the case study to provide guidance for other CDBG-DR grantees as they seek to utilize DRDP (or related federal data) to provide for faster and more effective disaster recovery efforts.

Assessment of Capacity of State and Local Jurisdictions to Manage CDBG Disaster Recovery Grants[42]

CDBG-DR funding is typically distributed to state governments; the disaster areas, however, may be in smaller jurisdictions with limited capacity to spend the large grants appropriately in a manner commensurate with the urgency of the tasks. States may elect to provide grant funds to municipalities, so capacity at both the state and local level is important. The objective of this study is to build actionable evidence about capacity-related challenges and solutions among states and local jurisdictions in developing plans that promote more effective pre- and post-disaster planning and long-term resilience, including planning to support such vulnerable populations as individuals with disabilities or limited English proficiency. The study can be broken into three phases: (1) Develop case studies of best practices among a sample of communities that have recovered and rebuilt effectively from a disaster; (2) Provide tools and guidance materials to support and develop staff capacity to create and execute long-range community resilience plans that are integrated with comprehensive plans for land use; (3) Evaluate whether the jurisdictions used the materials to create or update their resilience plan and whether those changes were effective.

Assessing Universal Flood Insurance for FHA Mortgagors[43]

Current FHA regulations require mortgagors to obtain and maintain National Flood Insurance Program (NFIP) policies for properties located in Special Flood Hazard Areas (SFHA), also referred to as the 100-

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[42] Addresses question 104, "How does the impact of CDBG-Disaster Recovery funding, and how do impacts vary with local capacity? Are displaced households housed cost-effectively? Is infrastructure rebuilt appropriately? Are there practices for deploying and implementing disaster recovery programs that can offset limitations in local capacity?"

[43] Addresses question 709, "Would an FHA mandate for all insured mortgagors to purchase flood insurance be good public policy? How would it affect the broader market for flood insurance?"

year flood plain. Forthcoming rulemaking will allow consumers to purchase comparable private flood coverage instead of NFIP policies. Although having flood insurance is one way of building more economic resiliency in communities, the success of a policy requiring all Federal Housing Administration-insured mortgagors to purchase flood insurance would depend, among other things, on the affordability of flood insurance. Recent floods highlight the issue of high uninsured losses. When flooding hit South Carolina in 2015, about 90 percent of policies were concentrated at the coast, but the flood damage occurred primarily inland where few residents were insured. The majority of people hit by Hurricane Harvey in 2017 were not in high-risk flood zones. This study will evaluate the costs and benefits of a hypothetical policy to require all FHA-insured mortgagors with properties located both inside and outside SFHAs to purchase flood insurance. The costs of insurance would be compared with the costs of flood loss over the term of the mortgage using probabilistic hazard modeling that can reveal the likely cost of flood over time to a certain property. The study also would assess the likely impact of the requirement on the larger flood insurance market. This subtopic is particularly relevant because of FHA's new proposed rule allowing mortgagors to purchase private flood insurance aside from NFIP, which potentially could affect the affordability of flood insurance.

Impact of Natural Disasters on FHA Loan Performance[44]

Natural disasters can leave considerable destruction in their wake including loss of life and property and economic damage. Aside from income interruption, loss in property values, and potential job loss, the burden to homeowners of mortgage payment and reconstruction costs can trigger mortgage default. Delinquencies and foreclosures could further debilitate the communities' recovery. Although the FHA provides assistance (for example, extensions of foreclosure moratoria and deadlines to initiate foreclosure, forbearance and repayment plans, disaster loan modifications, and disaster standalone partial claims), performance data recorded by FHA show that default rates still increase. Using data on FHA's Section 203(b) mortgage insurance program and National Mortgage Database, this study will evaluate the impact of natural disasters and the pandemic on loan performance. In addition to examining mortgage delinquency, the analysis will also include mortgage default claims and losses as well as the role of FHA's loss mitigation actions in preventing foreclosure and reducing losses. This study can be extended to examine the effect of flood insurance in loan performance and reducing FHA losses using merged FHA and NFIP data.

COVID-19: Impacts, Response, and Preparing for the Future[45]

Coronavirus Disease 2019 (COVID-19), caused by the coronavirus discovered in 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2),[46] has affected nearly all aspects of life. HUD-assisted residents, people experiencing homelessness, other households with limited means, and first-time homebuyers are especially vulnerable to this type of pandemic and its economic disruption. The

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[44] Addresses question 723, "To what extent are homeowners who experience disasters more vulnerable to foreclosure or other displacement over the long term?"

[45] Multi-part research questions related to COVID-19 are identified in the narrative.

[46] World Health Organization. Naming the coronavirus disease (COVID-19) and the virus that causes it. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it. Accessed July 7, 2020.

Administration, Congress, the Federal Reserve Board, and other banking regulators took extraordinary action to stabilize the housing market and limit the economic impact of the pandemic. At a minimum, there needs to be research that documents the HUD-specific and related agency pandemic policy responses that were intended to benefit individuals and families experiencing homelessness, low-income renters, first-time homebuyers, and the economic trajectory of low-income neighborhoods. Where possible, outcomes should be documented. In some circumstances there may be opportunities to use experimental or quasi-experimental techniques to test the impacts of new approaches for addressing these problems. Potential research could address questions associated with pandemic-related issues such as these:[47]

1) New data collections were implemented. Early in 2020, HUD's statistical official collaborated with the Census Bureau to develop the Pulse survey to capture real-time data about pandemic impacts. In addition, private sector administrative data were leveraged to track things like forbearance and rental payments. Was the Pulse Survey useful? Could it have been improved? Is there long-term utility to expanding the administrative data tracking that was done?

2) Unemployment insurance was dramatically increased. What is the interaction between housing assistance and extraordinary use of unemployment insurance?

3) Forbearance and other efforts to prevent homeowner default were offered aggressively. What were the costs and benefits of these policies? To what extent did they successfully sustain orderly functioning of the housing market? What was the impact of the pandemic on FHA mortgagors and the FHA Mutual Mortgage Insurance fund?

4) HUD-assisted households may have elevated health and financial vulnerabilities. Are there characteristics of HUD-assisted housing that made families more vulnerable to the effects of COVID-19? How did housing providers respond to help assist HUD households, and which responses were more successful?

5) Individuals and families experiencing homelessness faced elevated COVID-19 risk. What interventions were the most effective at reducing the impact of COVID-19 among these populations? Did efforts to serve the individuals and families experiencing homelessness during the pandemic lead to longer-term structural change on how these populations are served?

6) Racial and ethnic minority populations experienced elevated COVID-19 risk.[48] To what extent did disparate health risk contribute to disparate housing outcomes? What housing-related interventions were the most effective at reducing the impact of COVID-19 among these populations?

7) Community Development resources such as CDBG supported jurisdictions in crisis by filling needs not addressed by other programs. How did communities use CDBG to respond to the pandemic? Were those efforts effective?

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[47] An additional research proposal, Pandemic and Disaster Preparedness and Adaptation Strategies for Housing in Indian Country, appears under the heading Indian and Rural Issues.

[48] Centers for Disease Control and Prevention. COVID-19 in Racial and Ethnic Minority Groups website, https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html. Accessed July 7, 2020.

8) Native American Tribes received additional resources from HUD and Treasury to respond to the pandemic. What were the goals of the tribes in how they used those funds? Were they effective at meeting their goals?

9) Housing assistance has been a critical element of the response to COVID-19. The structure of that assistance, however, differs dramatically from models deployed during other disasters, and preparing for future disasters requires comprehensive documentation of these varied approaches. What kinds of disaster impacts and economic conditions are historically associated with different kinds of housing assistance models? How do the costs and outcomes of COVID-19 housing assistance compare with those of other disaster housing options, such as the Disaster Housing Assistance Program (DHAP), that were deployed in previous disasters? Are there lessons to be learned from responses to economic events like the Great Recession that could be used in responding to future disasters?

Fair Housing

Housing Discrimination Studies 2020–21[49]

HUD is the primary department responsible for administering the Fair Housing Act, which prohibits discrimination in housing based on race, color, religion, sex, national origin, disability, or familial status. Within HUD, PDR has taken the lead role on measuring the extent of housing discrimination as provided by Section 808(e) of the Civil Rights Act of 1968, "the Secretary of Housing and Urban Development shall (1) make studies with respect to the nature and extent of discriminatory practices in representative communities, urban, suburban, and rural, throughout the United States...." To assess whether purposes of the Fair Housing Act are being fulfilled, HUD has conducted a Housing Discrimination Study (HDS) roughly every decade since the Fair Housing Act became law: in 1977, 1989, 2000, and 2012. HDS research helped establish the paired-testing methodology for measuring discrimination: two testers assume the role of homeseekers who have equivalent social and economic characteristics but differ on the characteristic being tested for discrimination, such as race, disability status, or marital status. Two significant HDS studies using established paired-testing methods are described below.

Next generation tools to measure housing discrimination

After nearly five decades of using paired testing to measure housing discrimination, an increasing number of scholars have called for a review of the paired testing tool for measuring discrimination. Technology has changed how individuals search for housing. Technology may also offer new opportunities for measuring housing discrimination. Several articles in the *Cityscape* journal (Volume 17, Number 3) following the completion of the 2012 HDS study discussed how HUD should think about measuring housing discrimination going forward, with some consideration that the paired testing model may not work as effectively as it has in the past, given changes to how individuals search for housing and interact with housing providers.

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[49] Two proposed projects address question 161, "To enable an accurate next-generation Housing Discrimination Study, how must fair housing testing change in response to evolving housing management practices and markets? What is the influence of new housing search tools on discrimination and housing outcomes? To what extent is discrimination conducted on the basis of names or speech patterns?"

This research would offer cash prizes for the best and most innovative ways to improve how we measure housing discrimination. Research innovation might take numerous forms: improving sampling for paired testing to account for selective use of advertising (or not advertising) as a form of discrimination; increasing follow-up interactions with in-person or correspondence-paired testing to assess more sustained housing search interactions; developing new testing methods for protected classes that are less often studied, perhaps expanding on pilot efforts of past HDS studies; improving analysis of paired testing data in a way that finds a middle ground between conventional net and gross measures; enhancing paired testing results with other data; shifting from market-wide tests of discrimination to focus on areas that stand out as appearing racial/ethnic exclusionary; surveying landlords and real estate brokers in a way that they can be completely honest about both their understanding of fair housing laws and their practices when advertising, responding and working with prospective homeseekers, and managing their housing (for landlords); or suggesting other entirely new approaches.

HDS I. National metropolitan paired-testing study of housing discrimination against racial and ethnic minorities

There is some debate about whether it is possible to effectively measure housing discrimination in the 2020s. Following expert consultation and pilot testing of new approaches to measuring discrimination, a new HDS national study would be conducted to measure housing discrimination based on race and ethnicity. Given changes in housing markets and possibly the methods used to measure discrimination, the findings may not be directly comparable to the prior nearly five decades of housing discrimination research, but instead would serve as a new baseline for measuring change in the decades to come.

HDS II. National metropolitan paired-testing study of housing discrimination against persons with disabilities (mental and physical disabilities) in rental market

In addition to measuring housing discrimination against racial and ethnic minorities, HUD has conducted housing discrimination studies measuring discrimination against persons with disabilities. These studies have shown substantial barriers in the rental market to persons with disabilities.

1) A pilot study of in-person methods to measure housing discrimination against persons with mental disabilities found significant levels of adverse treatment and denied requests for reasonable accommodations in two sites. The results of this pilot study could be scaled up to produce a national estimate of housing discrimination on the basis of mental disability.

2) In 2015, HUD also conducted the first national paired testing study of housing discrimination against persons with physical disabilities—persons who are deaf or hard of hearing and persons who use wheelchairs. Wheelchair users were primarily adversely affected by the failure of many owners to make any part of the property physically accessible, so that in-person testing was impossible. Persons with hearing impairment were primarily adversely affected by refusal of rental agents to make allowances in the pre-application phase for the delays inherent in their assistive technologies. This project would replicate the property assessment in the wheelchair study at the national level by reporting the share of the metropolitan rental stock physically inaccessible to wheelchair users. It would also replicate the national study regarding persons with hearing impairments using paired testing, to determine whether a

high level of intolerance of assistive technology persists among rental agents, or if there are other barriers faced by persons with hearing impairments. This study could also include an examination of barriers faced by persons with other types of sensory disabilities, such as persons who are blind or have low vision.

Sexual Harassment in Rental Housing Markets[50]

Sexual harassment in housing violates the Fair Housing Act and may have negative consequences for victims. For instance, it may force renters into worse homes and unwanted moves. Perpetrators may violate boundaries that establish feelings of safety at home, causing serious emotional distress and trauma in their victims. A recent qualitative study suggests that sexual harassment in rental housing often takes the form of telling women they can provide sex in lieu of owed rent or landlords entering women's homes without permission. This project will focus on rental housing occupied by very low-income households with and without HUD rental subsidy. It will (1) establish validated survey methods that measure prevalence of sexual harassment in rental housing, (2) produce estimates of prevalence in selected rental housing markets and describe associated factors (for example, victim characteristics and housing provider types), and (3) assess the knowledge level of key enforcers of relevant laws. This research should be conducted for HUD by a qualified organization under contract. The contractor will develop and validate survey items, use those items to produce prevalence estimates in selected rental housing markets and to identify factors that may be associated with greater incidence of sexual harassment, such as protected characteristics of victims (for example, age, disability, familial status, gender), housing providers, types of perpetrators, tightness of rental housing markets, and neighborhood characteristics. Information to assess the knowledge level of key enforcers of relevant laws will be collected through focus groups, indepth interviews, and surveys. This study will be the basis for future efforts to monitor and prevent sexual harassment in rental housing. Sexual harassment is a form of sex discrimination prohibited by the Fair Housing Act. A current Office of Fair Housing and Equal Opportunity (FHEO) policy priority is to increase awareness and prevention of sexual harassment in housing. The topic also relates to the work of the Elder Justice Working Group—a collaboration of HUD and HHS's Administration for Community Living.

Does the Fair Housing Initiatives Program Increase Fair Housing Awareness?[51]

The Fair Housing Initiatives Program (FHIP) provides grants to fair housing enforcement organizations and non-profits to build capacity for a variety of fair housing activities including investigations, testing and enforcement, and providing education and building public awareness. This evaluation will focus on the FHIP Education and Outreach Initiative component, which provides funding for developing, implementing, carrying out, or coordinating education and outreach programs designed to inform members of the public concerning their rights and obligations under the provisions of fair housing laws. The evaluation will assess the effectiveness of education and outreach activities for decreasing

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[50] Addresses question 3, "What is the incidence of housing discrimination in the form of sexual harassment by housing providers, staff, or neighbors?"

[51] Addresses question 165, "What is the effectiveness of Fair Housing Initiatives Program agencies? Is the FHIP program designed effectively? Does the FHIP program help HUD address segregation and systematic issues, or is there over-reliance and attention on individual complaints?"

discriminatory practices by landlords, real estate agents, and lenders and increasing awareness of such practices by tenants and home buyers. A PD&R evaluability assessment has determined that a successful impact evaluation of FHIP will depend on substantial prior changes to the FHIP Notice of Funding Availability to support improved metrics, data collection, and reporting requirements. In the interim, research could expand on PD&R's in-house work by more fully documenting the various types of FHIP projects and activities, as well has how FHIP grantees could collect and report better data. A separate evaluation of the FHIP Private Enforcement Initiative component also could update previous work (HUD, 2011b) by assessing the effectiveness of different testing methods used by private fair housing enforcement organizations.

Housing Finance and Affordable Housing Supply

Assessing FHA's Role in Affordable Multifamily Financing[52]

There exist significant financial barriers to expanding investment in rental housing, particularly for housing targeted at low-income households. The Multifamily Housing Program provides FHA mortgage insurance through a range of programs supporting the purchase, refinance, new construction, or substantial rehabilitation of rental housing. It is important to identify the Multifamily Housing Program's current effects, strengths, and weaknesses to expand its effectiveness, including its role in increasing the supply of affordable rental housing in underserved areas and neighborhoods offering greater opportunity where other sources of financing are not adequate. HUD needs to evaluate the credit quality of the current FHA multifamily portfolio to better understand the underwriting and credit enhancements needed to expand its role in sound ways. Additionally, to educate investors in the risks and returns of multifamily investments in underserved areas, it is necessary to first identify the program's structural policies that are currently effective at expanding investment in these areas and, second, identify sources and improvements in the data collection on the performance of multifamily investments in order to enhance underwriting and credit criteria. This research can be carried out as a combination of academics, contract researchers, and PD&R economists. The primary data will be those collected by the Office of Multifamily Housing Programs. The research will include several steps: (1) Examine characteristics of FHA multifamily loans, projects, and project locations; (2) Identify policies that are effective at enhancing credit access in sound ways that provide public benefits; (3) Identify internal and external data sources that are effective at identifying underwriting and credit enhancement criteria; and (4) Use standard credit risk models to examine the performance of multifamily investments and analyze the determinants of success.

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[52] Addresses questions 471, "What does FHA need to do to become more effective in serving needs for multifamily financing? Is it necessary to increase market share, or could targeting to market niches better serve the public interest?" and 472, "What is the affordability mix of FHA-insured multifamily units? What proportion are affordable to working families? Are FHA products aligned well with needs of working families? Data from FHA annual financial statements can be linked with AHS data."

Evaluating Regulatory Barriers through Measures of Supply Elasticity[53]

PD&R has considered a variety of methods by which to measure land use regulations and zoning provisions to track reduction in regulatory barriers. Reviews of zoning codes and surveying regulations are time-consuming and difficult; more importantly, they may not directly relate to what gets built and where. This research project builds an estimate of housing supply elasticities at the lowest possible geographic level, the 9-digit Zip code, by (a) constructing a measure of the change in the price of homes at that level over time, which might use commercially available data, (b) measuring the change in active units in USPS data at that level over time, (c) identifying the relationship between the change in active units and the change in house price within 9-digit Zip codes as the localized elasticity of housing supply, and analyzing the trends in housing supply elasticity across time and space both for the use of policymakers and for subsequent targeted research into local regulatory regimes. This work is a natural extension of the regulatory barriers work in which PDR has been engaged for decades and supports the efforts of the White House Council on Eliminating Regulatory Barriers to Affordable Housing.

Impact of Land Use Policies on Affordable Housing Supply[54]

Land use policies vary significantly throughout the country and range from being very restrictive to very loose or almost nonexistent. The more restrictive these policies and the more delays they introduce, the more costly it can become to develop housing in general and the less incentive for developers to initiate projects in those locations. This may lead to an insufficient level of housing being constructed in those areas and result in higher housing costs and severe shortages of affordable housing for lower-income households. Looser policies can increase affordability and enable innovations such as the tiny homes for homeless individuals being established in several cities, but also can have negative consequences for a community in the form of unorganized growth patterns, poorly funded public services, racially or ethically concentrated areas, and potential damage to the environment. Contracted researchers would draw on published methods of indexing communities by the severity of land use policy restrictions to select a sample stratified by regulatory restrictiveness and by the costliness of their housing. Data to be collected would include numbers of building permits and of homes and apartments recently constructed at various price and rent ranges, local land use ordinances, information on the permitting process and permitting delays, characteristics of housing markets such as economic and job growth statistics, and population and household estimates. Comparisons could be made to see if any statistically significant differences exist in the supply of affordable housing among these communities as a result of land use

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[53] Addresses questions 736, "How can the cost of local development regulation be assessed accurately? How do zoning, subdivision regulations, procedural processes, and local land use conditions affect the elasticity of housing supply? What are the impacts when communities remove single-family zoning restrictions or implement other regulatory barriers reforms?" and 738, "To inform state and local regulatory barriers policy, how can HUD build a national geospatial database containing as-of-right zoning designations and subdivision regulations that low-density land use and prevent landowners from building affordable housing? Could a legal research team document which states have implemented reg barriers reforms? Would machine learning using existing census and USPS data be helpful for imputing zoning regulations?"

[54] Addresses questions 602, "To what extent are differences in rents and production of affordable rental units between high-cost and low-cost areas driven by regulatory factors rather than market factors? How much cost does regulatory delay impose on housing units actually built, and how much does it increase rents of existing stock by preventing new construction?" and 19, "Where is new housing being built? What type of housing is being built?"

policies and to identify the relative contributions of input costs and regulatory factors for housing cost outcomes and deterrence of affordable housing production.

Alternative Models for Housing Affordability[55]

As housing becomes more expensive in markets across the country, more and varied occupancy solutions are needed to address the needs of different populations of people struggling to afford housing in all types of communities. Young adults, aging adults, individuals with disabilities, and families with children have different housing needs, and there may be potential for alternatives to the traditional single-family, single-unit model that are more cost-effective and still appropriate for different populations of Americans. HUD has already undertaken some work in this area—for example, funding a project with the German Marshall Fund to study multigeneration housing in Germany and joining a working group with AARP to study shared housing for older adults. This project, which could be funded by a grant, would involve a series of case studies of entities already utilizing these alternative occupancy models for cost-saving purposes—for example, multi-generation housing and various forms of shared housing, including short and long term housing arrangements for people experiencing homeless or other HUD-funded vouchers issued to participants in shared housing.

Increasing the Use of Accessory Dwelling Units to Improve Availability of Affordable Housing[56]

Accessory dwelling units (ADUs) are additional homes constructed on the same lot as a single-family home. ADUs enable homeowners in certain jurisdictions to add additional housing stock to their neighborhoods. During the 1990s HUD operated a small demonstration program, the Elder Cottage Housing Opportunity (ECHO) Demonstration, that funded construction of small ADUs for seniors (HUD, 2008b). For this study, contract researchers will identify jurisdictions that are unable to provide housing supply to meet demand and determine which of those jurisdictions prohibit ADUs, allow ADUs by-right, or allow ADUs through variances or other regulatory processes. Urban Institute's National Longitudinal Land Use Survey and Data (publicly available) includes ADU information from the 2019 survey. For each jurisdiction, researchers would determine how ADUs are defined and the number of ADUs using local data as well as measures of the amount of affordable housing stock.

Study of Limited-Equity Housing Co-ops for Manufactured Housing Communities[57]

Limited-equity housing co-operatives (LEHCs) are a resident ownership model that can ensure long-term housing affordability within manufactured housing communities. At the end of 2019 there were 252 resident-owned communities totaling more than 17,000 homes in 16 states.[58] This study would assess

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[55] Addresses question 456, "What is the potential for alternative models for housing affordability, such as multi-generation housing, living with caregivers, or shared housing, e.g. roommates? How do such models affect outcomes such as housing instability, rates of overdose, and economic mobility?"

[56] Addresses question 188, "How prevalent are bans on Accessory Dwelling Units in local zoning? What would be the impact of eliminating such bans?"

[57] Addresses question 354, "Does ownership of manufactured housing communities by low-income residents through limited-equity housing co-ops (LEHCs) improve outcomes such as financial security, asset development, neighborhood amenities, and community safety and resilience for low-income residents? What regulatory or program policies would support more LEHC purchases of threatened or poorly managed manufactured housing communities?"

[58] See https://rocusa.org/meet-the-communities/.

the advantages and disadvantages for manufactured housing owners of residing in LEHC communities compared with commercial communities. The work could include a literature review, key informant surveys, and resident surveys in selected communities. One question to explore is why LEHC communities are heavily concentrated in the Northeast and Northwest despite the strong presence of manufactured housing in the Midwest and South. This research could be broadened to other forms of shared-equity housing cooperatives including site-built housing. Such work might be done in partnership with the ROC-USA Network for resident-owned communities and the National Association of Housing Cooperatives.

Study of Landlord Education Programs[59]

Fannie Mae offers a "Becoming a Landlord" course that teaches the basics of becoming a landlord. This study would work with Fannie Mae to survey landlords who have completed (and not completed) Fannie Mae's landlord education program to see if they would consent to being surveyed about their perceptions of the effectiveness of the course, curriculum, and impact it has had on their landlord experience. Additionally, the research contractor could obtain consent to match their taxpayer identification numbers to the Voucher Management System to see if they are leasing to HCV recipients, as well as interview PHA staff and tenants if there is significant representation of certified landlords serving HCV tenants. Research on Fannie Mae's Becoming a Landlord Course could help HUD develop a landlord education or counseling program that could help increase landlord participation in the HCV program.

Impact of Davis-Bacon Wage Requirements on Housing Production[60]

The Davis-Bacon Act of 1931 requires that construction contractors for certain projects pay employees wages and benefits equivalent to the prevailing wage of the area. All new construction and substantial rehabilitation funded from FHA-insured mortgage proceeds are subject to Davis-Bacon wage requirements. A recent Inspector General report concluded that HUD had for some recent developments incorrectly applied the Department of Labor's multiple wage determinations for various categories of construction workers, causing the incorrect wages to be paid (HUD-OIG, 2020). For this research, HUD will analyze available data to understand the extent to which Davis-Bacon wage requirements affect the cost, quality, and/or quantity (supply) of housing. The research will explore whether and by how much administrative functions required by Davis-Bacon add cost to a project, and the accuracy of the Davis-Bacon prevailing wage determinations relative to market wages. There are two research approaches: (1) examine hypothetical wage differentials using contract data; or (2) examine whether the presence of prevailing wage laws have a realized adverse impact on cost or quality of construction. HUD could readily use contract data to undertake the descriptive study. The latter, more rigorous inferential study would be more challenging because of lack of a robust counterfactual, as almost all construction projects subject to Davis-Bacon are also government-funded.

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[59] Addresses question 557, "What are the curricula, reception, and results of existing landlord education programs?"

[60] Addresses question 8, "What is the impact of Davis-Bacon wage requirements on (a) cost of housing development, (b) project trade-offs; (c) project quality; and (d) worker wages? How does the impact differ for LIHTC developments with and without HUD funding?"

Factory-Built Housing Alternatives in High-Wage Areas[61]

The Davis-Bacon Act of 1931 requires contractors and subcontractors working on federally funded jobs to pay their laborers wages and benefits equivalent to the prevailing wage of the area. This research seeks to determine if construction labor costs in high-wage areas can be significantly reduced by using off-site factory-built housing. Building housing units and component assemblies in a factory shifts a substantial fraction of labor costs to factory workers under controlled conditions that minimize weather-related disruptions common to onsite construction. To that end, this research will explore what factors need to be considered by developers and sponsors when examining the trade-offs between onsite and factory-built rental housing.

Assessing Strategies to Reduce Innovation Risk in Homebuilding[62]

This effort will build on current PD&R work updating the 2005 report, "Overcoming Barriers to Innovation in the Homebuilding Industry." This contracted study will convene a panel of housing technology experts to discuss risks "related to the potential liabilities that companies face when adopting or incorporating new technologies." Such liabilities might include legal liability, unforeseen construction costs or delays, or performance failures of unproven technologies. Once the liabilities are identified, the researcher for this current effort will conduct an indepth analysis of each liability cited to determine an appropriate Federal mitigation strategy. The final report will present suggested strategies for the Department to consider.

Can Affordable Housing Promote Wealth Building?[63]

Significant research addresses the topic of wealth building through homeownership (Herbert et al., 2013). This research will examine the prospect of wealth-building ownership of affordable housing, particularly focusing on factory-built housing as a potential source of wealth generation. This research will also examine disparities among protected classes, such as racial disparities in wealth-building ownership of affordable housing. For this effort, researchers will identify attributes of the home (for example, location, land ownership, and permanent foundation) that significantly influence the likelihood of long-term appreciation or wealth generation. The research team initially will deliver a comprehensive review of research literature on the potential return on investment in factory-built housing and recommendations for further empirical research approaches, which could include data collection on home prices or ways to assess housing appreciation.

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[61] Addresses question 475, "To what extent can modular or other off-site construction methods produce affordable rental units, and how do off-site methods compare with site-built housing subject to Davis-Bacon wage requirements?"

[62] Addresses question 391, "What are the most important aspects of risk that prevent adoption of innovation in the homebuilding industry? Which types of risk could the federal government address through risk-sharing mechanisms or by reducing information asymmetries?"

[63] Addresses question 612, "What are the conditions required for homes—particularly manufactured homes—to contribute to long-term wealth creation? Can affordable housing and manufactured homes promote wealth building?"

Study of LIHTC Development Costs[64]

This study would identify costs associated with housing development using Low-Income Housing Tax Credits. Identifying cost elements that are out of line could provide evidence to reduce costs of subsidized housing. The study also would assess geographic variation in costs, including the costs in high-opportunity neighborhoods and the extent to which cost differences reflect the cost of overcoming barriers to such areas. HUD could collaborate with the National Council of State Housing Agencies (NCSHA) to collect cost data, perhaps first focusing on a few states. Alternatively, a contract researcher could collect cost data from state housing finance agencies that administer the LIHTC. Development cost data from HUD's own programs could support limited comparisons for the modeling and analysis. HUD's collection of LIHTC tenant data and state Housing Finance Agency contacts provides an advantage for this work.

Locational Effects of the Population Cap for LIHTC Qualified Census Tract Definitions[65]

HUD determines the Qualified Census Tracts (QCTs) that state housing finance agencies use to prioritize allocations of Low-Income Housing Tax Credits to developers. Currently, the number of QCTs that can be established within a given metropolitan or non-metropolitan area is constrained to 20 percent of the area's population. This in-house or Multidisciplinary Research Team study will assess the potential locational impact for the LIHTC program of eliminating the population cap, including the racial or ethnic concentration of the areas in which additional units would likely be sited. The study will use QCT data and LIHTC Property data, as well as data on the existing affordable housing stock that could be obtained from the National Housing Preservation Database.

Housing and Health[66]

Lead Hazard Priorities of the Federal Lead Action Plan

In 2018, the President's Task Force on Environmental Health Risks and Safety Risks to Children adopted the *Federal Lead Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts*.[67] Under Goal 4 of the plan, HUD's Office of Lead Hazard Control and Healthy Homes (OLHCHH) is a co-leader with the Environmental Protection Agency and Department of Health and Human Services in conducting research to "inform efforts to reduce lead exposures and related health risks." Planned activities include the following:

- Enhance and apply data and tools (for example, models or approaches) and determine the key drivers of blood lead levels from multimedia exposures to inform lead regulatory decisions and site assessments.

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[64] Addresses question 388, "How do LIHTC project costs vary across states? Collaborate with states to develop standardized data that could identify outliers, accelerate the dissemination of best practices to maximize the utility of housing tax credits, and enable direct comparison of LIHTC costs with private sector development to identify reform opportunities."

[65] Addresses question 375, "How would removing the population cap on the Qualified Census Tracts definition change patterns of Low Income Housing Tax Credit development?"

[66] Health-related research needs related to the 2020 COVID-19 pandemic are included among the Disaster Response and Preparedness proposals.

[67] https://ptfceh.niehs.nih.gov/resources/lead_action_plan_508.pdf.

- Generate data, maps, and mapping tools to identify high exposure communities or locations and disparities for prioritization efforts to reduce children's blood lead levels.
- Generate data to address critical gaps for reducing uncertainty in lead modeling and mapping for exposure/risk analyses and for estimating population-wide health benefits of actions to reduce lead exposures.
- Identify approaches to prevent, mitigate, and communicate about lead exposures and risks in exposed communities.
- Evaluate the effectiveness of actions (for example, interventions, programs, policies, enforcement) to prevent lead exposure, mitigate health effects and communicate on lead exposures/risks.

In 2020, a federal working group under the task force is prioritizing research questions and approaches. In support of the Federal Lead Action Plan, HUD proposes to undertake the following three research projects. Additional research questions identified in the plan may also be adopted as priorities for HUD during this Roadmap's timespan.

Evaluation of Lead-based Paint Hazard Mitigation

HUD is initiating an evaluation of the effectiveness of interventions to mitigate lead-based paint hazards in housing. To evaluate the efficacy of interim and abatement lead hazard controls, including their long-term cost-effectiveness, and to assess the effectiveness of its lead hazard reduction grant program, OLHCHH will conduct a follow-up to the original National Evaluation of the HUD Lead Hazard Control (LHC) grant program, which was completed approximately 20 years ago. This reevaluation will use the results of a grantee survey (Phase I) to design and conduct a targeted study focusing on various aspects of the grant- funded programs (for example, intervention methods, unit costs, targeting and recruitment of homes, partnering, intervention efficacy, sustainability and longevity of mitigations, and programmatic barriers). Of particular interest to HUD is the effectiveness of the LHC interventions in limiting children's dust-lead exposure sufficiently to prevent children from developing elevated blood-lead levels (that is, remaining below the CDC's blood-lead reference value). This will be done by carefully documenting grantee LHC interventions and conducting follow-up dust-lead sampling following intervention (for example, out to 3 years post-intervention).

Lead Hazard Regulatory Reform Study

HUD plans to conduct research on potential improvements in current regulations meant to protect children residing in HUD-assisted housing from lead exposure. Specifically, HUD does not have the authority to require that either lead hazard screens or lead risk assessments (40 CFR 745.227(c) or (d)) be conducted in pre-1978 housing choice voucher units (which may have lead-based paint) in which a child under age 6 will reside. HUD proposed in the 2021 Budget to provide public housing agencies with funding on a voluntary basis to perform lead risk assessments and lead hazard screening in such housing units. If the HCV lead screens or assessments program is enacted, this evaluation would examine whether adding a lead hazard screen or risk assessment requirement could affect the leasing process and the availability of units, and, if so, to what extent. The research would be conducted by Office of Lead Hazard Control and Healthy Homes (OLHCHH), in partnership with the Office of Public and Indian

Housing and PD&R, and would help inform Congressional decisionmaking about enacting such requirements.

HUD is also conducting research on the priority topic of developing models to identify communities at high risk for lead exposure as described below.

Improving Blood Lead Level Data and Spatial Modeling of Lead Hazard Risk [68]

Every year, OLHCHH provides millions of dollars for state and local governments initiatives that mitigate lead-based paint hazards in housing and support public education on avoiding lead exposure. For example, in June 2019, OLHCHH awarded a record $319 million to protect families from lead and other home health hazards. HUD currently does not provide a standardized national database or online mapping tool that grantees can use for risk-based targeting. The gold standard for conducting childhood lead poisoning surveillance is measuring elevated blood lead levels (BLLs). Nationally, the Centers for Disease Control and Prevention (CDC) compiles and cleans individual-level BLL data received from its grantees to develop the National Childhood Blood Lead Surveillance Data[69] that show case-level distributions at the county level. In addition to uneven quality, surveillance data have several key limitations. First, state and local capacity regarding data collection, data quality, and reporting standards is highly variable. Second, CDC surveillance programs are restricted to individuals targeted for blood lead testing by health care providers, so tested individuals do not represent the general population. Third, state requirements for blood lead testing and reporting can vary dramatically across jurisdictions, so their data typically are neither nationally comparable nor generalizable.[70] These deficiencies in available BLL risk-targeting data are being addressed in several ways:

1) HUD, CDC, and Environmental Protection Agency (EPA) researchers are currently collaborating to develop a peer-reviewed manuscript that describes the advantages and challenges associated with using various data sources for risk-based targeting, including the use of anonymized individual-level BLL surveillance data. Expected publication is late 2020. This interagency research team is also working with Michigan state and local partners to examine how individual-level blood lead level data can be combined with environmental and housing data to improve risk-based targeting. Results from the case study will be published in late 2020 or early 2021.

2) HUD is developing a model to identify higher lead-risk exposure communities using data on the presence of deteriorated paint (a proxy for elevated BLLs) in pre-1980 housing (a proxy for pre-1978 housing, which may contain lead-based paint) from the American Housing Survey. Data from the American Community Survey are also being used in model development. A report on this modeling effort was accepted for publication in the *Journal of Public Health Management and Practice*, with publication expected in 2020.

3) Lead Surveillance Learning Collaborative. For this data improvement effort, HUD and federal partners could fund national public health organizations to convene state and local public health entities that work on childhood lead poisoning prevention. The contracted organizations would

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[68] Addresses question 339, "Can HUD and CDC develop an anonymized database of individual-level Blood Lead Level (BLL) surveillance test results to support risk-based targeting of Lead Hazard Control funding?"

[69] https://www.cdc.gov/nceh/lead/data/national.htm

[70] See https://www.cdc.gov/nceh/lead/data/index.htm.

set up a learning collaborative of four to eight states that need to improve their current lead surveillance programs. By targeting the correct partners and ensuring HUD grantees are included in current efforts, interdisciplinary teams of federal, state, and local leaders can work together to strengthen and promote risk-based targeting and support responsible spending of HUD's Lead Hazard Control funds.

Assessing Health Impacts of Smoke-free Policies and Integrated Pest Management[71]

Every year, thousands of adults and children suffer from serious health ailments caused or worsened by environmental home health hazards (Thomson et al., 2013). Notably, indoor exposures such as secondhand smoke and pest allergens from cockroaches, dust mites, and rodents can cause serious asthmatic reactions in adults and children. Two evidence-based HUD initiatives—smoke-free policies and integrated pest management (IPM)—have the potential to alleviate exposure to asthma triggers in public housing. In December 2016, HUD published a final rule requiring Public Housing Agencies to initiate a smoke-free policy by July 2018.[72] Several external researchers currently funded by OLHCHH are examining issues related to implementation and compliance. New research will occur in several areas:

1) Contract researchers will use Medicaid or payer data to examine the impact of the smoke-free rule on short-term and long-term outcomes of public housing tenants, including childhood asthma, adult asthma, and chronic obstructive pulmonary disease (COPD) and other respiratory ailments, stratifying among early and late-adopting PHAs (some PHAs adopted smoke-free requirements before the rule made them mandatory). Assisted privately-owned multifamily housing properties with and without smoke-free requirements can serve as control groups. HUD staff participation on the informal Federal Interagency Smoke-free Housing Workgroup will help ensure that future research efforts avoid duplication and promote collaboration.

2) In-house and external researchers will use previously established linkages of administrative data with the CDC's Behavioral Risk Factor Surveillance System (BRFSS), National Health Interview Survey (NHIS), and National Health and Nutrition Examination Survey (NHANES) to examine the health status of public housing residents with regard to the timing and implementation of smoke-free policies.

3) Translate research findings into practice through the development of an updated Best Practices Manual to help OLHCHH grantees and the managers of assisted housing employ the most effective IPM measures to reduce pest infestation and subsequently decrease allergen levels in homes and reduce asthmatic episodes.

4) Pilot studies of the role of IPM for adult asthma will address rodent allergens in addition to cockroach allergens and cover a range of experimental sites (for example, urban versus rural housing or public housing versus market housing).

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[71] Addresses question 328, "What is the impact of the smoke-free public housing rule on child asthma, adult asthma and COPD, given that some developments were previously smoke-free? Addressing potential confounders, does good pest control such as Integrated Pest Management reduce asthma problems in children and adults? Does pest control reduce allergen concentrations in household dust?"

[72] HUD Office of Public and Indian Housing. "Instituting Smoke-Free Public Housing." 81 Federal Register 87430-87444. December 5, 2016. www.federalregister.gov/d/2016-28986.

Housing Choice Voucher Cost-Sharing by Healthcare Providers[73]

Housing is increasingly recognized as an important social determinant of health, but HUD programs, Medicare, and Medicaid are not structured such that Medicare and Medicaid funds can be used for rental payments, nor is there any ready mechanism whereby healthcare savings generated by housing interventions can be invested in housing. This demonstration—ideally sponsored by HUD and the Center for Medicare and Medicaid Innovation (CMMI)—would test a new model in which PHAs partner with Accountable Care Organizations (ACOs) and/or Managed Care Organizations (MCOs) to jointly fund Housing Choice Vouchers for those with complex healthcare needs or "high utilizers," such as the homeless or frail elderly, who are not stably housed. The program would have three important components: (1) PHAs and ACOs/MCOs would share in the costs of providing rental assistance for "high utilizers." ACOs/MCOs could create one-on-one partnerships with individual PHAs or invest in a trust that includes multiple payers. (2) PHAs would provide housing counseling and mobility-related services to ensure households are able to lease-up in a unit that meets their needs and post-move services to ensure housing stability. (3) The ACOs/MCOs would provide case management and healthcare services, which may include services by a community health worker based at one of the PHA's public housing developments, as appropriate. HUD and CMMI would evaluate whether this model reduces healthcare costs and which housing components have strongest impact on costs the most, as well as whether the model increases housing stability and increases the number of vouchers available by reducing the portion of the rental assistance for which the PHA is responsible.

Home Features for Successful Aging in Place[74]

An AARP study in 2018 found that three out of four adults age 50 and older want to stay in their homes and communities as they age (Binette and Vasold, 2018). This new research will provide both builders and homeowners with accessible design features they should consider incorporating when building and buying to ensure that homes provide safety and support over the long term as the physical needs of residents change. This would include enhanced accessibility features in addition to any federal accessibility requirements with which HUD-assisted housing must comply. For example, builders can install reinforced framing to allow for easy and safe installation of grab bars and handles, closets that can be converted to elevator shafts at modest cost when needed, and ground floor designs that allow for all daily activities (cooking, laundry, bathing, sleeping) to be accomplished without the use of stairs. The study will also provide information on retrofitting current homes and include mechanisms to transfer information regarding the special features to additional owners and contractors.

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[73] Addresses question 260, "Can a model in which PHAs partner with health insurance providers or Accountable Care Organizations to co-fund vouchers (and share in any cost savings) for high healthcare utilizers reduce healthcare costs, increase housing stability, and increase the number of vouchers PHAs can make available?"

[74] Addresses question 369, "What specifications for new homes would prepare them for eventual accessibility modifications?"

Evaluation of the Older Adults Home Modification Grant Program[75]

Congress appropriated funds in the 2019 and 2020 Consolidated Appropriations Acts for HUD to issue grants to experienced non-profit organizations, States, local governments, or public housing agencies for safety and functional home modification repairs; at least half of the funding must be for work in substantially rural communities. These home modification repairs are incorporated to meet the needs of low-income elderly persons who own the home in which they live that will enable them to remain in their primary residence. This study will evaluate the Older Adults Home Modification grant program by tracking the outcomes of seniors whose homes have been modified in order to better understand the effectiveness of this funding in reducing at-home falls, hospitalizations, and emergency response calls, as well as improving independence and tenure in home over time. This effort will quantitatively and qualitatively examine the installed modifications and their impacts on seniors using data tracked by the grantees (for example, type, quantity, and cost of the modifications, and urbanicity of the community) and self-reported data on the health and well-being of the residents (for example, numbers of falls, emergency room visits, and hospitalizations, quality of life, and satisfaction with the program). Interviews of grantee staff will help identify effective practices for program design and implementation.

HUD-Assisted Children Living in Unhealthy Housing[76]

Prior health researchers have established that inadequate and unhealthy housing can adversely impact child health and development. Notably, CDC previously used AHS data to assess the percentage of persons in the United States living in inadequate or unhealthy homes, and, in collaboration with PD&R, used NHANES and HUD administrative data to determine the relationship between housing assistance and young children's blood lead levels (Ahrens et al., 2016). However, no research specifically examining unhealthy housing among children residing in HUD-assisted housing currently exists. This research project will address this important research gap. This research will be conducted in-house by PD&R and will use AHS data linked with HUD administrative data for analyses. Additionally, Real Estate Assessment Center (REAC) data will be sought to supplement analyses.

Indian and Rural Issues

Crisis Response Approaches to Prevent and End Homelessness in Rural and Remote Areas[77]

Rural homelessness is a historically less-developed area of research. This project will review how crisis response approaches to prevent and end homelessness are different in rural areas and assess the availability and accessibility of homelessness prevention programs in rural areas. The research will also identify causes, patterns, and types of homelessness in rural areas. This study could be conducted as in-house research. Interagency agreements or data licenses may be required with USDA for rural housing

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[75] Addresses question 703, "Are Home Modifications for elderly homeowners effective for helping them age in place? Do home modifications reduce risk of falls and reduce problems with Activities of Daily Living (ADLs) among elderly households? Which home modifications for accessibility are most cost-effective? Evaluate the FY 2019 Home Modification grant program."

[76] Addresses question 259, "How many HUD-assisted children are living in unhealthy housing?"

[77] Addresses question 531, "How are crisis response approaches to prevent and end homelessness different in rural or remote areas? Are causes and patterns of homelessness different in rural areas?"

data and with the U.S Department of Veterans Affairs for Veteran homelessness data. This project will include a literature review on rural homelessness to summarize existing research and identify best practices and possible gaps in data and information. The project will also include a data analysis of sources such as AHS, ACS, Homeless Management Information System (HMIS), Continuum of Care programs, and the ongoing Understanding Rapid Re-housing study to examine foreclosure and eviction rates, housing cost burdens, homelessness rates, and rapid re-housing programs serving rural communities. HUD's expertise in homelessness research and intervention programs make the organization well-situated to sponsor this project. Researching the distinct characteristics of rural homelessness will provide better evidence about whether the current crisis response approaches are meeting the needs of rural, tribal, Native Hawaiian, and Native Alaskan areas.

Pandemic and Disaster Preparedness and Adaptation Strategies for Housing in Indian Country[78]

With the increasing frequency of severe weather events and pandemics, communities must prepare for more frequent environmental disasters, such as hurricanes, floods, fires, sea-level rise, and land erosion, and find ways to adapt to the changing environment. In their rural and remote areas, Tribes face challenges to disaster preparedness specific to those places, but also possess unique strengths rooted in cultural identity, place-based indigenous knowledge, and tribal governance. Additionally, Tribal communities historically have been more severely impacted by pandemics in proportion to the rest of the U.S. population. This project intends first to find out tribal perspectives on what makes pandemic and disaster preparedness and adaptation strategies effective, especially for housing, such as when planning resilient housing developments and when undertaking relocation and temporary housing. Second, the project aims to discover and describe cases of successful tribal efforts to prepare for pandemics and disasters and adapt to environmental transformation. Finally, the study will identify replicable factors that contributed to effectiveness in preparation and adaptation, as a supplement to existing guides for disaster planning and adaptation that ignore unique tribal contexts. This research will be conducted by a contractor in support of a tribally led steering committee on Tribal Housing Disaster Recovery and Mitigation. Data collection could include meetings of tribal members, focus groups, and indepth interviews of key informants. A final report will include case studies that highlight best practices in disaster preparedness and adaption strategies for housing in Indian Country, support HUD's important role in community resilience efforts, and strengthen the trust relationship between the federal government and federally recognized Indian tribes.

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[78] Addresses question 711, "What are the most effective disaster preparedness and adaptation strategies undertaken by tribal and rural communities? What are best practices for deploying and implementing resilience programs in US territories and tribal areas considering the language barriers, high poverty, inadequate public infrastructure and facilities, existing public health and environmental problems, access to population centers, etc.?"

Impact of the Indian Housing Block Grant Competitive Grant Program on Housing Construction, and Rehabilitation, and Community Outcomes[79]

The Indian Housing Block Grant (IHBG) Competitive Grant Program is a new way to provide HUD housing assistance to Indian tribes. First funded by Congress in 2018, this program has added approximately $100 million per year to the total federal funds available for housing programs in Indian Country. This study will assess the program's impact on units built or rehabilitated, the amount of funds leveraged through this program, and the community-level impacts of the resulting units built or rehabilitated. For a sample of tribes, the study will document how the new housing program fits into the whole set of tribal activities intended to meet tribal housing needs (including IHBG-funded activities). Finally, the study will include an assessment of community-level impacts from the resulting units built and rehabilitated, including the number of families assisted, the impact on homelessness and overcrowding, physical and mental health, accessible housing provided for persons with disabilities, and economic and educational outcomes.

Self-Sufficiency and Economic Opportunity

Evaluation of Section 3 Training Opportunities[80]

HUD's Section 3 regulation prioritizes public housing and other low-income residents for employment and on-the-job training opportunities generated by HUD-funded projects. About 10,000 to 20,000 trainees and new hires are reported every year, but HUD does not know whether training improves long-term employment prospects for public housing residents. Understanding best practices would help PHAs decide how to devote resources to increasing employment of low-income persons and whether to devote resources to training services. Research could involve case studies of training efforts and employment retention strategies, and/or longitudinal studies of participants in Section 3. Any research specific to public housing residents would have to consider implicit disincentives from income-based rent subsidies. Research specific to Section 3, however, may be too narrow compared with broader reviews of training practices in the construction industry or of evidence about the contribution of training programs. This research will draw on the lessons of HUD's evaluation of the Section 3 program's implementation (HUD, 1996) and will inform how HUD promotes and monitors Section 3 in the future.

Motivations, Causes, and Outcomes of Tenant Exit[81]

Understanding and measuring whether assisted renters who leave public and assisted housing have benefited from their participation and have been able to access economic opportunity is central to HUD's strategic goal of increasing economic opportunity. HUD seeks to learn why assisted tenants leave assistance—whether for personal or programmatic reasons—and whether these reasons can be

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[79] Addresses question 202, "What is the impact of the new competitive grant program for housing in tribal areas? Do the grants effectively complement the existing Indian Housing Block Grants program to address housing needs in distressed or small tribal areas?"

[80] Addresses question 464, "What proportion of low-skill public housing residents employed under Section 3 requirements receive training or certifications to improve their long-term employment prospects?"

[81] Addresses question 716, "How can HUD capture 'positive' and 'negative' outcomes and motivations for exit by assisted tenants?"

classified as positive or negative. Administrative data systems currently capture little evidence about such reasons or household outcomes after program exit. HUD will continue to address this evidence gap through the following efforts.[82]

1) Ongoing program demonstrations will begin to provide such information by conducting exit surveys. The Rent Reform Demonstration's 3-year evaluation results will be complete in 2020 and 6-year results in 2023. The Family Self-Sufficiency Demonstration evaluation will be completed in 2022.

2) HUD is currently expanding the HUD-50058-MTW tenant data form to collect "end-of-participation" reasons. A future contract study could collect information about PHA experiences administering the new HUD-50058-MTW form and assess whether leavers confirm the reported data to inform potential similar enhancements to the basic HUD-50058 form.

3) PD&R staff is currently pursuing in-house research using linked HUD-National Health Interview Survey data to examine exit patterns, potential causal factors, and health and economic outcomes.

4) PD&R has issued a FY 2020 Notice of Funding Availability (NOFA) to fund external research that links administrative and external data to assess post-exit outcomes.

5) PD&R is collaborating with Census Bureau researchers who are undertaking research linking longitudinal tenant data with tax records and with the Social Security Administration's Numerical Identification System (Numident) mortality files.

6) A contract researcher could apply machine learning methods and more conventional modeling to tenant data to develop a predictive algorithm of which tenants will exit the Housing Choice Voucher program with low Housing Assistance Payment (HAP) subsidy needs or sufficient income to afford market rate housing. HUD's authority over administrative data collections and interest in improving tenant outcomes provides a comparative advantage in supporting a range of research in this domain.

Role of Childcare in Economic Opportunity Outcomes of Assisted Renters[83]

HUD-assisted households frequently cite lack of access to childcare as a major barrier to working. HUD is exploring collaborative research with the Administration for Children and Families of the Department of Health and Human Services to assess the take-up and impact of childcare for HUD residents for work-related outcomes. It will document innovative models for providing an array of childcare services that meet the unique work-related needs of low-income households associated with non-standard working hours, unpredictable work schedules, and limited transportation options. This research could inform design of a demonstration of partnerships between PHAs, childcare providers, and local employers,

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[82] In addition to these outcome-oriented research efforts, the "Tracking Tenant Exits" proposal in the Enhanced Data and Methods section focuses on the improvement of administrative data collection.

[83] PD&R identified this proposal for priority funding in the FY 2021 Research and Technology budget request. Along with the proposed Childcare Demonstration, it supports question 750, "What are the most prevalent employment patterns and work experiences of assisted tenants in connection to seasonal work, temporary work, uncertain shifts, hours worked, wages, benefits, etc.? What effect does improved access to affordable childcare have on work participation and other employment outcomes? Can PHAs successfully partner with local childcare providers to overcome common problems, such as non-standard and unpredictable work hours, that restrict access to childcare services? What kinds of childcare situations do HUD-assisted parents have for their non-school age children? Why do so few seek the childcare deduction?"

drawing on lessons of the Public Housing Child Care Demonstration (HUD, 1992) and the Capital Fund Education and Community Facilities Program.[84] HUD expects that better alignment of childcare services will strengthen economic opportunities and self-sufficiency for assisted tenants.

Removing Barriers to Work: Childcare Demonstration[85]

HUD-assisted households frequently cite lack of access to childcare as a major barrier to employment. This study will explore innovative models for the provision of childcare services that meet the unique needs of low-income households such as non-standard working hours, last-minute work schedule changes, and limited transportation options. In this demonstration, PHAs will develop partnerships with childcare providers and local employers to apply for a competitive grant that will fund an innovative model for childcare services. These models should meet common hurdles that limit residents' abilities to make use of traditional childcare services. This project will study the take-up of childcare services and the extent to which this allows parents to increase their employment. It will also study what hurdles remain preventing parents from utilizing childcare services and increasing their employment. The project would require a mixed-methods approach including administrative analysis and primary data collection. The research team will conduct interviews with program administrators to understand what partnerships have been created and what childcare services are offered. Resident focus groups would shed light on whether the services are meeting families' needs. Data from NDNH and HUD's administrative data would be linked to assess the impact of providing childcare services on households' earnings.

Self-Sufficiency Data Matching[86]

Internal HUD systems track information on transfer income from other federal programs, but this information is incomplete. Little is known about how often HUD-assisted tenants access labor market-oriented services, or about the level of services received from programs like Temporary Assistance for Needy Families (TANF) or Supplemental Nutrition Assistance Program-Employment and Training (SNAP-ENT), or at American Jobs Centers. This project will undertake a data matching process to link tenant data from HUD systems including the Public and Indian Housing Information Center (PIC) and the Tenant Rental Assistance Certification System (TRACS) with administrative and/or survey data on a range of programs that support self-sufficiency, including healthcare programs. PD&R will use these matched data to determine the portion of HUD-assisted households who receive benefits from other federal programs that support self-sufficiency efforts. A series of small grants will be made available for researchers to propose studies to make use of the matched data. An in-house data matching effort would partner with the Census Bureau to match HUD administrative data to the Survey of Income and Program Participation, and would include exploratory efforts to identify other administrative data sources housed at the Census Bureau that could provide more insight into the overlap of HUD's tenant population with other programs that support self-sufficiency.

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[84] See https://www.hud.gov/program_offices/public_indian_housing/programs/ph/capfund/cfcf.

[85] Addresses question 750 as shown in the previous footnote.

[86] Addresses question 211, "How many HUD assisted tenants receive services from other federal programs focused on labor market outcomes, including TANF, SNAP-ENT, and DOL-WIOA?"

Systematic Review of HUD's Self-Sufficiency Research[87]

Numerous Federal agencies, including the Department of Labor, the Department of Health and Human Services, and the Department of Agriculture, administer programs designed to support labor market attachment and increased self-sufficiency of low-income households. HUD also has several programs designed to help residents move towards self-sufficiency including the Family Self-Sufficiency (FSS) program, Jobs Plus, the Resident Opportunities and Self-Sufficiency (ROSS) Service Coordinator (SC) program, and EnVision Centers. HUD has evaluated these programs individually at different points in time, and with different levels of rigor, but has not looked across the results of these evaluations together in a larger context of identifying "what works." This project will identify and synthesize existing research on programs that are designed to support labor market attachment and increased self-sufficiency among low-income households, including HUD's self-sufficiency programs, to describe common programmatic elements, key differences, programs, or components of programs, that have been successful or unsuccessful for different populations, and what questions we still lack evidence to answer. This project will provide future self-sufficiency programs with an overview of successful elements worth replicating, common pitfalls to avoid, and uncertainties that must be considered in program design.

Impact of Credit Counseling and Financial Literacy on FSS and ROSS Participants[88]

The Family Self-Sufficiency Demonstration's 36-month interim survey found that FSS participation increased receipt of financial services and counseling. A multi-arm experiment could include ROSS-SC participants to see if the FSS contract and escrow are exerting an influence on the positive financial services and counseling findings. This would improve HUD's understanding of core impact of the FSS and ROSS programs by determining which type of financial education and counseling have the most impact on financial behaviors, credit scores, student loan debt, and savings. A contractor would implement and evaluate the demonstration using secondary data from PIC, National Directory of New Hires, and national credit bureau data, and conducting a survey to ask treatment group participants which aspects of the intervention were most helpful.

Impact of Self-Sufficiency Programs on Children[89]

Numerous Federal agencies administer programs that are designed to support labor market attachment and increase earned income of working-age, work-able adults. Often, these work-able adults are parents or caregivers to minor children. Although these programs focus on improving adult outcomes, it is essential to understand the impact on the children who may be part of the household. Recent research on the Moving to Opportunity (MTO) demonstration showed that the program had a significant impact on the children of participating families. While this research found a positive impact for some groups, it

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[87] Addresses question 216, "What combination of supportive services increases participation in and long-term attachment to the labor market? What evidence does the self-sufficiency literature offer for improving HUD program outcomes?"

[88] Addresses question 340, "What is the impact of credit and financial counseling on FSS participants in terms of financial behaviors, credit scores, student loan debt, and savings?"

[89] Addresses question 576, "What are the impacts on children of adult self-sufficiency programs that lead to parental employment? Does the TANF literature have evidence for improving outcomes of HUD programs? Which of HUD's program demonstrations should capture long-term child outcomes?"

is also possible to theorize that a self-sufficiency program could have a negative impact on youth by decreasing the amount of time parents spend with their children or through other mechanisms. More recent approaches to programs designed to serve low-income families have incorporated a "two-generation" approach, which targets the needs of both the adults and the children in the household with the aim of serving the whole family. This project will summarize the literature on the impact on children of programs that are designed to target self-sufficiency programs of parents and caregivers. In addition to a literature review, the project could aim to also develop a set of mechanisms to theorize how these programs may impact children, assess what data are available to measure intermediate and long-term outcomes, and recommend ways in which these data might be incorporated into HUD program evaluations. The project will analyze available data by different subgroups such as children's age at time of parent or caregiver treatment, or the level of effectiveness of the intervention program. The project could also identify the critical variables to track the impact of self-sufficiency programs on children, design a tracking system to measure short-term and long-term outcomes for HUD-assisted households, and establish a pilot program to test the tracking system across a selection of HUD programs.

Housing Markets and Positive Exits from Assisted Housing[90]

HUD has a strategic goal of supporting assisted renters in achieving self-sufficiency and economic opportunity. An important aspect of self-sufficiency is a household's ability to maintain housing security. For this reason, the relationship between local shortages of affordable housing and suitable employment opportunities will be critically important for a household's long-term success. This in-house project will draw on evidence about exit outcomes from two ongoing demonstrations (Rent Reform and Family Self-Sufficiency) to develop a proxy for assisted households who are on a path that could support a successful program exit. Longitudinal administrative data about program participation and exit will be linked with local employment data and housing market data including Fair Market Rents to support econometric modeling of the likelihood of positive exits in the context of local markets. The results can inform focused initiatives such as HUD's EnVision Centers in developing targeted and coordinated supports for self-sufficiency.

Broadband Access Demonstration[91]

Access to the internet is increasingly a prerequisite for education, employment, and self-sufficiency. This demonstration would use a random control trial of HUD-subsidized internet services within public and assisted housing projects. Such subsidies could involve either direct payments to property owners or an increase in the utility allowance. A contracted evaluator would survey housing providers and tenants to collect information for an assessment of whether the net social benefits exceed the costs. Interim broadband services funded through the CARES Act may be an additional source of information to shape this research.

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[90] Addresses question 578, "Where are positive exits from assisted housing more likely, in lower cost areas where it is cheaper to find private housing or in higher cost areas where there may be more jobs? To what extent are differences in Fair Market Rents associated with differences in positive exits?"

[91] Addresses question 605, "Would the benefits exceed the costs of making internet services a reimbursable expense for providers of HUD-assisted housing?"

Single Family Homeownership

Balancing Mortgage Debt Burden and Equity Accumulation[92]

Home mortgages in the United States typically have terms of 15 or 30 years. Spreading repayment over a longer term lowers the monthly debt burden but also slows equity accumulation and increases the cumulative amount of interest. High debt burdens and low equity are both major credit risk factors, which makes the net effect of loan term on loan performance ambiguous. This in-house study will use administrative data from FHA's Section 203 mortgage insurance program and/or the National Mortgage Database to examine the effect of loan term on the likelihood of default. Borrowers with shorter loan terms will be matched to similar borrowers with longer terms. Survival analysis will be used to examine the change in the default hazard associated with longer-term mortgages at different points in the life of the loan. This research leverages HUD's administrative data and analytic expertise to address a basic question that could inform more beneficial housing finance policy.

Effects of Student Debt on Mortgage Default Risk[93]

Student debt has increased dramatically over time. The average student debt (in constant 2016–2017 dollars) of $47,700 among graduate school completers in 1999–2000 almost doubled to $84,300 for the 2015–2016 class.[94] Completing undergraduate or graduate degree programs offers benefits in earning potential that may offset the financial impact of debt, but large debt loads nevertheless make first-time homebuying more difficult and increase the risk of default. This in-house or contracted study will examine associations between student loan debt and mortgage defaults and estimate the impact of different policies by housing government-sponsored enterprises, as Freddie Mac takes a more conservative approach toward student debt than does Fannie Mae.

Benefits and Risks of Downpayment Assistance[95]

Lack of funds for downpayment is one of the primary barriers to homeownership. Downpayment assistance, such as a gift from parents, helps low-wealth borrowers buy a home. Yet downpayment assistance, particularly from government and non-profit sources, is also associated with an increased risk of default. FHA currently allows insured mortgages to involve gifts and second liens, provided they are documented and do not originate from the seller or other party involved in the transaction. This in-house research will use administrative data from FHA's Section 203(b) mortgage insurance program to address two primary research questions. First, what is the effect of downpayment assistance on increasing access to mortgage credit? The number of borrowers who would not have qualified if not for the assistance will be estimated and disparities in access on the basis of race and other protected characteristics will be assessed. This analysis should also consider any increase in housing quality and

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[92] Addresses question 248, "What would happen to the housing market and homeownership if 20- or 25-year fixed-rate mortgages became the default loan option? Could homeownership become less debt-laden and more sustainable?"

[93] Addresses question 604, "How much does student loan debt influence mortgage default risk? How do different student debt policies of the government-sponsored housing enterprises influence default outcomes?"

[94] See https://nces.ed.gov/programs/digest/d17/tables/dt17_332.45.asp.

[95] Addresses question 546, "What risks and benefits are associated with providing down-payment assistance and other assistance to first-time homebuyers?"

sales prices enabled by downpayment assistance. Second, what is the effect of downpayment assistance on the likelihood of default? The marginal increase in the hazards of default and FHA insurance claims from different types and sources of downpayment assistance will be estimated using survival analysis. The analysis will also consider the competing risk of prepayment. This research leverages HUD's administrative data and analytic expertise to inform and support FHA policy decisions.

Serving Seniors with Better Reverse Mortgage Servicing[96]

FHA's Home Equity Conversion Mortgages (HECM), or reverse mortgages, help seniors age in place by enabling them to tap the equity in their home. Reverse mortgage borrowers, however, remain responsible for maintenance of the property and payment of property taxes and insurance. Difficulty covering these expenses poses a risk to homeowners as well as the HECM program. There is potential for reforms of HECM underwriting and appraisal policies, as well as changes in the servicing of reverse mortgages, to improve the ability of FHA to serve senior homeowners. Using administrative data from FHA, this contract research will document the use and effectiveness of HECM post-endorsement actions such as default counseling, at-risk extensions, repayment plans, and refinancing. This research will inform and support FHA policy decisions to improve borrower outcomes and strengthen the HECM program by examining factors associated with default risk and exploring barriers to wider HECM adoption.

Study of FHA Borrowers: Post-Purchase Counseling and Sustainability[97]

HUD expects to complete the First-Time Homebuyer Education and Counseling Demonstration in 2021, but the evaluation does not test the impact of actual post-purchase counseling (with the exception of homebuyer education and counseling that was delivered to a portion of participants after a purchase agreement was signed or after closing because of the long study enrollment process). This contracted study would address that gap by analyzing FHA loan performance and credit bureau data, and administering a short survey to identify post-purchase counseling participation for FHA borrowers within the first 1 to 3 years of homeownership to identify factors associated with early default versus homeownership sustainability. HUD is well-positioned to sponsor this research because of access to FHA loan-level data and potentially to client-level counseling data from HUD's Office of Housing Counseling.

Voucher Homeownership Program: 20 Years Later[98]

The Voucher Homeownership (VHO) program, administered by participating public housing agencies, allows qualified families to use their vouchers to purchase a home and assist with monthly homeownership expenses. The 2006 VHO Study (Locke et al., 2006) found very low delinquency and foreclosure rates in the program. Of the 206 PHAs surveyed in December 2005, there were only 10 foreclosures and 30 mortgages in default or delinquency among more than 3,400 home purchases. As

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[96] Addresses question 553, "Is default counseling an effective intervention for the Home Equity Conversion Mortgage program?"

[97] Addresses question 702, "How effectively does a post-purchase, light-touch homeownership counseling program prepare FHA borrowers for sustainable homeownership? What goes wrong for FHA borrowers who default early?"

[98] Addresses question 737, "What does the voucher homeownership program look like 20 years after its inception? For whom has it functioned well?"

existing HUD administrative data do not capture default, delinquency, or foreclosures for VHO households, a survey of all PHAs operating the VHO program is needed to ascertain how the program fared during the housing crisis. Additionally, as Housing Assistance Payments for the first program participants will soon end, this study will track VHO homeownership outcomes through the housing crisis and provide meaningful data about the sustainability of homeownership after assistance ends for various subgroups of households. Stable homeownership would be evidence of a strategy for successfully graduating households from the regular HCV program to VHO to help them achieve long-term self-sufficiency.

FHA's Role in Closing the White/non-White Homeownership Gap and Preserving Homeownership During Economic Decline[99]

There is extensive research on the role the Home Owners' Loan Corporation (HOLC) played in the 1930s in restricting mortgage financing for predominantly minority neighborhoods and on the lasting repercussions of those restrictions (Park and Quercia, 2019). There is also extensive research on the present homeownership and wealth gaps between Whites and minorities. These disparities are reinforcing as downpayment creates a wealth barrier to homeownership, which itself is a strong factor in building wealth. FHA's low downpayment requirements are a critical tool for facilitating homeownership for minority buyers. The first stage of this in-house research would use FHA data and Census microdata geocoded to HOLC maps to further explore the legacy of redlining for homeownership patterns and loan performance. The second stage would be to examine the role that current FHA policies play in reducing the homeownership gap and in creating sustainable homeownership experiences for Blacks and Hispanics. The third stage would be to explore the role that FHA mortgage servicing and forbearance policies have played in preserving minority homeownership. This analysis will look at forbearance uptake and subsequent reperformance or claim and will help explain to what extent the policies implemented by FHA in the wake of the COVID-19 pandemic have preserved minority homeownership during this national emergency.

Lessons from the Enterprises about the Potential of Credit Risk Transfers for FHA and Ginnie Mae

Organizations can manage risk by transferring it to another party at a reasonable cost. Lenders transfer the risk that a mortgage may default by purchasing mortgage insurance from FHA or private insurers. Investors of agency mortgage-backed securities are protected by the guarantee of timely payment of principal and interest by the government-sponsored enterprises and Ginnie Mae. In turn, Fannie Mae and Freddie Mac have recently begun experimenting with credit risk transfers (CRT) that transfer risk to private investors. This research project will examine FHA's past experiences with co-insurance and risk-sharing. The study will then assess Fannie Mae and Freddie Mac's ongoing CRT programs and discuss the suitability of similar risk transfer strategies for FHA and Ginnie Mae.

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[99] Addresses question 52, "What is the black-white homeownership gap, and what role does homeowner equity play?"

Vulnerable and Special Populations

Understanding the Housing Search Process of the Elderly and Persons with Disabilities[100]

Households assisted by the Housing Choice Voucher program face a major challenge when using the voucher: finding a suitable rental unit. Households face numerous barriers to leasing up, including finding landlords willing to rent to them and locating a unit in their preferred neighborhood, that is affordable, and that meets other needs (for example, wheelchair accessibility needs). Relatively little is known about how HCV households search for units. Recipients who are elderly or have disabilities frequently have specific needs and face unique challenges in searching. This project would engage a contractor to conduct a longitudinal study of the housing search process of voucher holders, with an emphasis on understanding the unique challenges faced by the elderly and persons with disabilities when trying to find a unit. Capitalizing on the waitlists of public housing authorities, HUD would identify a prospective cohort of voucher holders, track their moves using administrative data, and survey or interview them throughout their search process to understand their needs, tradeoffs during the search process, barriers to leasing up, whether they were successful, length of time to secure a suitable unit, and, ultimately, the characteristics of the unit and neighborhood where they ended up living. This research would provide important information about how best to support the elderly and persons with disabilities during their search process, such as through the provision of tailored housing counseling services, allowing longer search times, and so on.

Long-Term Outcomes of the Section 811 Project Rental Assistance Program[101]

The Frank Melville Supportive Housing Investment Act of 2010 authorized a new model of housing assistance for individuals with disabilities—the Section 811 Project Rental Assistance (PRA) Program—and mandated an evaluation of the program's effectiveness. The program's goal is to expand access to high-quality, affordable housing and elective, community-based services to allow eligible people to live successfully in the community. HUD implemented the evaluation of the Section 811 PRA program in phases. Phase I focused on the initial 18 months of program implementation and included a process evaluation and six case studies (HUD, 2018c). Phase II assessed outcomes and effectiveness of the PRA program in six states and compared the results to outcomes for similar populations living in other federally assisted and unassisted housing settings (HUD, 2020b). The Phase II evaluation found that the PRA program serves a lower-income and higher-need population than any other HUD program. Early outcomes indicate that the program offers more integrated housing opportunity, but neighborhood and housing quality indicators are lower for PRA units compared to units in other HUD programs. Residents have overall access to voluntary services and supports, with service gaps in some areas. PRA rental subsidy costs are similar or lower than for other HUD programs, but administrative costs are higher. Due to the short observation period, the study was unable to detect healthcare

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[100] Addresses priority question 163, "What do households' housing search processes look like from start to finish, and how have search processes changed over time?"

[101] This is one of two projects addressing question 6, "Are Mainstream, Non-Elderly Disabled (NED) vouchers an effective intervention for people with disabilities experiencing homelessness? What are the barriers to effective implementation of the Mainstream NED voucher program for people with disabilities and how can those barriers be reduced or resolved?"

impacts. This project will build on Phases I and II by assessing long-term outcomes of the Section 811 PRA program in all 27 PRA states. A contractor will employ a mixed-method research approach that will build from the approach used in the prior study. The study will use HUD data and Centers for Medicare and Medicaid Services (CMS) data, and collect primary data by conducting interviews and surveys with program participants and key informants of state and program agencies. The study is needed to better understand healthcare outcomes, program tenure, and service gaps across a larger sample of PRA states and assisted households and over a longer period.

Implementation of the Mainstream Voucher Program for Non-Elderly People with Disabilities[102]

In fiscal years 2017–2019, Congress appropriated approximately $500 million for new Mainstream voucher assistance for non-elderly persons with disabilities, the first funding for new Mainstream vouchers since 2005. HUD awarded a combined $230 million in funding for over 27,000 new vouchers to 435 PHAs between 2018 and 2019. These recent awards prioritized PHAs that give preference to persons who are homeless or at risk of homelessness, persons transitioning out of institutional or other segregated settings or at risk of institutionalization, or persons transitioning out of permanent supportive housing (PSH) or a rapid re-housing project. This contract research will assess how the program is being implemented, who is being served, how partnerships are being used, and what the initial outcomes are. The evaluation will also identify successes and challenges associated with the program's implementation, including challenges related to referral of persons transitioning out of institutional or other segregated settings and to implementation of HUD's waiting list rules. The research will use both qualitative and quantitative analysis, employing HUD administrative data, surveys, interviews with program stakeholders and participants, and field observations. HUD will collaborate with HHS in the design and implementation of the study of this expanding program.

Aging in Place in Public and Assisted Housing[103]

Growth in the elderly U.S. population, the sizable number of HUD-assisted households with elderly residents, and the shortage of accessible housing for individuals with disabilities point to the importance of better understanding accessibility and successful aging in place within the HUD-assisted stock. Housing accessibility requires accessible public and common areas in addition to accessible units. This contracted research will examine the types of HUD-assisted residents who are most likely to age in place, factors affecting their decisions to remain in HUD-assisted housing, and changes in composition of these groups over time. The study will use HUD administrative data that would be linked with survey data collected for this study and potentially with Medicare, Medicaid, mortality, and other administrative datasets in collaboration with the Census Bureau's research data center or through interagency agreements. In the first phase, tenant data will be used to identify individuals who are currently "aging in place" in HUD housing, examine their characteristics (for example, demographics and health status), and identify trends in the population that could inform projections about how the group

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[102] This is one of two projects addressing question 6, "Are Mainstream, Non-Elderly Disabled (NED) vouchers an effective intervention for people with disabilities experiencing homelessness? What are the barriers to effective implementation of the Mainstream NED voucher program for people with disabilities and how can those barriers be reduced or resolved?"

[103] Addresses question 730, "What are the costs and preparation necessary for elderly and disabled assisted tenants to age in place successfully in public and assisted housing?"

might expand, contract, or behave in the future. Second, a sample survey of current residents within various programs will provide information about experiences of older adults and adults with disabilities with their HUD housing, and what accessibility needs or special needs they have, or anticipate having, that might force them into higher-care and more costly alternatives. Another survey of elderly and disabled residents who are exiting HUD-assisted housing could provide complementary information about causes of exits, including accessibility issues.

Modernizing Standards for Section 202 Housing[104]

An important HUD housing production program is Section 202, which provides capital advances to develop housing with supportive services for very low-income older adults. Evidence is increasing that housing features have a critical role in determining whether occupants can successfully age in place, especially when difficulties with activities of daily living (ADLs) increase because of age, illness, or injury. This project will draw on research about success factors for aging-in-place, documented best practices for accessibility, and advice of design experts to develop enhanced elderly housing standards to be applied to new 202 development. This project could be approached as a component of the following Accessibility Guidelines work that emphasizes the needs of seniors and Section 202 program requirements.

Accessibility Guidelines for Residential Construction and Modification[105]

A wealth of information and requirements is available about the accessibility of public buildings or publicly-funded buildings to persons with disabilities. These resources include HUD's Fair Housing Design Manual (PD&R, 2008), the ANSI 117.1 standard, International Building Code Safe Harbor Requirements, and the U.S. Access Board. Less information about accessibility is available for single-family dwellings and other private residences because they are not covered by the statutory requirements of the Fair Housing Act, Section 504 of the Rehabilitation Act, and Americans with Disabilities Act, even though the International Residential Code is influenced by these requirements. This study would procure the services of an architect or accessibility professional to develop a guidebook for constructing and modifying homes, especially single-family homes, to be suitable for individuals with disabilities. This guidance would take into consideration statutory requirements, the Fair Housing Design Manual, and the Medicare Advantage program and other similar programs that fund home accessibility modifications. The Fair Housing Design Manual will provide a solid foundation for developing the new guidance. This work will also be informed by collaboration with HUD's accessibility experts in the Office of Fair Housing and Equal Opportunity and in the General Counsel's Office of Fair Housing.

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[104] Addresses question 606, "What accessibility and design standards should HUD apply to new Section 202 developments for the elderly?"

[105] Addresses question 401, "Develop a user-friendly set of accessibility standards that focus on private homes and provide a clear, reliable basis for home modifications under the Medicare Advantage program. The most well know standards, ANSI 117.1, were developed for public spaces over 50 years ago and never were intended for the scale and variety of individual residences."

Family Options Study: Long-Term Followup[106]

The Family Options Study was a multi-site random assignment experiment designed to study the impact of various housing and services interventions for homeless families (HUD, 2016c). Beginning in 2010, over 2,200 families were enrolled into the study from emergency shelter, randomly assigned to one of four interventions, and tracked for approximately 3 years. Both short-term and long-term findings yielded significant positive impacts for those families who were offered a permanent housing subsidy[107] relative to families offered other interventions or usual care in domains such as homelessness, psychological distress, economic stress, intimate partner violence, food insecurity and school mobility for kids. A recent tracking effort was implemented to determine whether the study sample might be viable for an additional round of primary data collection. The research team concluded that the likelihood of achieving an overall response rate between 65 to 75 percent for a future survey is high, which would allow for valuable longitudinal analysis of family outcomes roughly ten years after random assignment. Such follow-up data collection could include the full sample and the families assigned to each of the four interventions, or a pared-back subset of families that were part of the pairwise comparison where the impacts were largest: the usual care vs. subsidy group, which includes roughly half the sample. HUD may seek to supplement the survey data with administrative data sources including Homeless Management Information Systems, Temporary Assistance for Needy Families data, Special Nutrition Assistance Program data, or NDNH. Given the complexity of this research effort, this project would be pursued as a competitive contract award.

Public Health Response to Unsheltered Homeless Populations[108]

Over the last decade, the overall number of homeless individuals and families has decreased, but in recent years unsheltered homeless populations have increased, most notably in big cities on the west coast. Poor living conditions associated with encampments and unsheltered settings mean communicable diseases[109] often affect these homeless populations more severely than others (Batiaga et al., 2008; Montgomery et al., 2016). Notably, in March 2017, San Diego County announced a Hepatitis A outbreak; local officials specifically focused on addressing the outbreak in homeless encampments. More recently, the spread of COVID-19 has placed unique pressure on the homeless assistance system. Communities around the country have reduced capacity of existing shelters and deployed an array of isolation and quarantine units, mostly in hotel and motel units to serve both sheltered and unsheltered individuals at greatest risk of exposure and health complications. This contract research project will

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[106] Addresses question 5, "What are the long-term outcomes of participants in the Family Options Study?"

[107] The permanent subsidy was usually a tenant-based Housing Choice Voucher, but public housing units were offered in Honolulu, HI, and project-based vouchers in Bridgeport, CT.

[108] Addresses question 363, "What are the public health consequences of the increase of unsheltered homeless populations? What public health responses have been most successful in controlling communicable diseases?"
In light of the COVID-19 pandemic, this project might also respond to a question posed by the Office of the Chief Financial Officer, Customer Experience division, regarding whether multiple layers of intervention disadvantage any particular homeless groups with respect to effective service delivery and customer experience during disasters and pandemics. For example, were services provided by HUD, VA, SBA, and FEMA to homeless veterans adequately coordinated during the COVID-19 pandemic? This work might be informed by a HUD-VA-SBA-FEMA interagency partnership.

[109] Common communicable diseases include influenza, strep throat, gastroenteritis, sexually transmitted infections, hepatitis C, HIV/AIDS, and tuberculosis.

produce case studies highlighting communities that have responded to and addressed health issues among unsheltered homeless populations. These case studies should center on qualitative data collection with a range of stakeholders in each community including local government, service providers, and medical professionals. When possible, case studies should contain quantitative data on addressing costs, as well as individual and public health outcomes.

Youth Homelessness Prevalence Study[110]

In FY 2016, Congress appropriated $2 million for HUD to study the prevalence of homeless youth, per Section 345 of the Runaway and Homeless Youth Act (RHYA). HUD awarded these funds to Chapin Hall to count homeless youth through their Voices of Youth Count (VoYC) Study.[111] Using two counting methods and with a broad definition that included runaway homeless youth and youth considered "couch surfing," VoYC found that nationally, one out of 30 youth ages 13–17 and one out of 10 youth ages 18–25 were homeless. This count far exceeded HUD's snapshot and longitudinal counts (Point in Time and HMIS), which do not count "couch surfing" youth as homeless. Additionally, the study identified several subpopulations of youth considered at-risk of homelessness, which included minority youth populations, youth identifying as LGBT, youth from low-income households, youth that did not complete high school, and youth involved with the justice and foster care systems. Congress in FY 2019 appropriated another $2 million for the same purpose as in FY 2016. Although HUD already met basic RHY requirements through the VoYC Study, RHYA also authorizes collection of "other information as the Secretary determines, in consultation with States, units of local government, and national nongovernmental organizations concerned with homelessness." HUD is, therefore, seeking to use the FY 2019 funds to strengthen the homeless youth prevalence estimate by supplementing findings from the VoYC Study with administrative data sources from child welfare agencies, prisons and jails, or hospital records.

Impact of Housing Assistance Programs for Youth[112]

Not enough is known about outcomes for youth receiving assistance through two similarly structured housing assistance programs, Family Unification Program (FUP) and Foster Youth to Independence (FYI) Initiative vouchers—for example, whether the maximum 36 months of assistance lasts long enough to be beneficial; and whether supportive services associated with the provided voucher are sufficient to meet the needs of these two groups of youth, and, if so, to what extent. This research could demonstrate to HUD in what ways both FUP vouchers for youth and FUP and FYI Tenant Protection Vouchers (TPV) for youth are performing as intended, as identify aspects of FUP and FYI programs that could be improved or overhauled. The evaluations could be performed by a contracted research firm or possibly as a partnership between HUD and HHS because of HHS's experience conducting studies of youth, and especially youth in the foster care system. The study would include a literature review and

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[110] Addresses question 717, "What are characteristics, prevalence, vulnerabilities, and experiences with homelessness of families with children who are couch surfing? What pathways to homelessness and prevention are associated with doubling up? Do concerns about the child welfare system prevent families who are doubled up from entering shelters?"

[111] See https://www.chapinhall.org/project/voices-of-youth-count/.

[112] Addresses question 438, "What is the impact of providing Family Unification Program (FUP) vouchers to youth who age out of foster care on housing stability, education, and employment?"

mixed methods research including quantitative analysis of PIC administrative data over a period of time during which a cohort of FUP and FYI participants are receiving assistance; and qualitative analysis of data collected through interviews and ethnographic research over a period of 18–24 months among each cohort.

Assessing the Impact of Transitional Housing for Individuals with Substance Use Disorders[113]

The SUPPORT for Patients and Communities Act[114] enacted in 2018 tasked federal agencies with conducting studies and disseminating best practices relating to housing and services for individuals with Opioid Use Disorder (OUD). A recent report from the HHS Office of the Assistant Secretary for Planning and Evaluation (ASPE, 2019) identified gaps in understanding how transitional housing programs under the Continuum of Care (CoC) program target and serve homeless individuals with OUD. This research will assess the role of transitional housing (TH) programs for individuals with OUD and other substance use disorders. Researchers will conduct an environmental scan of current TH programs that specifically target or generally serve a population with OUD to shrink this knowledge gap. Outcomes data from pre-established OUD-focused programs can inform future efforts. Data on program components will be collected using a web survey and targeted phone interviews with program staff and may include analysis of program operating costs and health outcomes.

Do Housing Choice Vouchers Reduce Recidivism?[115]

HUD has implemented the HUD-Department of Justice (DOJ) Pay for Success Permanent Supportive Housing Demonstration, through which ex-offenders are provided permanent supportive housing in seven different sites and their outcomes are being tracked by the grantees' independent evaluators. This study would work with the seven demonstration sites and their evaluators to assess the recidivism outcomes for the HCV recipients in each site after 1 to 3 years of participation. Analysis would include a geographic analysis of social networks of a select number of participants that agree to indepth qualitative interviews. PD&R also could work with a small number of PHAs and conduct a pilot study for ex-offenders leaving prison or jail and track their outcomes over time to determine whether Housing Choice Vouchers reduce recidivism.

Pathways Out of Unsheltered Homelessness[116]

Little is known about how households or individuals "exit" from unsheltered homelessness, the extent to which they attain housing on their own, and which pathways lead to stable resolutions. To understand these components of successful transitions from unsheltered homelessness will help HUD and other agencies create and tailor programs to better propel people experiencing unsheltered homelessness

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[113] Addresses question 457, "What is impact of transitional housing for people with opioid addiction or other substance abuse disorders?"

[114] Also known as Substance Use–Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act, (H.R. 6, Pub.L. 115–271).

[115] Addresses question 502, "Does receiving a Housing Choice Voucher reduce recidivism among ex-offenders? How does proximity of the recipients to previous social networks influence the results?"

[116] Addresses questions 518, "Where do people go when they "exit" or resolve unsheltered homelessness?" and 521, "What kinds of homelessness prevention and diversion strategies are communities employing? How do various strategies differ in their ability to resolve homelessness and prevent returns to homelessness? Are these strategies cost effective?"

towards leading a safer and self-sufficient life. This research could start with a review of current statistics and methodologies used to study transitions from unsheltered homelessness; in particular, for unassisted transitions to permanent housing. The study team could select a group of CoCs and produce case studies incorporating qualitative data and supplemental data from Point in Time counts. Such information will inform future evaluations to quantify and fully characterize pathways out of unsheltered homelessness.

Health and Access to the Shelter System[117]

There is an extensive body of research on the health issues faced by people experiencing unsheltered homelessness, particularly those who are chronically homeless. It is clear that experiences of unsheltered homelessness can greatly exacerbate individuals' health issues, yet more evidence is needed about whether the current emergency shelter system is successfully assisting people with greater health needs to access shelter as a connection point to services and permanent housing. The best way to explore this issue is through a research partnership with one or more entities having considerable experience in housing, medicine, and public health. The researchers will produce a literature review focused on low-barrier shelters, the connection between medical care and shelter/temporary housing, and the ways in which frontline emergency shelters are adapting shelter models to improve health outcomes and better support persons with complex health needs by connecting them to other resources. The project will identify gaps in current emergency systems that allow persons with higher health needs to remain unsheltered, identify innovative models, and highlight best practices.

Study of Interventions to Reduce Unsheltered Homeless[118]

As unsheltered homelessness has grown in some higher cost housing markets and many communities struggle with insufficient funding, programs designed to quickly resolve instances of homelessness (sometimes called "diversion") and other similar flexible housing subsidies have grown in popularity as lower-cost alternatives to emergency shelter. Although many of these programs are not funded through HUD directly, they are highly integrated with other elements of the mainstream homeless assistance system such as Coordinated Entry. HUD's recent (2016c) study of features and assistance models of the Rapid Re-Housing program outlined the ways in which local Continuums of Care can use existing housing subsidies flexibly and strategically. Such programs, however, have largely targeted families. Communities around the country have started piloting a wide spectrum of housing assistance at levels lower than a permanent subsidy, but little is known about the relative effectiveness of different levels and durations of assistance, particularly for single adults who make up the majority of the unsheltered population. For this research, HUD will contract with an external partner to conduct a gold-standard random control trial of a set of flexible subsidy interventions targeting individuals who are unsheltered. Similar to the groundbreaking Family Options Study (HUD, 2016d), the research team will select sites

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[117] Addresses question 519, "Do people experiencing unsheltered homelessness with health issues avoid the shelter system, or are they filtered out? To what degree is the state of being unsheltered making health situations worse?"

[118] Addresses question 521, "What kinds of homelessness prevention and diversion strategies are communities employing? How do various strategies differ in their ability to resolve homelessness and prevent returns to homelessness? Are these strategies cost effective?"

with active diversion, flexible subsidy, or rapid re-housing program infrastructure. The study will test the impacts of lower intensity interventions like one-time housing assistance or a shallow time-limited subsidy; medium intensity interventions like rapid re-housing and transitional housing; and higher intensity interventions like permanent housing subsidies relative to the usual care offered to unsheltered individuals in the community. HUD and the research team will work to integrate program delivery into the existing Coordinated Entry system to target adults who are unsheltered or have recently experienced unsheltered homelessness, but not those prioritized for slots in Permanent Supportive Housing because they are chronically homeless. Demonstration funds may be made available to support the expansion of existing program models, and HUD and the research team will work with participating communities to develop appropriate targeting and program implementation strategies. The primary outcome of interest will be housing stability and the research team will use Homelessness Management Information System (HMIS) data to measure returns to homelessness. Linking other administrative data sources might allow also the study team to measure changes in earnings, health system use, and contact with the criminal justice system. In addition to the impact evaluation, the research team will produce a detailed cost-study that will document the full scope of program implementation in each site.

Evictions and Homelessness: Understanding the Relationship and Evaluating Promising Interventions[119]

Recent reports in the last few years tie eviction to homelessness directly, with estimates ranging from 14 percent of those evicted in Santa Cruz County, to 88 percent of those evicted in Seattle, becoming homeless. In a survey of Boston households that entered shelter, 45 percent cited eviction as the primary cause for their homelessness. Rigorous research using court records finds a strong causal link between evictions and experiences of homelessness, but more mixed findings on employment outcomes of people experiencing evictions. Data from the Eviction Lab suggest that the median monetary judgment against tenants was just over $1,200, substantially less than the cost of emergency shelter and other interventions to address homelessness. Increasing availability of data on the volume and demographics of evictions and a growing body of evidence about the negative impacts on households and high costs of evictions has motivated a variety of eviction prevention interventions. At least one rigorous study has demonstrated that a modest amount of emergency financial assistance delivered to households facing imminent eviction significantly reduces homelessness. To build evidence in this area, PD&R would begin with a review of the literature associating eviction processes, including provision of counsel under "Civil Gideon" ordinances, and subsequent housing instability outcomes. Data linkage opportunities involving HUD's assisted housing data, HMIS data, and the new Eviction Lab data will be assessed for potential to understand more about interactions between HUD-assisted households and evictions. The Coronavirus Aid, Relief, and Economic Security (CARES) Act passed in March 2020 contains a substantial expansion of the Emergency Solutions Grants (ESG) program that can be used for a range

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[119] Addresses questions 526, "How much does experiencing an eviction affect the likelihood that a person will experience homelessness? Do eviction prevention interventions prevent homelessness?" and 603, "To what extent are "Civil Gideon" rights to an attorney in civil proceedings operative in eviction courts? What is the prevalence and impact of Civil Gideon protections among eviction hearings?"

of homeless assistance, rapid re-housing, and homelessness prevention activities. HUD also could use this infusion of resources to study eviction and homelessness prevention program models, such as the Homelessness Prevention Call Center (HPCC) in Chicago, using experimental research designs. Contracted researchers could evaluate the use of ESG funds, focusing on eviction and homelessness prevention to determine whether the programs have similar impact in different communities.

Rapid Re-Housing: Long-Term Outcomes and Targeted Programs[120]

Two major, recent research projects have focused on Rapid Re-Housing (RRH) programs, which provide housing relocation and stabilization services and short- and/or medium-term rental assistance for people experiencing homelessness to help them achieve stability in permanent housing as quickly as possible. RRH has grown considerably over the past decade. The Family Options study used an experimental design and yielded findings on the impact of receiving RRH on housing stability relative to usual care in shelter (HUD, 2016c). Although the Family Options study represents the gold standard of evidence available about how best to address family homelessness, RRH programs have become both more sophisticated and widely adopted, and the housing market has changed dramatically since the study was launched in the aftermath of the housing crisis. The more recent *Understanding Rapid Re-Housing Study* focused on providing rich descriptive data on program components and operations (HUD, 2016d) as well as participants' experiences both during and after receipt of RRH assistance over a 15-month period (HUD, 2019d). Key elements of the RRH program, however, have largely not been studied: the long-term outcomes of RRH recipients, how outcomes differ based on market conditions, and outcomes of key subpopulations like youth. The research partner identified for this project will utilize existing data on RRH program components and size to identify communities with programs large enough to produce a quantitative analysis of both short- and long-term outcomes (primarily returns to homelessness) of participants. This work will incorporate analysis of changes in the local housing market over the period studied. The team also will identify a selection of youth-focused RRH programs and collect additional qualitative data on program models. Where applicable, quantitative data will be used to assess outcomes and program costs.

Homelessness and Labor Market Participation[121]

HUD's 2019 study, "Market Predictors of Homelessness: How Housing and Community Factors Shape Homelessness Rates Within Continuums of Care" found that unemployment rates were generally not predictive of homelessness rates nationally, but were relevant in communities with tight, high-cost rental markets. Little is known about the individual labor market experiences of people experiencing homelessness in these markets and what interventions are currently available to increase labor market participation and self-sufficiency among this population. As the nation's largest funder of homelessness services, HUD has an interest in unpacking these questions via a contract research vehicle. This study

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[120] Addresses question 748, "What is the right amount of housing assistance to provide in Rapid Rehousing Programs? What is the right program structure and duration, and does it vary based on the rental market in which the program operates? How effective is rapid rehousing at increasing housing stability and self-sufficiency for those under 25 years old?"

[121] Addresses question 741, "What are the labor market experiences of employed people who experience homelessness? What interventions and services best increase the attachment of homeless households to the labor market? Are there inflection points in the relationship between local employment levels or other labor market factors and rates of homelessness?"

would develop a questionnaire measuring the prevalence, typology, and stability of labor market participation among homeless persons; their earnings; perceived barriers to increasing earnings and labor attachment; and resources that have aided labor attachment. This survey would be implemented as a supplement to Point-in-Time counts of sheltered and unsheltered persons, including those living in cars. In addition, this study would interview community service providers to identify the characteristics and participant typologies of interventions available to people experiencing homelessness that are related to labor attachment and earnings.

Enhanced Data and Methods[122]

Testing HUD's Housing Insecurity Module[123]

Congruent with PD&R's 2017 Research Roadmap, HUD developed and implemented a housing insecurity research module as a follow-on to the 2019 American Housing Survey (AHS), the most comprehensive national housing survey in the United States. The module was designed to provide data necessary for the construction of a validated index of housing insecurity suitable for inclusion in a variety of survey and evaluation instruments. The second phase of the project is assessing the quality of the housing insecurity data collected in the AHS and analyzing techniques for item reduction and scale development to be used in building a composite, transferable index. Through a contract research vehicle, index options will be tested and analyzed by comparison to contextual questions about stress and basic needs tradeoffs, food security index scores, and core affordability and quality measures from the AHS. For example, index options will be compared to cases where very low-income unassisted households are defined as having worst case needs for adequate, affordable housing because they pay more than one-half of their income for rent, live in severely inadequate conditions, or both. An index of housing insecurity is expected to capture a broader range of owner and renter households than the worst case needs measure, including households that may be experiencing housing instability problems in addition to those experiencing housing affordability and quality problems. Like HUD's measure of worst-case housing needs, a final index is expected to allow tracking of housing insecurity trends over time and disparities across subgroups.

Assessment of Disclosure Risk in Tenant Data Systems[124]

This study will examine administrative data published by HUD about assisted renter households to determine the risk of disclosure of personally identifiable information privacy under various combinations of variables that are seemingly not personally identifiable and differing levels of data aggregation and masking. HUD's Multidisciplinary Research Team will conduct the "white hat" exercise using data from the Public and Indian Housing Information Center (PIC) and the Tenant Rental Assistance Certification System (TRACS). Such assessments are critical for maintaining confidentiality of

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[122] Also see the crosscutting proposal "Strategic Data Sharing to Streamline and Accelerate Disaster Recovery" found in the Disaster Response and Preparedness section.

[123] Addresses question 313, "As HUD moves forward with the AHS Housing Insecurity module, are there examples or test cases worthy of research for how a housing insecurity index might be applied?"

[124] Addresses question 601, What combination of non-Personally Identifiable Information (PII) variables provided in response to Freedom of Information Act (FOIA) requests can be counted on to enable privacy violations?

administrative records as understanding of reidentification risks continues to develop and expand. The analysis will inform HUD's Chief Data Officer about needs for enhanced protections beyond the current Rule of Eleven established by PD&R's Evaluation Policy[125] as a rule-of-thumb minimum size for subgroup statistics to be released in data tabulations.

Enhancing HUD's Non-Digital Data Assets[126]

Paper forms such as some Housing Choice Voucher forms may not be submitted to HUD by program partners, and others that are submitted to HUD field offices are not centralized or digitized in a way that supports effective information management or evidence-building. Digitizing PHA plans, for example, could provide analytical access to Admissions Continued Occupancy Plans, wait list plans, and other key policy documents, such as policies implementing fair housing and civil rights requirements, and could support HUD's machine learning initiative and policy-focused research. This project would assemble a Task Force working in coordination with the Office of the Chief Data Officer to (1) catalog data elements that are available to program offices but are not captured in an electronic reporting system or available in an electronic format that facilitates program monitoring and evaluation, and (2) develop criteria to evaluate the added value of capturing a non-digital asset electronically and prioritize high-utility non-digital assets. HUD then will work with a contractor (3) to assess the opportunity and challenges for converting high-utility non-digital assets to an electronic record, and (4) to recommend short-term and long-term solutions for digitizing these assets in a way that is responsive to effective administrative processes, stakeholder collaboration, and technological capacity.

Pilot of Portfolio Manager to Capture Energy Data for HUD's Project-Based Housing Programs[127]

HUD's project-based stock of assisted housing comprises 2.5 million housing units: 1.4 million units in assisted multifamily programs and 1.1 million units in the Public Housing program. HUD Program Offices typically do not collect or maintain an extensive amount of energy cost or consumption data. For PHAs with owner-paid utilities, annual consumption data are collected on a project-level basis as opposed to the more informative per-unit or per-building approaches. For PHAs and Multifamily developments that have units with tenant-paid utilities, energy cost data are collected annually through a utility allowance schedule, but the data are not verified against actual bills. The U.S. Environmental Protection Agency (EPA) has developed a free, industry-standard software tool called Portfolio Manager to help owners and managers track energy cost and consumption data over time. This contracted pilot project will seek to deploy Portfolio Manager to enable housing providers to submit energy data in way that supports quantitative analysis of the energy and financial performance of the insured and assisted properties and assess the utility of the tool for strengthening the usefulness of energy-related data for project-based housing programs and ultimately reducing subsidy costs.

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[125] See appendix C.

[126] Addresses question 140, "Which data currently collected on paper forms without being consolidated and digitized in accessible and searchable form, would support useful policy analysis and performance assessment?"

[127] Addresses question 139, "How could HUD cost-effectively capture data on energy expenditures and energy consumption of public and assisted housing developments?"

Modernization of Home Accessibility Design Documents[128]

Many design graphics in PDF formats or in older books of the 1980s and 1990s remain excellent guides but are not readily usable in modern residential construction documents. To address this issue, this project will involve the creation of design documents for home modifications that include considerations for making the documents 508 compliant for persons with disabilities in shareable Building Information Modeling (BIM) formats. This effort will update construction documents with graphic, content-rich information to be used as a primary tool to assist designers, builders, and developers in understanding and conforming with accessible design requirements, including the federal accessibility requirements for housing that is designed or constructed using federal funds, such as affordable housing.

Assessment of HUD's Existing and Potential Data Linkages[129]

HUD's administrative data contain a wealth of information about the populations and communities the Department serves. Linking HUD data with survey data and administrative data from external sources has already generated new perspectives and opportunities to answer questions beyond the scope of what can be learned from HUD data alone. Utilizing external data that are already collected can also improve targeting, reduce duplication in collection effort, and diminish the private burden of responding to HUD data requests or conducting special purpose surveys. The first phase of this report will integrate insights from published or unpublished assessments of data linkages involving the American Housing Survey, American Community Survey, National Health Interview Survey, National Health and Nutrition Examination Survey, and Centers for Medicare and Medicaid Services (CMS) data to summarize issues of data pre-processing, linkage methods, privacy preservation, and linkage error. The second phase of this report will recommend a process to discover additional data linkage opportunities. A contractor will work with HUD's Statistical Official to identify and evaluate external data sources currently not utilized by HUD that will be useful for enhancing insight gained from program evaluation.

Optimizing HUD Administrative Forms[130]

Tenant data collected from housing providers with Forms HUD-50058 and HUD-50059 provide crucial information about characteristics of families utilizing HUD rental assistance through the Office of Public and Indian Housing and the Office of Multifamily Housing, respectively. While these forms provide valuable data on HUD-assisted families, the quality of the data is hampered by flaws in question design and inconsistencies in PHA reporting processes. This two-phase study will require HUD's Office of the Chief Data Officer to work with a contractor to provide recommendations for improving the utility of these forms. The first phase of the study will focus on the form design alone to (1) assess how well questions on these forms allow HUD to monitor program objectives, (2) identify questions that have a potential high respondent burden and offer alternatives to reduce burden, (3) identify opportunities to implement uniform terminology across these and other HUD forms to make comparison of data easier,

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[128] Addresses question 362, "Create design documents for home accessibility modifications in shareable Building Information Modeling (BIM) formats. Many design graphics in PDF formats or in older books of the 1980s and 1990s remain excellent guides but are not readily usable in modern construction documents."

[129] Addresses question 154, "What data linkages would improve the quality and usefulness of HUD tenant data (e.g., IRS, SSA, of Post Office data on income or addresses)? Could such data be used to track tenant outcomes after they leave HUD assistance?"

[130] Addresses question 718, "What changes to HUD administrative forms, including HUD-50058 and HUD-50059 tenant data forms, are needed to optimize for greater simplicity, reduced respondent burden, and improved data quality and usefulness? How does the design of third-party electronic systems affect data quality?"

and (4) provide recommendations for updating questions on the forms. The second phase of the study will assess how the use of third-party reporting systems affects the quality of data input from these forms. The contractor will (1) highlight the pros and cons of the most common third-party systems used for reporting data from these forms; (2) present case studies illustrating the most common errors that occur for PHAs while reporting using third-party systems; (3) estimate the impact of reporting error and discuss the implication; and (4) discuss the benefits of HUD potentially providing its own application programming interface (API) for PHA reporting in terms of reducing reporting error and whether the benefits would outweigh the costs.

HUD Data Sharing Plan[131]

Data sharing facilitates high-value information being used to improve public knowledge of the HUD programs and its operations; evaluate the success of programs in meeting agency goals; and increase HUD accountability and responsiveness. A contractor will offer recommendations to HUD's Office of the Chief Data Officer for improving cataloging, storing, managing, and sharing the data utilized for and produced from HUD sponsored evaluation studies. This research will support the development of HUD's Data Sharing Plan in compliance with the Evidence Act through these objectives:

- **Assess the current catalog of shared data assets** to provide insight into the classification, availability, accuracy, and integrity of shared datasets used in HUD- sponsored evaluations. Evaluate internal and external platforms used to share data from contracted research to determine the uniformity of methods used to share data by different offices.
- **Identify impediments** to data sharing given existing OMB policies, such as Paperwork Reduction Act guidance and privacy guidance, and recommend clarifying guidance or revisions to such policies to promote data sharing at HUD.
- **Recommend a data sharing policy** in accordance with federal statutes and executive orders that would ensure that personally identifiable information is not included in any shared data. A proposed policy should address any impediments to data sharing that were identified, and should address issues including proper storage methods, acceptable data formats, archiving, and access rights for different types of users.
- **Propose a structure for sharing research data publicly** on HUDUSER.gov that greatly improves upon what is currently available and facilitates the replication of findings from HUD studies.

Picture of Single-Family FHA-Insured Households[132]

The Federal Housing Administration (FHA) is a key source of financing for first-time and minority homebuyers. Home Mortgage Disclosure Act reporting provides important information on new loan originations, yet there is not a comprehensive publicly- available dataset on FHA mortgagors, loan performance, and portfolio characteristics for summary geographies. HUD's Picture of Subsidized Households[133] has, for two decades, provided accessible summary data for HUD's public and assisted housing programs. Picture's use of sums and averages for various programs, geographies, and partner types—with suppression, when needed— eliminates the confidentiality risks inherent to administrative

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[131] Addresses question 720, "Can HUD make more data public? Are there data collected through evaluations and research contracts that we could make publicly available on HUDUSER? Could we have a better data repository/library for our data from research and evaluations?"

[132] Addresses question 147, "Can we create a Picture of Single-Family FHA Insured household characteristics?"

[133] See https://www.huduser.gov/portal/datasets/assthsg.html.

microdata. For this project, a team of PD&R, FHA, and Office of the Chief Data Officer experts will collaborate to design a similar data asset for FHA's single-family mortgage insurance programs that will be useful for analyzing program characteristics. Aggregated data elements might include, for example, average household income, age groups, household size, race, mortgage characteristics, first-time homebuyers, housing unit type, and neighborhood characteristics including underserved neighborhoods.

Voice of the Customer Tool

In support of Executive Order 13571, "Streamlining Service Delivery and Improving Customer Service" (EOP, 2011), Office of Management and Budget's Circular A-11 (OMB, 2019b; see Sec. 280) directs all federal agencies to engage in Customer Experience (CX) activities to improve customer service. A key requirement is to establish a mechanism to measure customer satisfaction with HUD's programs and services on an ongoing basis, which expands on HUD's past "partner surveys" (HUD, 2011). Under the leadership of the Office of Field Policy and Management, HUD will establish an agency Listening Practice, which is a strategic policy describing the different ways in which information about HUD is conveyed and HUD's plan to adequately survey customers, through active and passive methods, about CX and public sentiment about HUD's program and services. A robust Listening Practice will require the acquisition and development of a Voice of the Customer (VOC) Tool to collect CX data, support CX analysis, and inform future CX initiatives. The VOC tool will help build a demographic and geographic profile of HUD customers. The hallmark of good VOC tools is the ability to track customer interactions across traditional communication channels as well as future channels that are in development, like chat. HUD's VOC tool will measure customer satisfaction by customer type (citizen customer, facilitator customer, and auxiliary customer) across HUD's five customer service ecosystems.[134] The overall goal of the tool is to improve customer satisfaction, reduce costs, and facilitate data-driven decisions on policy and resourcing.

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[134] The service ecosystems are defined as Access to affordable rental homes; Homeownership opportunity and housing market stability; Housing quality and improved living conditions; Economic growth and community resilience; and Fair housing and equal opportunity.

3. Data Priorities for Evidence Building

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.

The preceding subsection, Enhanced Data and Methods, identified numerous priority proposals for improving data assets. Such initiatives, however, do not detract from the continuing importance of sustaining existing data collections and organizing and sharing data assets for greater usefulness. Acquiring and organizing 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 more efficient and cost-effective public and private actions. In this way, data serve as infrastructure, similar to the role of highways and bridges in the physical world. For these reasons, the status and improvement of the national data infrastructure for housing policy and research is the focus of this section.

Emerging Roles of the Chief Data Officer and the Statistical Official

One of the most significant elements of the Evidence Act is the requirement for agencies to appoint a Chief Data Officer (CDO) and a Statistical Official. HUD's Statistical Official is situated, along with the Evaluation Officer, in PD&R to make it the hub for the Department's evidence-building. The CDO is located in the Office of the Chief Information Officer.

HUD has requested funding for an Office of the CDO with 13 new full-time staff that has a number of important work streams in its early years:

- Developing a HUD Enterprise Data Strategy and selecting a data maturity model
- Creating a Master Inventory of HUD data assets
- Establishing the Data Governance Steering Committee and developing a Data Governance Program
- Building a collaborative environment across program offices by re-establishing the Data Stewards Advisory Group and strengthening the Analytics Community of Practice
- Updating HUD's Data Asset Catalog and finalizing an Open Data Plan in compliance with the Evidence Act
- Preparing to comply with the Federal Data Strategy 2020 Action Plan
- Managing the Paperwork Reduction Act submissions needed to begin new data collections.

The role of the Statistical Official is strongly complementary and integrates HUD's existing survey-related work:

- Oversee HUD-sponsored survey efforts with the Census Bureau
- Support the Evidence Officer on issues related to protection of confidential data and statistical efficiency
- Support the CDO in developing HUD's Data Asset catalog and implementing Open Data policy
- Facilitate collaboration with statistical agencies to create data linkages and develop data products that are machine-readable and include robust privacy protections
- Represent HUD to the Interagency Council on Statistical Policy

Survey Data

The housing surveys that HUD funds represent a crucial part of the nation's housing data infrastructure and consume the largest share of appropriated funds for Research and Technology.

- **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. The

AHS supports several key PD&R research products: Worst Case Housing Needs reports to Congress, the Housing Affordability Data System, and the Components of Inventory Change (CINCH) longitudinal datasets and reports about how uses and costs of housing units change over time.

- **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.[135]

- **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.

- **American Healthy Homes Survey (AHHS) II** was conducted in randomly selected homes nationwide during 2018–2019 to find out about lead in paint, dust, soil, and water; pesticides and mold in dust; formaldehyde in air; and safety hazards present. A two-person team of an Interviewer and a Technician (State-certified as a Lead-Based Paint Inspector and Risk Assessor), conducted surveys and testing that required 2 to 3½ hours depending on size of the home. The first AHHS was conducted in 2005–2006 and the National Survey of Lead and Allergens in Housing (NSLAH) in 1998–2001. The information obtained from these surveys is important for tracking national progress in reducing the number of homes with lead-based paint and other potential health hazards.

Topical Modules in Recent American Housing Surveys

Adding survey modules on special topics leverages the core AHS to provide rich information about the relationship of cross-cutting policy domains with characteristics of housing units, households, and their housing finances.

- 2011—Health and Safety Characteristics, Disabilities and Home Accessibility

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[135] See https://www.huduser.gov/portal/ushmc/home.html.

- 2013—Neighborhood Observations, Public Transportation, Neighborhood Social Capital, Emergency and Disaster Preparedness, Doubled-up Households, Delinquent Payments and Notices
- 2015—Health and Safety Characteristics, Arts and Culture, Housing Counseling, Food Security
- 2017—Emergency and Disaster Preparedness, Delinquent Payments and Notices, Commuting Modes and Costs
- 2019—Food Security, Disabilities and Home Accessibility, Post-Secondary Education Enrollment, Hurricane Harvey, Housing Insecurity Follow-on Research Survey

Program Demonstration and Evaluation Datasets

Along with HUD's administrative data and market survey data, datasets generated through major program demonstrations, evaluations, and other data compilations also represent significant public investments and resources for better understanding and improving housing and community development policy. High-quality data from random control trials have enduring research value. Examples include HUD's Moving to Opportunity, Family Options, Rent Reform, and Family Self-Sufficiency demonstrations. Linking these data assets with external sources creates opportunities to examine—with minimal expense—research questions that cut across policy domains and involve long-term outcomes. For example, linkage of MTO data with tax records enabled researchers to estimate the impact of growing up in quality neighborhoods for children's long-term economic well-being (Chetty et al. 2016), and then to use the results to validate and make available data on neighborhood opportunity (Chetty et al., 2020). The section below about HUD's collaboration with the Census Bureau highlights the research opportunities being made available with demonstration data through the Bureau's Research Data Centers (RDCs).

Data Compilation Assets

Every year PD&R generates and updates datasets that support resource allocation, targeting, and planning for Departmental and intergovernmental functions, as well as research in support of program operations.[136] Program offices also produce administrative data reports for use by partners and stakeholders.

- Fair Market Rents for public and assisted housing programs
- Household Income Limits for public and assisted housing programs
- Qualified Census Tracts and Difficult Development Areas for the Low-Income Housing Tax Credit
- HUB Zones for the Small Business Administration
- Comprehensive Housing Affordability Strategy (CHAS) tabulations of American Community Survey data for communities to develop Consolidated Plans
- U.S. Postal Service (USPS) Vacancy Data
- Public Use Microdata Samples (PUMS) of tenant data
- Low-Income Housing Tax Credit database of projects and tenant characteristics
- Picture of Subsidized Households summary tabulations of HUD tenant data across programs

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[136] See https://www.huduser.gov/portal/pdrdatas_landing.html.

- Longitudinal tenant microdata files across programs and multiple years
- HUD Enterprise Geographic Information System (HUD eGIS)
- Community Assessment Reporting Tool (CART)[137]
- Geocoding Service Center—a PD&R federal shared service that determines addresses and other geospatial information to enhance administrative and survey records

Administrative Data Systems

Several strengths of administrative data make them valuable for evidence-building and research:

- 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.

HUD's program offices generate administrative data to operate their programs. Such data constitute an essential resource for most program evaluations and analytic studies. Core systems for each program office—selected from more than 200 automated systems in the Department's inventory—include the following:

Office of Housing

- Computerized Homes Underwriting Management System (CHUMS)
- Single Family Default Monitoring Subsystem (SFDMS)
- Single Family Housing Enterprise Data Warehouse (SFHEDW)
- Asset Disposition and Management System (ADAMS)
- Single Family Acquired Asset Management System (SAMS)
- Tenant Rental Assistance Certification System (TRACS)
- Integrated Real Estate Management System (iREMS)
- Housing Enterprise Real Estate Management System (HEREMS)
- Annual Financial Schedule (AFS; property financial reports)
- Home Mortgage Disclosure Act (HMDA data collected by Consumer Financial Protection Bureau)

Office of Public and Indian Housing

- PIH Inventory Management System/Public Housing Information Center (PIH-IMS/PIC)—Tenant data, physical inspection records, Financial Data Schedule (FDS; PHA financial reports)
- Voucher Management System (VMS)
- Energy and Performance Information Center (EPIC)
- HUD Community Assessment Reporting Tool (CART)
- Financial Assessment Subsystem

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[137] See https://egis.hud.gov/cart.

- Management Assessment Subsystem
- Physical Assessment Subsystem
- Quality Assessment Subsystem

Office of Community Planning and Development

- Integrated Disbursement Information System (IDIS)
- Disaster Recovery Grants Reporting (DRGR)
- Electronic Special Needs Assistance Program System (eSNAPS)
- Homeless Management Information System (HMIS)[138]
- HUD Environmental Review Online System (HEROS)

Office of Fair Housing and Equal Opportunity

- HUD Enforcement Management System (HEMS)
- Section 3 Performance Evaluation and Assessment System (SPEARS)

Government National Mortgage Association

- Government National Mortgage Association (Ginnie Mae) Enterprise Portal General Support System (GMEP GSS)
- GinnieNET

Harnessing the power of these administrative data assets through web-based information systems, geospatial analysis, and linkage 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.

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 to support policy goals relating to the role of housing in lives and communities.

Linkage with Survey Data

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

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[138] HMIS is not a HUD system, but a system that HUD requires Continuum of Care organizations to maintain.

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.[139]

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

- American Housing Survey (AHS; 2011–2017). 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; 2010–2018). In addition to a linkage of assisted households with ACS microdata that are available on a restricted-use basis at the Census RDC, 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. In addition to assisted renters, FHA-insured mortgagors from HUD's Single Family Data Warehouse have been linked with ACS.[140]

- National Health Interview Survey (NHIS; 1999–2016). 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. HUD-NHIS linkages will be updated on a 2-year cycle.

- National Health and Nutrition Examination Survey (NHANES; 1999–2016). 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. HUD-NHANES linkages will be updated on a 2-year cycle that aligns with releases of biennial NHANES surveys.

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

Administrative Linkage with Other Data

HUD also links its administrative data with administrative data of other agencies:

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[139] 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.

[140] See https://www.huduser.gov/portal/datasets/acs-hud-data-linkage.html.

- Center for Medicare and Medicaid Services. Medicare and Medicaid healthcare utilization data were successfully linked in a pilot project conducted in collaboration with HHS.

- Federal Student Aid. HUD tenant data have been linked with data on Free Application for Federal Student Aid in several experimental projects to examine the effect of behavioral nudges[141] to improve college application and enrollment of HUD-assisted students.

- Administration for Children and Families. HUD tenant data are linked with the National Directory of New Hires data to examine labor market outcomes.

- Internal Revenue Service. HUD's Enterprise Income Verification system uses IRS records to enable housing providers to verify reported income and ensure correct rental subsidy calculations. These data are not available for research purposes.

Collaboration with the Census Bureau on Administrative Data Linkage

The Census Bureau manages data infrastructure for linking administrative records with Census data and supporting cutting-edge research of those data. The Bureau 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.[142] 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 has an interagency agreement with the Census Bureau to link data from HUD's tenant databases and random control trials with the Bureau's survey data collection and other administrative data collected under its Title 13 authority. Data from HUD's Moving to Opportunity (MTO) experiment and Family Options study (FOS) also became available in RDCs in 2017—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. Access to these data is restricted to researchers with Special Sworn Status who have HUD approval. In December 2019, HUD issued a request for competitive proposals to conduct analysis of HUD's Moving to Opportunity and Family Options Study datasets at Census Bureau RDCs.[143]

HUD and the Census Bureau also are updating the Joint Statistical Project Agreement (JSPA) for a partnership on research projects that link housing data with 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

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[141] Nudges are indirect suggestions and positive reinforcement intended to influence behavior and decision making of groups or individuals without mandates or significant changes in economic incentives.

[142] There are 29 Federal Statistical RDCs. See http://www.census.gov/about/adrm/fsrdc/locations.html.

[143] See https://www.census.gov/about/adrm/linkage/updates/2019-12-request-for-proposals.html.

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

Licensing Administrative Data to External Researchers

Housing market data and program data generated by HUD represent public assets for better housing and community development policy, provided they are used responsibly and protect 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.[144]

Data Collection Needs and Challenges

Evidence-building needs identified through the stakeholder consultation process point to several significant deficiencies in data availability for addressing key research questions.

- **Low Income Housing Tax Credit property addresses.** The lack of building-level addresses for LIHTC properties inhibits HUD's ability to match LIHTC data to other federal data sources with information about tenants, such the American Community Survey or the American Housing Survey. HUD has tried, with minimal success, three approaches to evaluate current building-level addresses and to increase the number of properties with building-level addresses. To resolve this problem, HUD has, in recent years, proposed to Congress that the Internal Revenue Service (IRS) should be authorized to share building addresses—a type of protected federal tax information—with HUD for statistical purposes, reflecting HUD's interest in the performance of the largest federal housing production program.[145]

- **Opportunity Zones investments, activities, and outputs.** Restrictions on disclosure of tax information pose a significant risk for achieving a reliable evidence basis to inform policy for the substantial public tax expenditure of capital gains deductibility for qualified OZ investments. HUD has determined that, similar to LIHTC data sharing by IRS, Congressional authorization may be needed for IRS to share federal tax information about Opportunity Funds and OZs with HUD for statistical purposes.

- **Post-exit outcomes of assisted renters.** Several research priorities identified in the Roadmap relate to improving understanding of how HUD's housing programs contribute to tenants' economic opportunities and long-term well-being that shape whether exits can be considered "positive." As described in this Roadmap's research proposals, HUD seeks to leverage research

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[144] See https://www.huduser.gov/portal/research/pdr_data-license.html.

[145] This priority data need was identified by comment 387, "Improve LIHTC address data and flag (and oversample) units in the American Housing Survey that have ever received LIHTC support. Use the AHS to assess LIHTC tenant characteristics, preferences on housing developments and neighborhood characteristics, voucher receipt, residential mobility history, workplace and commute, and other data of use for HUD program policy."

to inform potential enhancements of tenant data systems to capture information about tenant conditions at the point of exit.

- **Locations of activities funded by CDBG and HOME.** A long-term challenge associated with block grant programs in general, and especially with community-serving activities, is understanding which neighborhoods and households benefit from the funding. Activities conducted by subgrantees frequently are represented in the IDIS system by the addresses of the subgrantees' office rather the address of the activity. Further, activities such as Community Development Block Grant-funded streetscape improvements may cover multiple blocks. Lack of specific address information limits understanding of an activity's impact and consistency with civil rights requirements.

- **Energy consumption and expenditure data for public and assisted housing.** HUD's annual expenditure for energy and utilities in housing programs is estimated at $6.4 billion (HUD, 2016). Detailed information needed to identify opportunities for greater efficiency across the programs is lacking because utility metering may occur at various levels of developments, buildings, and units.

Protecting Privacy through Disclosure Avoidance

PD&R's Program Evaluation Policy (see appendix C) provides that HUD-sponsored evaluations must be conducted in an ethical manner and safeguard the dignity, rights, safety, and privacy of participants. To protect the privacy of HUD-assisted households and HUD-insured borrowers, PD&R has traditionally followed the Rule of Eleven: disclose no information about any group of individuals or households numbering less than eleven, whether by PD&R staff, contractors, grantees, or licensees. This practice implies that estimates must be suppressed for smaller subgroups in cells of tables, along with additional subgroups if combinations of table rows and columns could be used to reidentify a single suppressed cell.

The recent growth of machine learning tools and extensive online data resources has increased the risk of disclosure in releasing survey or administrative datasets or summary tables. Such changes increase the concern that simple disclosure avoidance principles such as the Rule of Eleven are not adequate for protecting privacy. Following a priority established in the 2017 Roadmap, HUD is currently sponsoring "white hat" research to test the robustness of the Rule of Eleven for preventing disclosure of personally identifiable information.

4. Methods for Evidence-Building

The Evidence Act requires learning agendas to include a list of methodologies to be employed for evidence-building. Most such methodologies are types of evaluation, which OMB defines as "an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency."[146]

PD&R's Program Evaluation Policy specifies that program evaluations will be conducted using the most rigorous methods appropriate for the research question (appendix C). The selection of appropriate methods for any given research effort depends on factors including cost, feasibility, and the strength of the existing evidence basis in the research literature. Many HUD evaluations employ mixed-methods approaches to approach research questions more completely using complementary tools.

The primary methods employed for program evaluation are described below. Other methods are used to build evidence without formal program evaluation, such as analytic tools used for performance monitoring or focused policy studies.

Program Demonstrations

Program demonstrations are ways to try out program or policy innovations in a way that generates rigorous evidence about whether they work. Demonstrations often utilize random control trials that have both treatment and control groups to ensure that evaluations can attribute program effects reliably to the intervention rather than to differences in participants, in which some choose (or avoid) the treatment. Randomization of persons, households, buildings, or entities in sufficient numbers and faithful application of treatment as assigned should yield reliable information on program impacts. HUD has a number of notable examples of program demonstrations that used random assignment:[147]

- Housing Allowance Demonstration—1970s-era test of the tenant-based rental assistance model that later became HUD's Housing Choice Voucher program.
- Moving to Opportunity (MTO) Demonstration—Trial of whether better neighborhoods accessed through special tenant-based vouchers that must be used in low-poverty areas and housing counseling produce better tenant outcomes than public housing or regular vouchers.
- Family Options Demonstration—Experiment to test long-term outcomes of four housing or service interventions for formerly homeless families with children.
- Rent Reform Demonstration—Tests the effect of alternative HCV rent policies on households' labor market and housing-related outcomes, receipt of other government benefits, and use of homelessness services.
- Integrated Wellness in Supportive Housing (IWISH) Demonstration—Trial of whether housing with supportive services for low-income elderly residents can improve housing stability, wellbeing, and health outcomes and reduce unnecessary healthcare utilization.
- Family Self-Sufficiency Demonstration—Trial of the impact of HUD's primary self-sufficiency program on tenants.

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[146] See OMB M-20-12, https://www.whitehouse.gov/wp-content/uploads/2020/03/M-20-12.pdf.

[147] Research reports and information about the status of ongoing demonstrations are available on HUDUSER.gov.

Quasi-Experimental Evaluations

When random assignment is not feasible, quasi-experimental methods provide an alternative way to provide a counterfactual for estimating the effects of an intervention. Natural experiments, propensity matching, or instrumental variables in theory-guided econometric models are used to infer causal relationships.

For example, the evaluation of the Rental Assistance Demonstration created project-level matches based on *ex ante* project characteristics in assessing whether the conversion of public housing to private subsidized housing had improved the physical conditions and stabilized the finances of the developments.

Process or Implementation Analysis

This type of study uses administrative data, direct observation, and interviews with participants to determine whether a program is being implemented as envisioned by its creators, and whether the program, as envisioned and implemented, is capable of delivering positive outcomes.

Program evaluations have a range of purposes, from assessing a program's implementation or process, to its outcomes, its impacts, and costs-benefits. Program evaluation often begins with a logic model to articulate the mechanisms by which the resource inputs are expected to result in the desired impacts. Evaluations of HUD programs are most often conducted by external contract researchers, although in-house staff may conduct preliminary or smaller-scope evaluations. Many evaluations employ econometric and descriptive statistical methods. It is often useful to conduct an evaluability assessment of a program to characterize its objectives, logic, and activities and investigate evaluation options before undertaking a formal program evaluation.

Econometric Analysis

Econometric analysis is the use of theory-guided econometric models, often multiple regression models, to identify the parameters affecting a dependent variable and infer causal relationships by controlling for confounding factors while the treatment variable varies. Econometric analysis is frequently an important component of PD&R's regulatory impact analysis of proposed regulations.

Descriptive Statistical Analysis

Descriptive statistical analysis is the estimation (tabulation) of summary statistics to characterize the cases in a sample dataset. Descriptive statistics often focus on quantifying the proportions of various characteristics, major subgroups in the sample, and the shape of the distribution. The use of descriptive statistics does not focus on inferring causal relationships or generalizability of the sample to the total population but is often helpful in such research. Descriptive analysis is frequently used with HUD administrative data to develop an understanding of characteristics of program participants and changes over time that may be important to monitor.

Case Studies

The case study method is a form of indepth, qualitative, descriptive research of a single subject or small group of subjects. The method generally draws conclusions only about the studied subject and within the given context yet is often valuable for theory building and developing awareness of institutional

factors that affect outcomes. Case studies are useful to HUD for examining program implementation within a handful of communities, as a complementary element of broader, quantitative evaluation.

Ethnography

The ethnographic method is a type of qualitative, in-the-field research that provides holistic, detailed information on participant experiences of social, cultural, and economic processes. The method relies heavily on documenting observations of participant interactions and indepth participant interviews.

Literature Reviews and Systematic Reviews

Literature reviews are summaries of the state of knowledge in a research area based on secondary sources. Literature reviews include substantive findings and theoretical and methodological contributions to the topic, and thus serve as the foundation for many evaluations and studies. A systematic review is a type of literature review that seeks to identify, appraise, and synthesize all high-quality research evidence on a given research question.

Performance Metrics and Dashboards

Performance metrics are a type of program monitoring, often using administrative data tabulated in specific ways to support regular, periodic measurement of key aspects of program performance in support of progress monitoring and early intervention to improve operations and results. HUD uses selected performance metrics for internal dashboards for internal cross-cutting reviews, public reporting of progress on Agency Priority Goals, and annual performance reporting under the Government Performance and Results Act Modernization Act.

It is useful to distinguish performance indicators, which are tied to program objectives, from risk indicators that are used to mitigate program risks not directly associated with outcomes. Both types of indicators may be useful in dashboards.

Surveys

The federal statistical system relies extensively on the use of sample surveys to cost-effectively compile statistically representative information about individuals, households, and firms (and in the case of the American Housing Survey, housing units). HUD sponsors several surveys, discussed in Section 3, and frequently uses repeated surveys of participants in program evaluations to determine their baseline conditions and subsequent outcomes. Surveys may also be used to obtain reliable information about conditions in shorter-term research studies. The Paperwork Reduction Act requires federal agencies to obtain approval for information collection from the Office of Management and Budget, which generally requires a public comment period and OMB review of any survey instrument to be administered to more than nine respondents. This process can introduce substantial delays of data collection efforts. Under Executive Order 12862, OMB provides for a simplified generic clearance for customer satisfaction surveys.[148]

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[148] See https://www2.usgs.gov/customer/page9.html. Executive Order 12862 is found at https://www.archives.gov/files/federal-register/executive-orders/pdf/12862.pdf.

Advanced Analytics

Advanced analytics such as machine learning techniques are increasingly recognized as an important way to use unstructured data more effectively and detect hidden patterns in large datasets. Such methods can generate predictive algorithms so that problems can be anticipated and addressed proactively. HUD's vision for advanced analytics is to advance to higher levels of analytics maturity, from Stage 1 Descriptive capability through Diagnostic, Predictive, and Prescriptive capacity (HUD, 2019b; 2019c).

With the help of an Innovation grant from the Department of Treasury, HUD's Office of Risk Management and Assessment is using computational linguistics, machine learning, and sentiment analysis to better understand risk factors for grant programs and contracts based on keywords identified by subject matter experts. The tools are being used to examine Single Audit documents (2 CFR Part 200 Subpart F) to detect patterns that signal potential problems and opportunities for increased oversight and technical assistance through ongoing Streamlined Risk Analysis.[149]

PD&R and Census Bureau staff also collaborated on a machine learning study based on data from an AHS 2017 question about how respondents classify their neighborhood—urban, suburban, or rural. The method was used to predict how out-of-sample households would classify their neighborhoods and, thereby, create the Urbanization Perceptions Small Area Index (UPSAI). Such data have value for validating federal geographic classifications and numerous other research and policy applications (Bucholtz et al., 2020).[150]

Behaviorally-Informed Program Innovation

In recent years, social sciences such as sociology and economics increasingly have been informed by behavioral sciences such as psychology, social neuroscience, and cognitive science. Reflecting a perspective more than a method, 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 availability and salience of clear and relevant information. In recent years, HUD has collaborated with the General Services Administration (GSA) Office of Evaluation Sciences on evidence-based behavioral interventions. Several of these efforts involved low-cost rapid experiments to improve the rate of completion of the Department of Education's Free Application for Federal Student Aid (FAFSA) student aid applications by HUD-assisted young adults.

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[149] See https://fmvision.fiscal.treasury.gov/transformation-stories.html.

[150] See https://www.huduser.gov/portal/AHS-neighborhood-description-study-2017.html#small-area-tab.

5. Barriers to Evidence-Building

Another essential element of a learning agenda as envisioned by the Evidence Act is a list of barriers to evidence-building. HUD is undertaking an Evidence Act "Capacity Assessment" to inventory and understand such barriers in a systematic way. An interoffice working group is conducting this preliminary Capacity Assessment concurrently with the development of this *Research Roadmap.* The primary objective of the preliminary assessment, based on a key informant survey of HUD's senior managers, is to characterize the range of barriers that exist and thereby provide a basis for indepth efforts to quantify the level of need associated with the barriers for a full Capacity Assessment.[151]

Gaps in Data Quality and Access

Program monitoring, evaluations, and research frequently are compromised by a lack of sufficiently detailed, accurate, and complete data.

- Individual programs may not collect sufficiently detailed administrative data if they lack statutory authority or if the reporting burden would be too great for program partners.

- Administrative data (for example, tenant data from the forms HUD-50058 and HUD-50059) are prone to errors arising from misunderstandings of how to enter information and other human errors.[152]

- Data accuracy and completeness can be compromised by insufficient funding to implement edits so that automated systems reject invalid or incomplete entries.

- Data quality errors also compromise efforts to match data with other sources, especially when matching relies on addresses or other text fields.

- Data quality problems arising from human errors could be reduced by the use of cognitive interview methods such as those used to develop survey instruments. Better understanding of the process and thought patterns involved in completing forms might lead to streamlined content, a simpler process, or clearer instructions.

- Accessibility to data within programmatic silos can be hindered by the effort needed to collect and integrate them across the HUD enterprise.[153]

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[151] Section 290.11 of Circular A-11 (OMB 2019b) provides that an Interim Capacity Assessment was submitted in September 2020. A final Capacity Assessment is to be completed by February 2022 as part of the Strategic Plan.

[152] For example, veterans participating in the Veterans Affairs Supportive Housing (VASH) program were expected to be entered as homeless, but because local partners did so sporadically, HUD severely underestimated the number of veterans participating in the program.

[153] PD&R developed a tenant data server to address this challenge. The server supports such accessible tools as skillets, longitudinal data files, and geospatial data for eGIS and CART, but it is not mature yet. The Master Data Management concept is expected to be a key solution for enterprise-level analytics and reporting as well as standardization of some measures.

- A lack of flexibility, responsiveness, and dynamism in HUD's data collection capacity sometimes causes the Department to miss evidence-gathering opportunities that are present only briefly, such as in the aftermath of a disaster.[154]

Several key examples of data gaps hindering evidence-building are discussed in Section 3 under Data Collection Needs and Challenges.

Insufficient and Variable Research Funding

In past decades, appropriators and other policymakers have provided inconsistent and relatively low levels of support for program evaluations. Advocates for good government such as the Results for America Foundation have suggested that an appropriate level for funding research and evaluation is about 1 percent of program funding. Funding levels for HUD's Research and Technology account generally are less than one-quarter of 1 percent of HUD program funding levels. At such levels, it will not be feasible for HUD to address all the priority research questions identified in this Roadmap or fully evaluate major taxpayer-funded programs.

Procurement Capacity

Successful contracting for high-quality research services requires, in addition to employing sufficient subject matter experts, contracting processes and officials that support timely selection of the most qualified research groups. Contracting officials generally are selected for skills in avoiding risk to the government and procuring services at reasonable cost, and not for understanding research and evaluation methods or program subject matter. Research procurements that result in contract personnel that lack methodological or subject matter expertise pertaining to a specific research topic increase the risk of research failure.

Lag Time for Rigorous Evidence

The outcomes and impacts of public programs may not be fully manifested for several years—or even decades, as children mature to adulthood shaped by HUD-assisted housing environments. Because of this time lag, carefully structured evaluations may take a year or more to design and multiple years to complete, with results assessed in interim and final evaluation phases. Although program evaluation is crucial for evaluation-based policymaking and public accountability, such distant horizons are not helpful for policymakers who want to know, for example, whether program A or program B is the more effective option in the next funding cycle. In such cases, discrete policy studies, performance data, and formal retrospective analyses can help fill the gap.

Evaluability

To evaluate whether a program achieves its objectives, it is important to have clarity about what the objectives are and whether program activities are logically linked to those objectives. Some major HUD programs represent funding streams that do not prescribe the type of activity being funded. The CDBG program is a prime example, as grantees have discretion to pursue dozens of eligible activities, reflected

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[154] The OMB approval process for proposed information collections under the Paperwork Reduction Act represents a statutory barrier to some opportunistic data gathering.

by more than 100 activity codes in the administrative data system.[155] The Government Accountability Office (2012) has documented this challenge for block grant programs. Self-funded programs such as FHA's mortgage insurance funds and Ginnie Mae mortgage-backed security guarantees also can pose difficulties for evaluation due to uncertainty about the level of resources used, as annual appropriations bills provide commitment authority that establishes a ceiling on long-term insured losses rather than providing budget authority.

Constraints on Rigorous Methods

Rigorous program evaluation often requires conducting random control trials in which study subjects are randomly assigned to either a treatment group or a control group. Such experimental methods enable evaluators to ensure that results are externally representative because there is no opportunity for results to be influenced by different personal characteristics of the people who chose treatment. Random control trials, however, are not always feasible for public programs. Policymakers may wish to ensure that no one is excluded from receiving the program's treatment, even though its effectiveness is not fully known. In such cases, evaluators may choose quasi-experimental methods in which treatment is allocated by an external mechanism such as a cutoff score, propensity matching, or instrumental variables rather than through random assignment. Quasi-experimental methods may not support definitive statements about causality where confounding factors are present.

Data Governance and Enterprise Data Management

The data governance structures created by the Evidence Act will intersect in important ways with existing data collection through administrative, survey-based, or evaluation-based mechanisms, as well as with information technology requirements under the authority of the Chief Information Officer. Aligning data ownership, authorities, responsibilities, and resources with identified data priorities has potential to pose challenges across the Department that the Chief Data Officer will take the lead in addressing in collaboration with program offices (HUD, 2019c).

Privacy Concerns

Awareness is increasing of the potential for households or individuals represented in statistical summaries of program or survey data to be re-identified in the absence of personally identifiable information (PII). The growing use of machine learning methods and the potential to match publicly available data with the enormous datasets of detailed personal information compiled by the private sector increases such privacy risks. Such risks are likely to result in federal data assets becoming less accessible and less useful to analysts who lack access to restricted data. For example, as the Census Bureau adopts more rigorous differential privacy practices, publicly available data assets such as user-defined tables created with the American Housing Survey Table Creator[156] have been subjected to

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[155] Eligible CDBG activities are defined in 24 CFR Part 570. Activity codes for reporting purposes are listed in https://files.hudexchange.info/resources/documents/Matrix-Code-Definitions.pdf.

[156] See https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html.

greater amounts of data suppression so that output is mostly blank for some smaller population subgroups and lower-frequency data attributes.[157]

Pandemic-related Interruptions

During the development of this Roadmap, the COVID-19 pandemic and associated social distancing protocols required HUD staff to begin universal telework and interrupted survey work and other data collection for contracted research efforts. The potential for extended or subsequent social distancing responses has potential to further interrupt research and disrupt the Department's internal processes that support the prioritization, generation, and analysis of evidence for better policymaking.

Alignment of Evaluation Evidence and Performance Data with Program Management

The Evidence Act envisions an agency-wide view of evidence-building through evaluation, data collection, and analysis, and requires an Evaluation Officer to oversee the agency's evaluation portfolio. As several HUD program offices have their own components for evaluation, policy development, and data collection, potential silos will need to be bridged with a systematic evidence framework and data governance. In 2020, HUD is taking a first step toward better understanding the nature of such barriers through the learning agenda development and Capacity Assessment processes.

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[157] This challenge is discussed further in Section 3, Protecting Privacy through Disclosure Avoidance.

6. Implementing the Research Roadmap

This section discusses issues and necessary steps for developing this Research Roadmap in a way that supports learning agenda development consistent with the Evidence Act. These include specific requirements of the Evidence Act, discussion of available resources, and functional means of undertaking the proposed priorities.

Developing Annual Evaluation Plans

PD&R has for years developed an evaluation plan each year as part of the budget development process for the Research and Technology account, and shared the plan with congressional appropriators. Such evaluation plans have been limited to significant studies requiring appropriated funds, for example, contract research, competitive research grants, and Research Partnerships. As provided by the Evidence Act, HUD will refine and expand congressional submissions into an Annual Evaluation Plan that will be aligned and released with HUD's Annual Performance Plan.[158]

Selection of significant studies for the Annual Evaluation Plan reflects three overarching priorities: (1) bring ongoing, phased, and long-term evaluations to a successful conclusion; (2) support new research questions and projects that align with the long-term, strategic learning agenda of this Research Roadmap; and (3) address emerging needs of policymakers and program officials in an appropriately responsive way. The Roadmap provides an important filter for significant studies to include in annual evaluation plans based on the Roadmap's criteria of policy relevance, timeliness and tractability, and using HUD's comparative advantage effectively.

The Annual Evaluation Plan will identify significant evaluation activities and the priority research questions they address. Evaluation Plans will include criteria used to determine significance of evaluations as well as information about key information collections or acquisitions planned for evidence-building. As an agency-wide document, the Annual Evaluation Plan will integrate significant evaluation activities performed by program offices other than PD&R and with resources other than Research and Technology funds.

Assessing and Increasing Evidence-Building Capacity

In addition to developing learning agendas, the Evidence Act provides that agencies should conduct Capacity Assessments. A Capacity Assessment is a part of agencies' strategic plans that assesses their "ability and infrastructure to carry out evidence-building activities like foundational fact finding, performance measurement, policy analysis, and program evaluation" (OMB, 2019a).

Such assessments of agencies' ability to generate, analyze, and use evidence to strengthen policy and practice have potential to strongly complement the strategic evidence-building direction of a learning agenda by describing the foundation and needed enhancements for effectively using the evidence. HUD

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[158] Circular A-11 (OMB 2019b) guidance requires the FY 2022 Annual Evaluation Plan to be published in February 2021, concurrently with the agency's Annual Performance Plan.

is undertaking its first, preliminary capacity assessment in 2020. Subsequent capacity assessments will drill into and explore the issues identified in this first phase.

Resources for Implementing the Research Agenda

Financing the Research Agenda

HUD'S primary source of funding for research and evaluation is PD&R's Research and Technology (R&T) account. Core R&T funding also provides 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. A substantial third portion of the R&T account funds Technical Assistance to HUD's program partners, some of which represents another form of research dissemination. Congressional justifications for the annual President's Budget requests for R&T (and other accounts) are released by HUD's Chief Financial Officer.[159]

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 research proposals in this Roadmap are envisioned as in-house research.

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.[160]

HUD also collaborates with philanthropic partners in other ways. PD&R's division of International and Philanthropic Affairs strengthens connections with philanthropic research and innovation to identify and disseminate best practices through learning exchanges with U.S. and international partners. 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:

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[159] HUD's Congressional Justifications for FY 2021 are found at https://www.hud.gov/program_offices/cfo/reports/fy21_CJ.

[160] http://www.huduser.org/portal/research/pdrrespartnerships_about.html

- **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 enter into 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.

  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.

- **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 a nimble team of researchers for each task. HUD issues task orders relating to policy questions requiring quick-turnaround research, typically using HUD administrative data or other publicly available data sources, and the contractor offers proposals responding to the task order.

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 create valuable opportunities to collaborate with colleagues in federal sister agencies on policy-relevant research that spans agency cylinders. Several staff collaborations are discussed in this Roadmap in connection with proposed research projects and data infrastructure.

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, advocates 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 represents a new phase in PD&R's journey, encompassing a broader view of evidence-building across the Department in accord with the Evidence Act. As HUD intends to continue updating its learning agenda in alignment with the Strategic Plan development, stakeholders are encouraged to continue submitting 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.

7. Appendices

Appendix A. How this Roadmap was Developed

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. PD&R's Evidence Officer and Statistical Official collaborate closely with the Chief Data Officer to provide leadership in implementing the Evidence Act and building evidence to support better housing and urban development policy.

This Roadmap, like its predecessors, incorporates numerous elements of a learning agenda. 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, endorsed by the Evidence Act, is distinct from a conventional quest for research project ideas. A small team of PD&R staff coordinated the roadmapping process and development of this Research Roadmap update:

Collect Research Questions	Compile and Organize Questions	Prioritize Questions and Projects	Develop Project Proposal Summaries

1. **Collect Ideas and Research Questions:** To solicit a wide range of views and suggestions, PD&R Roadmap Coordinators again engaged with internal and external stakeholders during FY 2019 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. A Research Roadmap Kickoff meeting was held at HUD in March 2019, with an expert panel providing their views on research priorities. The event was open to the public and webcast.
    b. PD&R opened "Research Roadmap Forums" on huduser.gov, where stakeholders could submit ideas and research questions.
    c. An email outreach to federal evaluators and policy experts solicited suggestions in program and policy domains that overlap with HUD's mission.
    d. An electronic mailbox devoted to the Roadmap remains open for ongoing suggestions about important research questions on any HUD-related topic: PDRResearchRoadmap@hud.gov.
    e. Listening sessions were held with HUD program offices, PD&R staff, and external federal stakeholders.[161]

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[161] Listening sessions have repeatedly proven to be the most productive means of generating thoughtful research suggestions, probably because they provide opportunity for dialogue. HUD is considering opportunities to facilitate such sessions more efficiently in the future through the use of technology.

Through these sources, the Roadmap coordinators recorded 606 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:[162]

   - **Research questions**—Foremost, PD&R sought suggestions from participants about important research questions to address during the next 5 years.
   - **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.

   The team classified the suggestions into 11 Focus Areas to help PD&R prioritize the questions. The Focus Areas, which ranged from 2 to 17 questions, are:

   a) Community Development and Place-based Initiatives
   b) Core Housing Programs
   c) Disaster Response and Preparedness
   d) Fair Housing
   e) Housing Finance and Affordable Housing Supply
   f) Housing and Health
   g) Indian and Rural Issues
   h) Self-sufficiency and Economic Opportunity
   i) Single Family Homeownership
   j) Vulnerable and Special Populations
   k) Enhanced Data and Methods

3. **Prioritize Research Questions and Projects:** The Research Roadmap gave PD&R staff the opportunity to weigh in on the suggested research questions. Staff individually or collectively assigned a priority rating of 0 to 3 to each research question or project in the Focus group. The team used average scores 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 110 research questions and project suggestions to be assigned to subject matter experts (SMEs) for proposal development.

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. The resulting project proposal summaries are presented in Section 3.

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[162] 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.

5. **Combine Research Priorities with Complementary Information Required for Learning Agendas:** The priority research questions represent only one component of a learning agenda as prescribed by the Evidence Act and OMB. Additional material on Data Needs, Methods for Evidence-Building, Barriers to Evidence-Building, and Implementation was assembled to complete the Research Roadmap.

Appendix B. Works Cited

Ahrens KA, Haley BA, Rossen, LM, Lloyd PC, Aoki Y. 2016. Housing Assistance and Blood Lead Levels: Children in the United States, 2005–2012. *American Journal of Public Health*. 106(11): 2049-2056 (November 1, 2016). https://doi.org/10.2105/AJPH.2016.303432

Assistant Secretary for Planning and Evaluation. 2019. *Housing Options for Recovery for Individuals with Opioid Use Disorder: A Literature Review*. Washington, DC: U.S. Department of Health and Human Services. https://aspe.hhs.gov/basic-report/housing-options-recovery-individuals-opioid-use-disorder-literature-review.

Badiaga, S., Raoult, D., & Brouqui, P. 2008. Preventing and controlling emerging and reemerging transmissible diseases in the homeless. *Emerging Infectious Diseases.* 14(9), 1353. https://doi.org/10.3201/eid1409.082042

Binette, Joanne and Kerri Vasold. 2018. "Home and Community Preferences: A National Survey of Adults Age 18-Plus." Washington, DC: AARP Research. https://doi.org/10.26419/res.00231.001

Bucholtz, Shawn, Emily Molfino, and Jed Kolko. 2020. "The Urbanization Perceptions Small Area Index: An Application of Machine Learning and Small Area Estimation to Household Survey Data." Working Paper. https://www.huduser.gov/portal/AHS-neighborhood-description-study-2017.html#small-area-tab.

Chetty, Raj, Nathaniel Hendren, and Bruce Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment. *American Economic Review.* 106(4): 855–902. http://dx.doi.org/10.1257/aer.20150572.

Chetty, Raj, John N. Friedman, Nathaniel Hendren, Maggie R. Jones, and Sonya R. Porter. 2020. "The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility." Washington, DC: National Bureau of Economic Research. https://www.nber.org/papers/w25147.

Commission for Evidence-Based Policymaking. 2017. "The Promise of Evidence-Based Policymaking." Washington, DC. https://cep.gov/cep-final-report.html.

Ellen, Ingrid Gould, and Gerard Torrats-Espinosa. 2016. "High-Cost Cities, Gentrification, and Voucher Use." Paper presented at the Research Symposium on Gentrification and Neighborhood Change, May 25, 2016. https://appam.confex.com/appam/2016/webprogram/Paper18816.html.

Executive Office of the President (EOP). 2011. "Streamlining Service Delivery and Improving Customer Service." Executive Order 13571. https://obamawhitehouse.archives.gov/the-press-office/2011/04/27/executive-order-13571-streamlining-service-delivery-and-improving-custom.

Gallagher, Meghan, Lydia Lo, Rolf Pendall. 2019. "An Introduction to the National Longitudinal Land Use Survey and Data." Washington, DC: Urban Institute. https://www.urban.org/research/publication/introduction-national-longitudinal-land-use-survey-and-data.

Government Accountability Office (GAO). 2016. "Department of Housing and Urban Development: Actions Needed to Incorporate Key Practices into Management Functions and Program Oversight." GAO-

16-497. Washington, DC: Government Accountability Office.
http://www.gao.gov/assets/680/678551.pdf.

_____2012. "Designing Evaluations." GAO-12-208G. Washington, DC: Government Accountability Office. https://www.gao.gov/products/GAO-12-208G.

Herbert, Christopher E., Daniel T. McCue, and Rocio Sanchez-Moyano. 2013. "Is Homeownership Still an Effective Means of Building Wealth for Low-income and Minority Households? (Was it Ever?)." Cambridge, MA: Harvard University, Joint Center for Housing Studies. https://www.jchs.harvard.edu/sites/default/files/hbtl-06.pdf.

Montgomery, A. E., Szymkowiak, D., Marcus, J., Howard, P., & Culhane, D. P. 2016. Homelessness, Unsheltered Status, and Risk Factors for Mortality: Findings From the 100,000 Homes Campaign. *Public Health Reports.* Washington, DC: U.S. Public Health Service. 131(6), 765–772. https://doi.org/10.1177/0033354916667501

National Research Council. 2008. "Rebuilding the Research Capacity at HUD." Washington, DC. https://www.nap.edu/catalog/12468/rebuilding-the-research-capacity-at-hud.

Office of Management and Budget (OMB). 2019a. "Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance." Memorandum M-19-23, July 10, 2019. https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf.

_____2019b. "Preparation, Submission, and Execution of the Budget." Circular No. A-11. https://www.whitehouse.gov/wp-content/uploads/2018/06/a11.pdf.

Park, Kevin A. and Roberto G. Quercia. 2020. "Who Lends Beyond the Red Line? The Community Reinvestment Act and the Legacy of Redlining." *Housing Policy Debate.* 20(1): 4–26. https://doi.org/10.1080/10511482.2019.1665839

President's Task Force on Environmental Health Risks and Safety Risks to Children. 2018. "Federal Lead Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts." https://ptfceh.niehs.nih.gov/resources/lead_action_plan_508.pdf.

Public Law 115–435 (132 STAT. 5529). Foundations for Evidence-Based Policymaking Act of 2018. https://www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf.

Rohe, William M., Michael D. Webb, and Kirstin Frescoln. 2015. "Work Requirements in Public Housing: Impacts on Tenant Employment and Evictions." University of North Carolina at Chapel Hill. https://curs.unc.edu/files/2015/09/Work-Requirements-in-Public-Housing.pdf.

Theodos, Brett, Brady Meixell, and Carl Hedman. 2018. "Did States Maximize Their Opportunity Zone Selections? Analysis of the Opportunity Zone Designations." Washington, DC: Urban Institute. https://www.urban.org/research/publication/did-states-maximize-their-opportunity-zone-selections.

Thomson, Hilary, Sian Thomas, Eva Sellstrom, and Mark Petticrew. 2013. Housing improvements for health and associated socio-economic outcomes. *Cochrane Database of Systematic Reviews.* 2 (2). https://doi.org/10.1002/14651858.CD008657.pub2.

U.S. Department of Housing and Urban Development (HUD). 2020. *FY 2021 Annual Performance Plan–FY 2019 Annual Performance Report*. https://www.hud.gov/sites/dfiles/CFO/documents/HUD_FY2021_APP_FY2019_APR_Final_2-10-20.pdf.

_____2020b. *HUD Section 811 PRA Project Rental Assistance Program: Phase II Evaluation Final Report—Implementation and Short-Term Outcomes.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/Section-811-Phase-II.html.

_____2019a. "Market Predictors of Homelessness: How Housing and Community Factors Shape Homelessness Rates Within Continuums of Care." Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/Market-Predictors-of-Homelessness.html.

_____2019b. "HUD Data Analytics Future State Report." https://github.com/GSA/coe-hud-acq-advanced-analytics/blob/master/7.1-HUD-Future-State-Report.pdf

_____2019c. "GSA, HUD Issue Requests for Information for Phase II Centers of Excellence Work." Press Release. HUD No. 19-074. https://www.hud.gov/press/press_releases_media_advisories/HUD_No_19_074.

_____2019d. *Understanding Rapid Re-housing: Findings from Initial Interviews with Rapid Re-housing Participants*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/RRH-interviews-report.html

_____2018a. *Programs of HUD: Major Mortgage, Grant, Assistance, and Regulatory Programs.* Washington, DC: HUD Office of the General Counsel. https://www.huduser.gov/portal/publications/programs-of-hud.html .

_____2018b. "Displacement of Lower-Income Families in Urban Areas Report." Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/sites/default/files/pdf/DisplacementReport.pdf.

_____2018c. *HUD Section 811 PRA Project Rental Assistance Program: Process Evaluation.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/section-811-processeval-report.html.

_____2017. *Research Roadmap: 2017 Update.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/pdf/ResearchRoadmap-2017Update.pdf.

_____2016a. "Instituting Smoke-Free Public Housing." 81 Federal Register 87430-87444. December 5, 2016. HUD Office of Public and Indian Housing. www.federalregister.gov/d/2016-28986.

_____2016b. "Moving to the Next Level: Increasing Energy Efficiency in Affordable Housing." https://www.hud.gov/sites/documents/REPORT_CONGRESS8-9-16.PDF.

_____2016c. *Family Options Study: 3-Year Impacts of Housing and Services Interventions for Homeless Families.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/sites/default/files/pdf/RRHD-PartI-Process.pdf.

_____2016d. *Rapid Rehousing for Homeless Families Demonstration Programs Evaluation Report: Part I, How They Worked—Process Evaluation.* Washington, DC: HUD Office of Policy Development and

_____2016d. *Rapid Rehousing for Homeless Families Demonstration Programs Evaluation Report: Part I, How They Worked—Process Evaluation.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/rapid-rehousing-program.html.

_____2013. *Research Roadmap: FY 2012–2016.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/pdf/Research_Roadmap.pdf.

_____2011. *Partner Satisfaction With HUD's Performance: 2010 Survey Results and Trends Since 2005*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/polleg/partnersatis_2011.html.

_____2011b. *Study of the Fair Housing Initiatives Program*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/fairhsg/fhip_11.html.

_____2008. *Fair Housing Act Design Manual: A Manual to Assist Designers and Builders in Meeting the Accessibility Requirements of The Fair Housing Act*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/destech/fairhousing.html.

_____2008b. *Intergenerational Housing Needs and HUD Program Options: Report to Congress.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/affhsg/int_genrtnl.html.

_____2005. *Overcoming Barriers to Innovation in the Homebuilding Industry.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/destech/overbarriers.html.

_____2004. *Evaluation of the HUD Lead Hazard Control Program*. Washington, DC: HUD Office of Healthy Homes and Lead Hazard Control. https://www.hud.gov/sites/dfiles/HH/documents/Evaluation-of-the-HUD-Lead-Based-Paint-Hazard-Control-Grant-Program_Final-Report.pdf.

_____2003. *A Study of the HUD Minimum Property Standards for One- and Two-Family Dwellings and Technical Suitability of Products Programs*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/polleg/mps_tsp.html.

_____2001. *Study on Section 8 Voucher Success Rates*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/pubasst/sec8success.html.

_____1996. *Lessons from the Field on the Implementation of Section 3.* Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/Publications/pdf/lesson3.pdf.

_____1992. *Public Housing Child Care Demonstration Program Assessment: First Round*. Washington, DC: HUD Office of Policy Development and Research. https://www.huduser.gov/portal/publications/pubasst/pub_hsg_dem_first_rnd.html.

_____2020. U.S. Department of Housing and Urban Development, Office of Inspector General (HUD-OIG). 2020. "Wage Determinations for FHA-Insured Multifamily Construction Projects." Audit Report Nbr. 2021-PH-0001. https://www.hudoig.gov/reports-publications/report/wage-determinations-fha-insured-multifamily-construction-projects#.

Appendix C. HUD Program Evaluation Policy Statement

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

ACTION: Notice.[163]

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.[164] 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.

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[163] Published in the Federal Register, December 6, 2016. Docket No. FR-5985-N-01, FR Doc. 2016-29215. https://www.federalregister.gov/d/2016-29215.

[164] 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 D. List of Abbreviations

ACO— Accountable Care Organization

ACS—American Community Survey (Census Bureau)

ADL— Activity of Daily Living

ADU—Accessory Dwelling Unit

AHS—American Housing Survey (HUD)

AHHS—American Healthy Homes Survey (HUD)

ANSI—American National Standards Institute

API—Application Programming Interface

ASPE—Assistant Secretary for Planning and Evaluation (HHS)

BLL—Blood Lead Level

BRFSS—Behavioral Risk Factor Surveillance System (CDC)

CARES—Coronavirus Aid, Relief, and Economic Security Act of 2020

CART—Community Assessment Reporting Tool

CDBG—Community Development Block Grant program

CDBG-DR—Community Development Block Grant Disaster Recovery program

CDC—Centers for Disease Control, HHS

CDO—Chief Data Officer

CFR—Code of Federal Regulations

CMMI—Center for Medicare and Medicaid Innovation

CMS—Center for Medicare and Medicaid Services

CoC—Continuum of Care program or consortium

COPD—Chronic Obstructive Pulmonary Disease

COVID-19—Coronavirus Disease 2019

CX—Customer Experience

DOJ—U.S. Department of Justice

DRDP—Disaster Recovery Data Portal

FHA—Federal Housing Administration

FSS—Family Self Sufficiency program

FUP—Family Unification Program

eGIS—Enterprise Geographic Information System

EOI—Education and Outreach Initiative (fair housing)

EOP—Executive Office of the President

EPA—Environmental Protection Agency

ESG—Emergency Solutions Grants (homelessness)

FHIP—Fair Housing Initiatives Program

FHOI—Fair Housing Organizations Initiative

FOIA—Freedom of Information Act

GAO—U.S. Government Accountability Office

GSA—U.S. General Services Administration

IPM—Integrated Pest Management

Evidence Act—Foundations for Evidence-Based Policymaking Act of 2018

FEMA—Federal Emergency Management Agency

FMR—Fair Market Rent

HAP—Housing Assistance Payments

HCV—Housing Choice Voucher program

HECM—Home Equity Conversion Mortgage (FHA)

HHS—U.S. Department of Health and Human Services

HOLC—Home Owners Loan Corporation

HMDA—Home Mortgage Disclosure Act

HOTMA—Housing Opportunity Through Modernization Act of 2016

HPCC—Homelessness Prevention Call Center

HUD—U.S. Department of Housing and Urban Development

HQS—Housing Quality Standards

HMIS—Homeless Management Information System

IDIS— Integrated Disbursement Information System

IHBG—Indian Housing Block Grant

IRS—Internal Revenue Service

IWISH—Integrated Wellness and Supportive Housing demonstration

JSPA—Joint Statistical Project Agreement

LEHC—Limited-Equity Housing Co-operative

LHC—Lead Hazard Control (grant program)

LIHTC—Low-Income Housing Tax Credits

MCO—Managed Care Organization

MDRT—Multidisciplinary Research Team

MHS—Manufactured Homes Survey (HUD)

MPS—Minimum Property Standards

MTO—Moving to Opportunity demonstration

MTW—Moving to Work demonstration

NCSHA—National Council of State Housing Agencies

NDNH—National Directory of New Hires dataset (HHS)

NFIP—National Flood Insurance Program

NHANES—National Health and Nutrition Examination Survey (NCHS)

NHIS—National Health Interview Survey (NCHS)

NOFA—Notice of Funding Availability

NSLAH—National Survey of Lead and Allergens in Housing

NSPIRE—National Standards for the Physical Inspection of Real Estate

OLHCHH—HUD Office of Lead Hazard Control and Healthy Homes

OMB—Office of Management and Budget, Executive Office of the President

OUD—Opioid Use Disorder

OZ—Opportunity Zone

PIC—Public and Indian Housing Information Center

PDF—Portable Document Format

PEI— Private Enforcement Initiative (fair housing)

PBV—Project-Based Voucher

PD&R—HUD Office of Policy Development and Research

PHA—Public Housing Authority, Public Housing Agency

PIC—PIH Information Center

PIH—HUD Office of Public and Indian Housing

PII—Personally Identifiable Information

PRA—Project Rental Assistance program

PUMS—Public Use Microdata Sample

QAP—Qualified Allocation Plan (for LIHTC)

QCT—Qualified Census Tract (for LIHTC)

R&T—Research and Technology (PD&R funding account)

RAD—Rental Assistance Demonstration

RCT—Random Control Trial

RDC—Research Data Center

REAC—Real Estate Assessment Center, PIH

RHFS—Rental Housing Finance Survey (HUD)

RHH—Rapid Re-Housing (homelessness)

ROC—Resident-Owned Community

ROSS—Resident Opportunities and Self-Sufficiency program

RHYA—Runaway and Homeless Youth Act of 1974

SAFMR—Small Area Fair Market Rent

SC—Service Coordinator program

SFHA— Special Flood Hazard Area

SME—Subject Matter Expert

SNAP-ENT—Special Nutrition Assistance Program-Employment and Training (USDA)

SOC—Survey of Construction (HUD)

SOI—Source of Income laws that prohibit housing discrimination against potential tenants with vouchers

SOMA—Survey of Market Absorption of Apartments (HUD)

TANF—Temporary Assistance for Needy Families (HHS block grant program)

TH—Transitional Housing

TRACS—Tenant Rental Assistance Certification System

UPCS—Uniform Property Condition Standards

UPSAI—Urbanization Perceptions Small Area Index

USDA—U.S. Department of Agriculture

USPS—U.S. Postal Service

VASH—Veterans Affairs Supportive Housing

VHO—Voucher Homeownership program

VOC—Voice of the Customer tool

VOYC— Voices of Youth Count study

U.S. Department of Housing and Urban Development
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