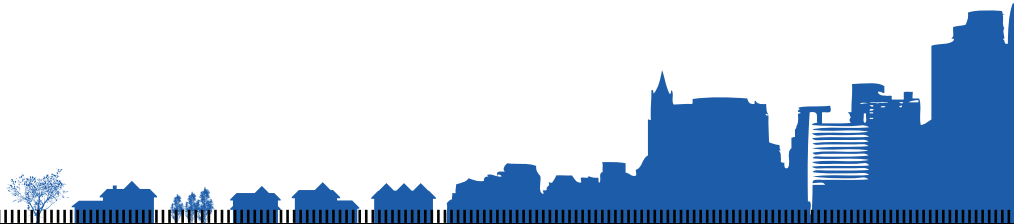# Learning Agenda:
Fiscal Years 2022–2026

PD&R

Learning Agenda:
Fiscal Years 2022–2026

U.S. Department of Housing and Urban Development

Office of Policy Development and Research

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Contents

1. Introduction

The U.S. Department of Housing and Urban Development (HUD) administers a diverse array of programs including, among others, 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; community development and housing block grants; homeless assistance grants; and disaster recovery support.[1] Since HUD's establishment 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 its constituents and that 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. As a part of this effort, PD&R leads the development of the HUD Learning Agenda, which integrates input from diverse stakeholder groups to define a four-year research and evidence building plan for the Department.

This Learning Agenda identifies key research opportunities for HUD to highlight for Congress in budget requests and Annual Evaluation Plans to generate a robust pipeline of research. More than previous evidence building plans, this Learning Agenda integrates evidence-building priorities for research and data collection from across the Department and aligns with HUD's strategic goals and objectives. This Learning Agenda reflects 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.

Requirements of the Evidence Act

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), Congress passed the bipartisan Foundations for Evidence-Based Policymaking Act ("Evidence Act") of 2018.[2] The Evidence Act and the Office of Management and Budget's implementing guidelines establish a number of important new requirements for federal agencies:[3]

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[1] https://www.huduser.gov/portal/publications/programs-of-hud.html

[2] 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.

[3] The primary implementation guidance is found in Memorandum M-19-23 (OMB, 2019a) and Circular A-11 (OMB, 2021; 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.

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

- 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 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."[4]

Evolution of the Research Roadmap into the Learning Agenda

HUD has been a leader among federal agencies in developing forward-looking evidence building plans. PD&R released its first *Research Roadmap FY 2014–FY 2018* in July 2013[5] and updated content in 2017 and again in 2020.[6] Over time the focus of the Roadmap broadened, going from including specific budget and cost estimates tied to specific requests to focusing on more aspirational project ideas. At their core, however, these research plans have served to document the diverse interests in the housing and community development research field and to identify the needs and opportunities for evidence building within HUD programs.

HUD's experience developing the Roadmaps dovetails well with the requirements of the Evidence Act, but the Evidence Act has also spurred an important evolution in HUD's planning. Past Roadmaps

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[4] https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf

[5] 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.

[6] All three Research Roadmaps are available at https://www.huduser.gov/portal/about/pdr_learningagenda.html.

centered around research projects for PD&R to conduct, and often were the basis for requests to Congress for evaluation funding or the framework for in-house research. Starting with the *Research Roadmap: 2020 Update*, which served as the Department's Interim Learning Agenda, the team has sought to broaden the focus to include evidence building efforts across HUD. This Learning Agenda presents a Department-wide set of questions and will be an actionable guide that can inform a wide swath of evidence building activities.

Stakeholder Engagement

Input and support from members of the academic community, practitioners implementing programs, and policymakers at the federal, state, and local levels has helped inform the development of HUD's evidence building plans since the first Roadmap in 2013. Feedback and direct collaborative conversations with these stakeholders is invaluable in helping identify the most policy-relevant and timely research questions in the fields of housing and community development. Stakeholder engagement strategies have evolved over the course of the last decade. Updates in 2017 and 2020 broadened the use of web-based tools and expanded targeted outreach to external stakeholders.

The *Learning Agenda: FY 2022–2026* used the Interim Learning Agenda (the Research Roadmap: 2020 Update) as a foundation and launched a renewed stakeholder engagement effort using a combination of online outreach and collaborative virtual meetings. The Learning Agenda team asked stakeholders to consider the content of the Interim Learning Agenda and to identify what needed to be added and what needed to be amended. HUD recorded hundreds of suggestions from stakeholders that included HUD leadership, HUD career staff, external researchers, representatives of policy and advocacy organizations, people with lived experience in HUD programs, and staff at the federal, state, and local level. The resulting list of learning questions constitutes Section 2 of the Learning Agenda.

The stakeholder engagement process does not end when the Learning Agenda is published. The Learning Agenda team will continue to seek feedback from internal and external partners and revisit the priority research questions and the structure through which the Department will approach answering them. This ongoing stakeholder engagement is consistent with the intent that the Learning Agenda be a living document that is revisited periodically throughout the four-year operational window. More information about the Learning Agenda team's approach and process for stakeholder engagement can be found in Appendix A.

Alignment with the Strategic Plan and Administration Priorities

The Evidence Act closely associates Learning Agendas with agency Strategic Plans. Agency strategic plans must include material on evidence building, align with agency Learning Agendas and reflect knowledge gained through evidence-building activities. HUD's Learning Agenda is designed to support the goals and objectives articulated in HUD's Fiscal Year 2022–2026 Strategic Plan and shown in Exhibit 1.

Exhibit 1. HUD's Strategic Goals and Objectives, Fiscal Year 2022-2026

Strategic Goals	Strategic Objectives
Strategic Goal 1: Support Underserved Communities—Fortify support for underserved communities and support equitable community development for all people.	• 1A: Advance Housing Justice • 1B: Reduce Homelessness • 1C: Invest in the Success of Communities
Strategic Goal 2: Ensure Access to and Increase Production of Affordable Housing—Ensure housing demand is matched by adequate production of new homes and equitable access to housing opportunities for all people.	• 2A: Increase the Supply of Housing • 2B: Improve Rental Assistance
Strategic Goal 3: Promote Homeownership—Promote homeownership opportunities, equitable access to credit for purchase and improvements, and wealth-building in underserved communities.	• 3A: Advance Sustainable Homeownership • 3A - Major Initiative: Expand Homeownership Opportunities • 3B: Create a More Accessible and Inclusive Housing Finance System
Strategic Goal 4: Advance Sustainable Communities—Advance sustainable communities by strengthening climate resilience and energy efficiency, promoting environmental justice, and recognizing housing's role as essential to health.	• 4A: Guide Investment in Climate Resilience • 4B: Strengthen Environmental Justice • 4C: Integrate Healthcare and Housing
Strategic Goal 5: Strengthen HUD's Internal Capacity—Strengthen HUD's internal capacity and efficiency to better ensure delivery of HUD's mission.	• 5A: Enable the HUD Workforce • 5B: Improve Acquisition Management • 5C: Strengthen Information Technology • 5D: Enhance Financial and Grants Management • 5E: Improve Ease, Effectiveness, and Trust in HUD Services

Centering Equity

Consistent with President Biden's Executive Order 13985, HUD seeks to integrate equity considerations into all facets of the Department's work, including the Learning Agenda. To guide this long-term equity work, HUD established an Equity Leadership Committee comprising career and political staff and an Equity Working Group with participation from a variety of HUD offices.

During the first 200 days of the Biden-Harris Administration, this equity team completed the Department's first equity assessment. The Department has also created other issue-specific task forces that align with HUD's broader equity work and will develop an Agency Diversity, Equity, Inclusion, and Accessibility Strategic Plan. As these workstreams develop and mature, HUD anticipates updates to the priority learning questions and/or research questions in HUD's Learning Agenda. This version of the Learning Agenda includes learning questions addressing the following aspects of topics that reflect HUD's equity focus:

- Increasing equitable access to homeownership and other wealth-building opportunities;
- Understanding and addressing the health needs of disadvantaged populations in HUD-assisted housing;

- Assessing how recipients of HUD funds address their responsibilities to Affirmatively Further Fair Housing; and
- Filling data gaps identified in HUD's first equity assessment.

The Learning Agenda includes questions and project descriptions that incorporate a focus on equitable outcomes, implementation, and impacts of HUD programs and policies. The team collaborated with HUD's Equity Leadership Committee and Equity Working Group to ensure that the Learning Agenda fully supports the Department's learning needs with respect to reversing inequities in federal housing policy and practice and prioritizing equity in all HUD programs.

HUD's Evaluation Policy Statement

HUD's Evaluation Policy Statement articulates the core principles and practices of HUD's evaluation and research activities (HUD, 2021). HUD updated the Evaluation Policy Statement in August 2021, reaffirming the Department's commitment to conducting rigorous, relevant evaluations and to using evidence from evaluations to inform policy and practice. The Department's Evaluation Policy applies to all HUD-sponsored evaluations and regulatory impact analyses; the policy also applies to the selection of projects, contractors, and HUD staff that are involved in evaluations.

Section 311 of the Evidence Act[7] defines ''evaluation'' to mean ''an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency.'' HUD's Evaluation Policy Statement identifies six core principles and practices as fundamental to ensuring high-quality and consistent evaluation results. Exhibit 2 presents the core principles and practices with excerpts from the Evaluation Policy Statement.

Exhibit 2. Overview of Core Principles and Practices from HUD's Evaluation Policy Statement[8]

Principle	Sample language from Evaluation Policy Statement
Rigor	• "In assessing the effects of programs or services, HUD 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." • "Where feasible, research should employ a treatment group and a counterfactual." • "In both quantitative and qualitative research, rigor means having clear research questions and an explicit analytic framework; justification for case selection and sampling methods in relation to research goals; and transparent, verifiable methods of systematic data collection and analysis, auditable records, and attention to possible alternative interpretations during analysis and writing."

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[7] See 5 U.S.C. 311 at https://www.congress.gov/115/plaws/publ435/PLAW-115publ435.pdf.

[8] HUD Evaluation Policy Statement: https://www.govinfo.gov/content/pkg/FR-2021-08-13/pdf/2021-17339.pdf

Principle	Sample language from Evaluation Policy Statement
Relevance	• "The HUD evaluation agenda reflects the legislative requirements and policy issues related to HUD's mission." • "HUD solicits input from stakeholders, both internal and external, including stakeholders with lived experience, such as program participants, and grantees, on the selection of programs to be evaluated, initiatives, demonstrations, and research questions. • HUD strives to design program evaluations and other analyses to better understand structural racism and to reveal unequal benefits and harms across social groups as relevant. • HUD disseminates findings in ways that are accessible and useful to policymakers, practitioners, and members of communities affected by HUD programs and policies."
Transparency	• "HUD 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." • "HUD will, where possible, archive administrative and evaluation data for secondary use by interested researchers."
Independence	• "HUD conducts evaluations through the competitive award of grants and contracts to external experts who are free from conflicts of interest." • "HUD also conducts evaluations in-house and supports unsolicited external evaluation proposals with funding, data, or both." • "The Evaluation Officer will consult with the HUD office with lead responsibility on the design of evaluation projects and analysis plans and will advise that office on whether to publish evaluation reports."
Ethics	• "HUD-sponsored evaluations must be conducted in an ethical manner and safeguard the dignity, rights, safety, and privacy of participants." • "…PD&R allows no disclosure of information about the characteristics of any group of individuals or households numbering fewer than eleven by PD&R staff, contractors, grantees, or licensees." • "HUD does not tolerate plagiarism, or fabrication or deliberate mischaracterization of data by staff, contractors or grantees who are engaged in evaluation activity."
Technical Innovations	• "PD&R supports and employs new methods of data collection and analysis that more reliably and efficiently answer research questions than old methods do."

Policy Framework for the Learning Agenda

To span the full breadth of Learning Activities shaping HUD's programs, the organization of the Learning Agenda differs from that of the Department's Strategic Plan. The Learning Agenda groups learning and research questions into 11 Policy Topics, some of which are crosscutting:

- Community Development and Place-based Initiatives
- Core Housing Programs
- Disaster Recovery, Energy, and Climate Change
- Fair Housing
- Homeownership
- Housing Finance and Affordable Housing Supply
- Housing and Health

- Indian and Tribal Issues
- Self-sufficiency and Economic Opportunity
- Vulnerable and Special Populations
- Enhanced Data and Methods

This organizational structure reflects how teams focused on research, evaluation, and evidence building across the department approach their work. The 11 Policy Topics are meant to capture the full scope of issues related to HUD programs and the Department's mission but are not mutually exclusive. While the organizational approach to sorting these questions may be distinct from that of the Strategic Plan, the Learning Agenda is designed to build evidence in support of the Strategic Goals and Objectives articulated by the Department. Exhibit 3 demonstrates the primary alignment of the 11 policy topics in the Learning Agenda to the Department's five Strategic Goals, while recognizing that topics can align with different goals in multiple ways. Each policy topic is flexible enough to contribute to most, if not all the Strategic Goals, however we present a single primary alignment to highlight where the balance of the research questions under each topic contribute to Departmental goals.

Exhibit 3. Alignment of Learning Agenda Policy Topics to HUD's Strategic Goals

Policy Topic	Primary Aligned Strategic Goal
Community Development and Place-based Initiatives	Goal 1: Support underserved communities
Core Housing Programs	Goal 2: Ensure access to and increase production of affordable housing
Disaster Recovery, Energy, and Climate Change	Goal 4: Advance sustainable communities
Fair Housing	Goal 1: Support underserved communities
Homeownership	Goal 3: Promote Homeownership
Housing Finance and Affordable Housing Supply	Goal 2: Ensure access to and increase production of affordable housing
Housing and Health	Goal 4: Advance sustainable communities
Indian and Tribal Issues	Goal 1: Support underserved communities
Self-sufficiency and Economic Opportunity	Goal 2: Ensure access to and increase production of affordable housing
Vulnerable and Special Populations	Goal 1: Support underserved communities
Enhanced Data and Methods	Goal 5: Strengthen HUD's internal capacity

2. Learning Questions for Evidence Building

The research questions featured in this Learning Agenda are organized by the 11 policy topics. Each policy topic has a Foundational Learning Question that is supported by a set of Priority Research Questions. Appendix B provides a full list of Foundational Learning Questions and Priority Research Questions by policy topic. Each Priority Research Question includes a proposed project or set of activities the Department could pursue to address the question. These short descriptions of research, evaluation, and data collection activities are not meant to present a definitive approach but rather to offer a potential, feasible path to addressing these pressing questions. HUD expects to continue to refine the learning questions and proposed approaches over the lifecycle of the Learning Agenda through ongoing stakeholder engagement and feedback on administration and Congressional priorities.

Community Development and Place-based Initiatives

As reflected in HUD's name, urban and community development activities are central to many of the Department's programs. Improving the physical character, housing quality, public safety, economic opportunity, amenities, and equity in the built environment is essential to helping communities and their residents thrive. The research questions presented under this policy topic align with HUD's Strategic Goal 1: *Support for underserved communities*, through which HUD seeks to fortify support for underserved communities and support equitable community development for all individuals residing in the United States. The questions build the evidence base on HUD's programs and initiatives designed to foster housing and neighborhood revitalization, improved quality of life, and economic development.

Foundational Learning Question: *How can federal policy most effectively support equitable community development, place-building, and quality of life improvements in American communities?*

Priority Research Questions:

Top Priority - What were the outcomes of the Choice Neighborhoods program for both residents and the communities in which it was implemented?

Choice Neighborhoods Evaluation – The Choice Neighborhoods program was created in 2010 to support reinvestment in distressed neighborhoods with deteriorating public or HUD-assisted housing. HUD has an ongoing evaluation of Choice Neighborhoods (scheduled to be completed in 2023) that focuses primarily on the five sites that received grants in the first round of funding. A total of 40 grants for nearly $1.2 billion have been awarded and many of those grants have completed their primary redevelopment activities. This new study of Choice Neighborhoods, either as an expansion of the existing evaluation or one including additional communities, would examine more comprehensively the effects of the program over a longer time period. Topics for evaluation would include the extent to which: the HUD-assisted housing and surrounding neighborhood substantially improved; the redevelopment activities were associated with positive fair housing outcomes for the neighborhoods, baseline residents, and other low-income residents, such as desegregation, increased accessible housing, or increase in equitable access to opportunity for residents; baseline residents benefited from the redevelopment and in what ways (e.g., economic, educational, health); baseline residents returned after redevelopment, moved

with vouchers, or left assistance; and the redevelopment created and preserved affordable housing opportunities for other low-income residents.

How effective are CDBG economic development activities across different community types and program approaches?

Use of CDBG for Economic Development – The Community Development Block Grant (CDBG) program—including its loan guarantee component, Section 108—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. Nevertheless, a study of the use of CDBG funds across different communities and of the effectiveness of various strategies could highlight best practices that could help HUD and local partners administer the program more equitably and effectively in different contexts. This research could use longitudinal analysis of CDBG spending activity in relation to business starts and business longevity, using DUNS data in CPD's Integrated Disbursement Information System (IDIS) database. The analysis could explore topics such as: which of the CDBG economic development interventions have the most transformative impact on a neighborhood or commercial corridor, or what is the long-term survival rate for businesses supported by CDBG activities, or what is the overall impact on business success in areas with CDBG spending. IDIS data are essential for this research and could be combined with other national and local datasets.

To what extent does CDBG investment benefit low- and moderate-income persons and individuals who are members of protected class groups or underserved communities?

Equity in the CDBG Program – The CDBG program is meant to serve low- and moderate-income communities but the actual distribution of funds or benefits to these two sets of households has not been evaluated. This study could begin by comparing the ratio of CDBG spending targeted to low-income or moderate-income households to the ratio of total low-income and moderate-income households in a grantee's jurisdiction. This analysis should be replicated for different definitions of disadvantaged and underserved communities, including persons of color, individuals with disabilities, and the other protected classes under fair housing and civil rights laws; and may also be replicated for persons who live in rural areas, and persons otherwise adversely affected by persistent poverty or inequality. Discrepancies between the spending ratio and the population ratio could prompt further analysis of why the activities are not equitably distributed, what HUD or its grantees could do to remove barriers to more equitable distribution and the impact of that inequity. Further analysis could consider discrepancies in need among communities due to past disinvestment or other factors and whether benefits are being distributed in proportion to each community's respective needs.

How are CDBG grantees using the Section 108 loan guarantee program to support innovative affordable housing and economic development models?

Financing Affordable Housing and Economic Development – The Section 108 Loan Guarantee Program provides communities with a source of low-cost, long-term financing for economic and community development projects. The program allows local governments to leverage portions of their CDBG funds into federally guaranteed loans large enough to pursue physical and economic revitalization projects capable of redeveloping entire neighborhoods. HUD produced a study of the program in 2012

(Econometrica, 2012). To further explore how this program can serve as a platform for innovative affordability models, this project could produce case studies on the use of Section 108 in developing affordable and accessible manufactured housing and shared equity housing and in supporting small businesses, workforce training, and other economic development activities.

How can HUD support and increase access to healthy environments in communities through assets connected to place-based investments?

Place-based Investments as a Platform for Opportunity – Over the past decade there has been increased interest in the concept of opportunity areas, which may provide greater benefits based on the presence of various necessities or amenities sometimes referred to as "opportunity assets." Various definitions and methodological approaches have been explored for both opportunity areas and opportunity assets, which may differ depending on household types or needs to be addressed. As an initial matter, a research project would conduct a literature review and a review of available data sources to measure different types of opportunity assets. Research in more depth would consider to what extent existing HUD programs contribute to or provide greater access to various opportunity assets, including health care, access to jobs, transportation, schools or other key assets. HUD programs that could be considered include CDBG, Section 108, Choice Neighborhoods, or other place-based investments, as well as the Housing Choice Voucher program and other mobility approaches. Providing research-based evidence can help inform a wide variety of public policy issues, including both mobility and place-based approaches.

To what extent can technical assistance build capacity and improve financial management of distressed local governments?

Distressed Cities Technical Assistance Evaluation – Technical assistance is a key component of HUD's work. Distressed Cities Technical Assistance (DCTA) is a relatively new program created to provide support to smaller towns and cities that often do not have the opportunity or capacity to access HUD's programs. Given DCTA's focus on these smaller places, evaluating its impact might provide insight into how HUD could expand its programs to smaller jurisdictions. An evaluation would identify desired outcomes from the individual TA engagements and evaluate whether and to what extent those outcomes were achieved. Two particular elements of the program could be considered of special interest: the program's central focus on increasing financial management capacity and how long any increase in the TA recipient's capacity to manage their finances is maintained after the engagement has ended.

How effective are homeowner rehabilitation programs at improving individual quality of life and what effect do they have on neighborhood quality?

Home Rehab Study – This research would examine the effectiveness of homeowner rehabilitation subsidies flowing through the HOME Investment Partnerships program (HOME), the Federal Housing Administration (FHA)-insured Section 203k mortgage program, and any other similar proposed programs. 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 study would examine the effects of these programs for homeowners, including variations by owner characteristics, program outcomes related to property values, housing quality, quality of life, and accessibility for occupants with disabilities, and variations associated with program incentives in Opportunity Zones (OZs) where the 203k Limited loan limit is increased to $50,000, rather than $35,000 outside of OZs.

How much affordable housing is created within Opportunity Zones, and what is the broader change in housing affordability in those areas?

Affordable Housing Development in Opportunity Zones – Under the Tax Cuts and Jobs Act of 2017, Qualified Opportunity Funds can benefit from capital gains tax advantages for investments in designated Opportunity Zones. Such equity investments can complement diverse financing arrangements to generate affordable multifamily housing in OZs: investing in Low Income Housing Tax Credit (LIHTC) developments; taking advantage of FHA fee reductions for mortgage insurance; using state and local incentives for affordable housing development in OZs; and participating in the government-sponsored enterprises' mission-driven priorities for multifamily loan purchases (e.g., properties with 25 percent of units reserved for households below 60 percent of area median income). This study of OZ housing production would examine rates and types of housing development in a sample of OZs relative to comparison areas and identify the mix of financing mechanisms used, with a particular focus on other affordable housing capital programs. The local-level focus could also include analysis of broader outcomes, including market dynamics in the existing housing stock that is not being directly financed in connection with an Opportunity Fund. In addition, the research could consider the demographic composition of the OZs in which affordable housing has been produced in conjunction with whether the OZ designation accompanied any demographic change. The research could also consider the access to opportunity, or lack thereof, available to residents of the newly produced affordable housing and whether the OZ designation was associated with any improvements to such access. The research would assess the extent to which the tax subsidy for OZ investments is achieving public purposes and inform policy decisions about how to enhance the program's benefits.

What has been the impact of the HOPE VI Urban Revitalization program over 20 years?

Long-Term Evaluation of HOPE VI – Between 1993 and 2010, the HOPE VI program demolished approximately 98,000 public housing units and produced approximately 97,000 mixed-income units. Research on the long-term effects of HOPE VI has been limited. HUD published *An Historical and Baseline Assessment of HOPE VI* (Abt Associates, 1996) and an *Interim Assessment of HOPE VI* (Holin et al., 2003), but these studies focused on only a few sites and HUD never published a long-term follow-up. A 2009 book *From Despair to Hope* presented a series of articles on HOPE VI (Cisneros and Engdahl, 2009) and a 2016 HUD report *HOPE VI Data Compilation and Analysis* (Gress et al., 2016) summarized characteristics of units demolished and constructed through HOPE VI. However, none of these studies have provided conclusive evidence on key topics, such as: how HOPE VI affected outcomes for residents (including those present at baseline and those who moved in after redevelopment); whether HOPE VI grants significantly improved neighborhoods relative to a compelling counterfactual; and the extent to which any improvements from HOPE VI have been sustained over the long term (20 years since grants

were made). This study would strive to answer those questions using a mixed methods approach similar to the approach HUD is currently using to evaluate HOPE VI's successor program, Choice Neighborhoods.

What are the personal reasons, outcomes, and destinations of households who leave gentrifying neighborhoods? What motivations and perceptions of neighborhood change influence the choices of leavers and stayers?

Outcomes and Decisions of Tenants in Neighborhoods Experiencing Redevelopment – 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 where they live after these moves tends to decrease. PD&R published the *Displacement of Lower Income Families in Urban Areas Report* (HUD-PD&R, 2018) in response to the request by House and Senate Appropriations committees for HUD to examine the effects of rapidly rising rents in urban areas across the nation and avoid displacement. This research could use HCV program administrative data and feedback from public housing agencies to study the motivations, positive and negative outcomes, and destinations of households leaving neighborhoods experiencing redevelopment. For this study, the research team would build on existing analysis of HCV administrative data by conducting site visits in metropolitan areas that have experienced significant rent increases. The research team would interview HCV program participants from neighborhoods with rising rents to ascertain the motivations and perceptions that influenced their decisions to remain in or leave the neighborhood. The study would examine patterns or disparities in the HCV program participants' motivations, outcomes, or destinations, as well as any related effects of historic or present discrimination.

What are the housing needs of agricultural workers?

Farmworker Housing Access and Quality – People who work in agriculture, including seasonal, migrant farmworkers and those who live in communities permanently, face a range of barriers to safe, adequate, and affordable housing. In coordination with other federal stakeholders, such as the U.S. Department of Agriculture (USDA), the U.S. Census Bureau, and the U.S. Departments of Labor and Interior, this research effort could explore options for adding questions to existing surveys to learn more about the affordability, availability, and quality of housing for farmworkers, agricultural areas, and people living in rural communities. The research could also identify innovative models for providing temporary and permanent housing for farmworkers and in heavily agricultural communities to highlight best practices of federal, state, and local policy makers.

Core Housing Programs

HUD funds three main types of deep-subsidy rental assistance programs to provide housing stability for very low-income households. Public housing agencies (PHAs) administer public housing and the tenant-based HCV program, and private housing providers operate Project-based Rental Assistance (PBRA) and other types of assisted multifamily programs. The unmet need for housing assistance is great, so it is crucial for the Department to continually build evidence to make these programs more cost-effective, serve more of the unmet needs, and ensure that program participation is beneficial during the relatively

short stays of most assisted households. The research questions presented under this policy topic align with HUD's strategic Goal 2*: Ensure access to and increase production of affordable housing,* through which HUD seeks to increase access to safe, stable, accessible, and affordable housing for those at high risk of homelessness or housing instability, and to ensure that the services and supports available to families receiving HUD assistance are flexible enough to meet families' varied needs and build on family strengths.

Foundational Learning Question: *How can HUD most effectively meet needs for high-quality, rent-assisted housing that supports housing security and economic advancement?*

Priority Research Questions:

Top Priority - What are the most effective ways of engaging with and attracting landlords to the voucher program?

Moving To Work (MTW) Demonstration Program Evaluation: Landlord Incentives Cohort – Congress has authorized HUD to expand the MTW Demonstration program to 100 new housing authorities, including at least 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. Expansion agencies in this cohort will implement activities such as increased payment standards, up to one month of contract rent to new HCV landlords, and modified inspection schedules. The research will begin in fiscal year 2022 and will rely on a mix of existing administrative data and new data collections to measure landlords' willingness to participate in the voucher program. 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.

What would change if tenant-based rental assistance programs made payments directly to tenants?

Direct Rental Subsidy Demonstration – In the 1970s, HUD ran the Experimental Housing Allowance Program (EHAP) to test tenant-based housing subsidies, informing the design of the Housing Choice Voucher program. A notable feature of EHAP, which was not adopted by the HCV program, is that the subsidy was paid directly to the assisted household rather than directly to the landlord. Today, landlord participation is one of the biggest challenges for the HCV program. Approximately 40 percent of households that receive a voucher fail to use it, often because they can't find a landlord who will accept the voucher. In the HCV program, the tenant pays rent to the landlord that is roughly equivalent to 30 percent of their household income and the PHA pays the landlord the difference between the unit's total rent cost and what the tenant pays. If the PHA paid the subsidy to the tenant, and the tenant then paid the entire rent to the landlord—similar to the EHAP model—landlords might be more willing to accept subsidized tenants as they would have less need to interact with a third party, the PHA. This study would use a randomized controlled trial to compare outcomes for households that receive their rental subsidy directly from the PHA and households participating in the regular HCV program. Specific features of the direct rental subsidy would require further discussion; it could retain many features of the HCV program (inspections, income-based subsidy level, payment standards to cap the subsidy) or it could be more like a flexible cash transfer. Testing a more flexible cash-like subsidy would help to inform

debates around cash assistance programs (such as a guaranteed basic income) and how such programs affect housing outcomes. For example, it may be that recipients of cash assistance have fewer financial hardships, but recipients of regular housing vouchers have higher quality housing. This study would provide important evidence to inform the future of housing policy and anti-poverty policy more broadly.

What would it take to improve accessibility in the federally assisted housing stock, including public housing and privately owned multifamily housing?

Assisted Housing Accessibility Study – More than half of all tenants in public housing and in privately owned subsidized housing either have a mobility disability or are age 65 or older. There are five times more tenants with mobility disabilities living in public housing than there are accessible units available. In addition, twice as many tenants with mobility disabilities live in privately owned subsidized housing than in public housing, and there is little data on the accessibility of the privately owned subsidized housing stock. Federal nondiscrimination and accessibility laws lay out accessibility standards for housing. However, more than half of the assisted housing stock was constructed prior to the enactment of Section 504 of the Rehabilitation Act (Section 504) and HUD's Section 504 implementing requirements, which apply to recipients of federal financial assistance and include physical accessibility requirements for federally assisted housing. In addition, the vast majority of multifamily housing was constructed prior to the Fair Housing Act. Titles II or III of the Americans with Disabilities Act (ADA) may also apply. There are no specific federal grant programs or appropriations for the specific purpose of making an entire affordable housing stock accessible. This research would conduct two phases of data collection. In the first phase, the study would collect data on the accessibility of public and subsidized housing and on the specific accessibility features needed by tenants through one of two means: (a) a survey of developments and residents or (b) a data matching project. As part of the first phase, the study would also analyze how accessibility affects the propensity of residents with disabilities and limitations to leave HUD-assisted housing. In the second phase, the study team would conduct in-person physical inspections of a sample of developments to verify the results of the survey and estimate the cost of making accessibility modifications. Given of the high cost of physical inspections, the second phase of the project could be combined with a broader capital needs assessment of public housing for cost efficiency.

How does housing quality affect assisted housing tenure, employment, health, and quality of life outcomes of public housing and HCV tenants?

Effects of Housing Quality – Public and assisted multifamily housing is found with a broad range of physical conditions. Housing quality problems, including accessibility barriers, may result from age of the stock, obsolescence, and inadequate funding for capital 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, employment, and quality of life. This study would link project- and unit-level Real Estate Assessment Center (REAC) physical inspection data with data on outcomes for assisted households to produce national summary-level analyses of associations between housing conditions (including programs and building types) and tenant outcomes. Linkage with National Directory of New Hires (NDNH) data could support analysis of employment outcomes. Linkage with the American Housing Survey, including Healthy Homes modules, could support

analyses of household demographics, tenant-reported housing and neighborhood conditions, and other tenant outcomes. Linkages to national health surveys or Centers for Medicare and Medicaid Services (CMS) data could help explore tenant health outcomes.

What are the tenant, neighborhood, and PHA outcomes associated with the implementation of Small Area FMRs?

Small Area FMR Implementation – Small Area Fair Market Rents (SAFMRs) provide PHAs managing the 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. HUD launched the SAFMR Demonstration in 2012 at five PHAs. A rigorous evaluation of the demonstration, completed in 2018, found positive results for the five participating PHAs (Dastrup et al., 2018). In 2016, HUD published the final SAFMR rule, requiring PHAs operating in 24 metropolitan areas to use SAFMRs and requiring HUD to make SAFMR designations every five years. This study would provide an expanded evaluation of tenant, PHA, and neighborhood outcomes among the 200+ PHAs currently operating using SAFMRs. The study could include research on families' search strategies and motivations for moving using SAFMRs, a special focus on neighborhoods where the SAFMR is below the metropolitan-area-wide fair market rent (FMR), research on landlord acceptance of SAFMRs, and a study of PHA administrative and subsidy costs. The study would contribute substantially to the knowledge base on what has become a critical policy lever for the HCV program.

What are the barriers to applying for federal housing assistance, especially for individuals who are members of protected class groups or underserved communities, and would tools that facilitate applying for housing assistance address them?

Housing Resource Locator Pilot – People seeking housing assistance often cannot rely on their local Housing Authority alone to provide access to affordable housing. Local affordable housing programs, other housing authorities in a community, and individual multifamily properties commonly all have different application portals, making it difficult to know whether and where subsidized units might be available. This research would conduct an environmental scan to document the barriers to applying to federal housing assistance across the country and whether and how the barriers contribute to inequities in access to programs. The environmental scan would likely include a literature review, analysis of existing administrative data, and interviews or focus groups with diverse groups of people eligible to apply for federal housing assistance. A second phase of the research could design a pilot project to create local or state-level eligibility and application windows that provide a one-stop-shop for people to seek housing assistance. HUD has an existing tool, the Housing Resource Locator, which HUD plans to enhance to make it more friendly and relevant and which could be part of the pilot. If feasible and effective at reducing barriers, the study could then consider how to bring the pilot to scale.

What is the pattern and distribution of voucher portability in the Housing Choice Voucher Program?

Documenting Voucher Portability – 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, the 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 operational and cost outcomes as well as tenant outcomes in terms of pre- and post-portability neighborhood characteristics (including economic opportunity and minority concentration) and earned income. The study should consider what barriers porting tenants face in relocating to well-resourced areas of opportunity. This work would help HUD understand 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 support porting families and empower smaller PHAs to serve families 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.

How can HUD better support students in post-secondary education who are at risk of housing insecurity and homelessness?

Evaluation of the College Housing Assistance Program model – Homelessness and housing insecurity among students are reported by many four-year colleges and community colleges, with foreseeable negative impacts on degree completion and student health and wellbeing. Particularly among community colleges, many students do not fit the mold of a traditional student: these students are often older, have children, and have jobs or seek employment while attending college. An ongoing PD&R partnership grant is studying the implementation and impacts of a voucher program for homeless and near-homeless college students. Known as CHAP, this program is a partnership between the Tacoma Housing Authority and the Tacoma Community College. The housing authority uses its flexibilities as an MTW site to offer vouchers for the students, and the community college provides outreach and case management for students. The study would replicate this effort in a larger number of sites and communities, either through MTW authority given to a select group of PHAs or through innovative partnerships with other schools and service providers, in order to learn more about how this approach could work at scale. An outcomes evaluation could look at students' experience of barriers when attempting to find housing, such as landlord discrimination, administrative burden, and finding housing, along with impacts of the housing assistance on students' academic outcomes, health, and economic security.

What are the pros and cons of updating utility allowances through energy consumption modeling rather than relying on actual utility data in multifamily properties?

Utility Allowance Modeling – HUD requires multifamily owners and agents to analyze utility consumption data from their properties periodically to determine tenant utility allowances. The process by which owners collect tenant bills can be time consuming and difficult. A HUD Utility Schedule Model developed in recent years offers a starting point for a more streamlined process that does not require collecting tenant bills. This study would explore whether energy consumption modeling for existing properties

could be as accurate as collecting tenant utility bills and would compare the administrative cost of the two approaches.

How do energy standards affect the long-term viability of RAD conversions?

Energy Efficiency in the RAD program – 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 LIHTC tax credits. Capital secured in conjunction with a RAD conversion allows the owner to upgrade facilities and reduce backlogs of unfunded capital improvements. RAD requires projects undertaking rehabilitation with energy efficiency and health upgrades to use the most energy- and water-efficient options that are financially feasible and that are found to be cost-effective. Some states also may establish preferences or requirements for energy efficiency in their Qualified Allocation Plans (QAPs) for awarding LIHTC tax incentives. This study would evaluate RAD projects to assess energy and financial performance, describing energy-related improvements and their relationship to the "financially feasible" and "cost effective" criteria and, to the extent reliable data are available, measuring post-conversion energy performance against previous energy use.

How are PHAs implementing the Project-Based Voucher program?

State of the PBV Program – The Project-Based Voucher (PBV) program, a component of the HCV 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 grown from 24,000 units in 2015 to approximately 270,000 units in 2021. 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 November 2021, there were approximately 90,000 RAD-converted PBV units.[9] HUD has 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 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 research project would use available data on PBV properties to provide a picture of the PBV portfolio and conduct interviews with a sample of PHAs and property owners to understand the adequacy of asset and property management practices of non-RAD PBV properties. The study would employ a mixed-methods research approach that combines descriptive analysis of administrative and publicly available data for PBV properties and a qualitative analysis of PBV asset and property management approaches. This financial component of the work would require HUD to establish an internal working group focusing on

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[9] Data on the HCV program, including PBV units, is available at
https://www.hud.gov/program_offices/public_indian_housing/programs/hcv/dashboard.

real estate and asset management practices. This component would review best practices, prior research, and HUD's current asset management requirements, procedures, and systems, and conduct interviews with experts and HUD's real estate and asset management staff. 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.

Is the Project-Based Voucher program benefiting HUD's target populations and do underserved communities have equitable access to the program?

Access and Equity in the PBV program – 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) exceed 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 that do not fit the unit characteristics or service conditions required for many PBV units. This research project would analyze administrative data and conduct 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, and the equity implications of such a mismatch. The study would employ a mixed-methods research approach using HUD administrative data and interviews with PHAs, property owners, and resident organizations in a selected number of sites. The study is needed to understand which household types benefit from the expansion of PBVs and whether the program is consistent with HUD's goals for prioritizing equity.

What are the long-term social and economic outcomes of persons who have exited public and assisted housing?

Outcomes of Exiters – Using the American Community Survey (ACS), the American Housing Survey (AHS), and HUD administrative data. This project would link HUD administrative data with Census survey data in order to understand the long term social and economic trajectories of individuals and households that receive housing assistance at some point in their life cycle. By cross-walking Census survey dates with program participation episodes as recorded in HUD's administrative data, researchers would be able to identify three comparison groups: (1) those who were surveyed prior to receiving assistance, (2) those receiving HUD assistance at the time of the survey, and (3) those who had received assistance but were no longer receiving assistance when surveyed. This project would allow HUD to better understand the life cycles of HUD-assisted tenants and would facilitate the development of a new data product for the research community.

Disaster Recovery, Energy, and Climate Change

Recent decades have brought major increases in the frequency, geographic diversity, and costs of declared disasters. HUD's Community Development Block Grant-Disaster Recovery (CDBG-DR) funds have played a critical role in facilitating community recovery, and HUD is collaborating with the Federal

Emergency Management Agency (FEMA) to increase emphasis on resilience, mitigation, and equitable disaster preparedness, response, and recovery. Accelerating climate change has created urgency for evidence-informed improvements to disaster policy, energy efficiency, and other resilience and sustainability initiatives. The research questions under this policy topic align with HUD's strategic Goal 4: *Advance sustainable communities*, where HUD recognizes that health, climate resilience, environmental justice, and energy efficiency are central to the Department's mission and need to be embedded across HUD programs.

Foundational Question*: How can federal policy and funding best support disaster recovery, climate resilience, and sustainability and strengthen environmental justice?*

Top Priority - Does HUD need to modify the CDBG-DR allocation process to account for new needs related to climate change?

Accounting for Climate Change Adaptation in CDBG-DR Allocations – HUD allocates CDBG-DR funds using a standardized formula that incorporates information about disaster impact, hazard insurance, household incomes, and unmet needs. HUD continuously updates the allocation formula to ensure that grant funds across the country are equitably distributed. As climate change affects the severity and frequency of natural hazards such as extreme flooding, heat, and wildfire, the federal government, states, and communities are increasingly deploying climate change adaptation and risk reduction strategies as part of their disaster recovery plans to reduce future impacts, which has fundamentally changed the nature and costs of the recovery process. HUD has incorporated "resilience needs" into previous CDBG-DR allocations for unmet disaster recovery needs and has made CDBG-Mitigation (CDBG-MIT) grants to increase resilience by mitigating natural hazards. However, HUD needs better information about post-disaster adaptation needs and the costs of meeting them to understand whether and how to update the allocation formula to the extent permitted by appropriations acts that make the funds available. This research would conduct literature reviews and survey climate experts and practitioners administering disaster recovery plans to gather information about the needs and costs of climate change adaptation and resilience strategies incorporated into disaster recovery plans. Researchers could also collect cost data on existing projects and programs that could be factored into HUD's CDBG-DR and CDBG-MIT allocation formulas in order to further advance equity in the provision of grant funds. Since current information is limited, the results of this study would inform the extent to which climate change needs should be incorporated into allocations and what alternatives might exist for meeting such needs.

How do the impacts, costs, and resulting needs of slow-onset disasters compare with those of declared disasters, and what are implications for slow-onset disaster declarations, recovery aid programs, and HUD allocation formulas?

Examination of Impacts of Slow-Onset Disasters – HUD allocates CDBG-DR grants only for the most impacted and distressed areas resulting from major Presidentially declared disasters when resources from other public and private sources are not enough to meet the needs of the community. Such disasters are typically short term in nature, such as extreme weather events like severe storms, hurricanes, blizzards, floods, earthquakes, or wildfires that result in enough damage to qualify as "most impacted and distressed" within a given time period (typically, a one-year period). Research suggests

that climate change is causing a variety of extreme environmental changes and slow-onset hazards that result in enormous direct and indirect losses of property, property value, economic activity, livelihoods, public health, and human lives over a longer period of time. Examples of slow onset disasters include drought, permafrost melt, sea-level rise, and coastal inundation. Despite the devastating effects of slow-onset disasters, they are not typically declared major disasters by the President under federal authorities and the federal government is often limited in its ability to provide meaningful disaster aid in this context. This research would examine the impacts of slow-onset disasters on communities and compare the losses associated with slow-onset disasters to those associated with Presidentially declared major disasters. The research would also investigate legislative frameworks describing the federal government's role following major disasters in order to assess the implications of declarations of slow-onset disasters, federal recovery aid programs allocated by FEMA and SBA, and HUD CDBG-DR allocations. By exploring the needs that result from slow-onset disasters, the study could inform decisions about the role that HUD and other federal agencies could play in mitigation and recovery.

What HUD-assisted properties are repeatedly harmed by or at increasing risk of disasters and what is the cost to HUD? What are risks to HUD-assisted and other vulnerable populations?

Estimating Climate Risk and Losses of HUD Assets – HUD increases the affordability of housing 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 properties may be uninsured or underinsured for flood or wildfire risk, which increases financial risk to HUD and risks the loss of affordable housing to the communities in the event of a disaster. This study would determine the flood and wildfire risk exposure of public housing and the multifamily housing portfolio. The research would quantify the aggregate exposure at various geographic levels and analyze actual or modeled loss data to determine and/or estimate previous and anticipated losses. The research would entail an assessment of available risk data and other data that would be needed to institutionalize risk assessment across HUD program offices. The research would also examine cost-effective approaches for HUD risk management including property level mitigation and buyouts. Such an analysis would help HUD understand the fiscal implications of natural hazard risk to its portfolios and provide evidence to support a means of action. The results could inform potential strategies to address risks through physical mitigation and other policies and permit HUD to establish priorities for targeted assistance to HUD grantees. This type of data and risk assessment could also be applied more broadly to the general population, especially groups with particular vulnerabilities to climate and disaster impacts, areas of concentrated poverty, and the private housing market at large. Results of such assessments would inform housing, community development policy and practices, and serve as a valuable tool for developing risk reduction plans and strategies.

What enhancements to disaster-related data collection and data sharing between agencies are needed to improve coordination and accelerated recovery?

Assessment of Federal Disaster Recovery and Benefits Data Sharing – Following a natural disaster, individuals and communities must assemble resources from a variety of sources—personal savings, assets, or loans; private insurance; charity; and government programs. Federal programs are typically designed to fill in remaining gaps after other resources are exhausted, but federal agencies are often

uncoordinated and information that could streamline access to aid and the recovery process is not available or easily shared across agencies or with local grantees. HUD's CDBG-DR funds are allocated based on the unmet needs that remain after hazard insurance and other federal disaster aid from FEMA, SBA, and Army Corps has been awarded. If CDBG-DR grantees had ready access to high-quality data on unmet needs, the information could substantially accelerate the recovery process, support mitigation efforts, reduce waste and fraud, ease the paperwork burden for survivors, and lead to more strategic, equitable program design. HUD is negotiating 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 would follow completion of DRDP by engaging a 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 had 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 improve the efficacy of CDBG-DR funds and consider how to ensure the data sources are linked and accessible to those who need them. Finally, the research team would use the case study to develop 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.

How does the impact of CDBG-Disaster Recovery funding vary across communities, and how do impacts vary with local capacity?

Assessing CDBG-DR Grantee Capacity – CDBG-DR funding is typically distributed to states and local governments; the disaster areas, however, may be in smaller jurisdictions with limited capacity to spend the grants quickly and effectively. States may elect to provide grant funds to municipalities or HUD can provide grants directly to units of general local government and Indian tribes. These entities have varying levels of capacity but there is little information about how disaster recovery outcomes vary across communities with different capacity to manage the grants. The objective of this study would be to assess the capacity level of CDBG-DR grantees and to analyze how capacity and related challenges or strengths contribute to CDBG-DR recovery outcomes. The study would also attempt to disentangle HUD's role in grantee capacity, answering such questions as: Does the statutory cap placed on administrative funding hinder the recovery process of grantee communities? Is HUD assessing the right factors in grantees as part of the financial and management capacity pre-award certifications? What actions can HUD take before and during the execution of a CDBG-DR grant to address capacity challenges and to promote more effective pre- and post-disaster planning and long-term resilience? What are the demographic characteristics of the residents served by grantees facing capacity challenges, and do capacity challenges impact whether funds equitably benefit underserved communities, including protected class groups under fair housing and civil rights laws? How does the distribution of funds to state governments versus units of general local government impact which residents and jurisdictions

benefit from the grant? Ultimately the research would provide evidence to support policy and programmatic changes and would inform the deployment of technical assistance resources.

What are the outcomes of CDBG-Disaster Recovery buyout programs and are these programs administered equitably?

Efficacy and Equity in Post-disaster Buyout Programs – HUD CDBG-DR grantees have funded nearly 5,000 buyouts of properties in high-risk areas in an effort to permanently remove structures from areas likely to be impacted by natural hazards. Although this may be a cost-effective means of mitigating disaster risk, downsides may include neighborhoods losing residents and property tax revenue and households needing to relocate to new communities with unknown support systems, services, opportunities, and natural hazard risks. Further, though most communities choose to fund buyout programs that are voluntary, the lack of options for households following a disaster may limit real choice in relocating, especially for uninsured, low-income, minority, or senior homeowners, raising questions about inequitable access, limited choice in recovery options, and displacement. HUD does not collect detailed systemic information about the outcomes of households and neighborhoods associated with buyout programs. In order to better understand the efficacy of buyout programs in meeting their stated goals, the research team would collect data from CDBG-DR grantees that have implemented buyout programs and conduct interviews with program managers, staff, disaster recovery leadership, and program participants. Using both primary data collected and secondary administrative data from HUD, researchers would examine how communities decided to fund buyouts, what information they used to design their program, what factors affect households' decisions to accept a buyout, what barriers to participation were experienced by eligible households, what outcomes result from the program in neighborhoods and for households, whether individuals and communities of different racial groups and other protected classes equitably benefited from the program, and what the characteristics of the neighborhoods are to which residents relocated (e.g. access to opportunity, racial concentration). The results of the analysis could inform a set of principles and approaches to designing and implementing buyout programs and policies so as to improve equity in access and outcomes and ensure nondiscrimination throughout all programs.

Where do people go after a disaster?

Journey to Permanent Housing – The impacts of major disasters go beyond damage to property and infrastructure and direct injury to persons. They can ripple through the lives of residents through disruptions to housing and economic activity. Many residents experience housing instability that results from impacts to their homes, which can have complex and varied effects on the socioeconomic well-being of households as they try to make their way back to permanent housing. It is not uncommon for survivors to transition through multiple temporary sheltering arrangements such as congregate facilities, hotels and motels, or Temporary Transportable Housing Units (TTHU) and then to at least one direct housing arrangement (lease and repair or TTHU), all before they end up in permanent housing. These temporary housing situations can also be far from a household's pre-disaster community, adding to the challenges of recovery of households that need community support and are attempting to return to jobs, childcare, and schools. This research would seek to characterize households journey through different types of housing arrangements, providing a clear and precise picture of post-disaster housing

instability and how post-disaster housing trajectories may be different for distinct groups, specifically low-income and/or renter households. Researchers would gather data on number, type, and quality of temporary housing situations; duration of temporary housing situations and overall housing displacement; proximity of temporary housing situations from pre-disaster housing location; difference in quality of temporary from pre-disaster housing location and overall quality of housing, and other related data points that illustrate the housing instability of households before settling into permanent housing. The research approach could draw on existing public and private data files, and/or use qualitative interviewing and ethnographic methods to explore people's experiences in the wake of a disaster.

What is the optimal level of flood insurance coverage for the FHA single-family mortgage portfolio and how can flood insurance policies maximize coverage?

Optimizing flood insurance coverage requirements for the FHA single family mortgage portfolio – 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-year flood plain. Forthcoming rulemaking will allow consumers to purchase comparable private flood coverage or NFIP policies. Although having flood insurance is one way to build more economic resiliency in communities, it is unclear whether NFIP or options for private insurance provide adequate protection for homeowners impacted by flooding. Recent floods highlight the issue of high uninsured or under-insured losses. When flooding hit South Carolina in 2015, about 90 percent of insurance 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. Even homeowners with an NFIP insurance policy can be paid a maximum of only $250,000 under the program, which is often insufficient to cover major destruction caused by flooding. This study would evaluate the costs in time and money of uninsured and underinsured FHA-insured mortgagors and attempt to develop an "optimal" level of insurance coverage for FHA-insured mortgages, comparing costs of insurance against likelihood of flood damage and destruction over a 30-year return period. The research would answer the question of whether existing NFIP and private insurance policies offer optimal coverage for homeowners and would provide guidance on how to design insurance requirements such that compliance would minimize costs and maximize benefits to HUD and homeowners at high risk of flooding.

Are current building efficiency, safety and resiliency codes for various types of housing adequate?

Assessment of HUD and Vulnerable Building Efficiency, Safety, and Resiliency Codes – HUD programs mandate that assisted properties meet an array of building standards and codes to ensure they are safe, accessible, energy-efficient, and mitigate the risk of certain hazards. As HUD works to reduce greenhouse gas (GHG) emissions to combat climate change and reduce the risks of safety and environmental hazards to its portfolio of assisted and vulnerable housing, the Department has identified a need to assess the adequacy of its building standards and codes in meeting its latest climate change goals. This study would catalogue all of HUD's existing building codes and standards related to safety, GHG emissions/energy efficiency, and hazard mitigation, and would document how HUD mandates,

incentivizes, or encourages these standards/codes. The study could collect data on adoption of standards/codes to examine whether the means of promoting the codes are effective. Other types of vulnerable housing, such as tribal housing and older manufactured housing, may have lapsed or inadequate efficiency, safety, and resiliency codes, and should be considered in this research. It could also analyze existing quantitative data on code efficacy to examine whether the standard/code is adequate at achieving climate change goals for individual homes and across HUD portfolios and specific types on non-HUD housing, like manufactured housing. The research would ultimately provide policy recommendations for HUD program offices and other housing groups for updating codes/standards to meet new goals, consistent with applicable federal accessibility requirements, and for mandating, incentivizing, or encouraging them to promote adoption in order to reduce GHG and hazard and safety risk exposure to optimal levels.

How are climate change risk and disasters affecting mortgage performance, and what are implications of including climate risk in underwriting procedures?

Climate and Natural Disaster Risks to mortgage performance and MMI Fund – The changing climate is causing an increase in the number and severity of extreme weather events that can leave considerable destruction in their wake, including loss of life and property and economic damage. These natural disasters can place a significant burden on homeowners as mortgage payment and reconstruction costs can trigger mortgage default. Performance data recorded by FHA, as well as previous HUD research, show that default rates increase after natural disasters. Using data on FHA's Section 203(b) mortgage insurance program, the National Mortgage Database, and disaster data from FEMA, this study would evaluate the impact of natural disasters on the housing finance ecosystem, broadly, and loan performance, including delinquency and default, specifically. In addition to examining mortgage performance, the analysis would also examine the effect of flood insurance in loan performance and reducing FHA losses. This study could be extended to include the role of FHA's loss mitigation actions in preventing foreclosure and reducing losses. Acquiring appropriate FEMA data on NFIP policies and claims as well as registrations to FEMA's Individuals and Households Program may be a significant challenge for the study.

Fair Housing

The Fair Housing Act, as amended, prohibits discrimination in housing on the basis of race, color, national origin, religion, sex, familial status, or disability. HUD's Office of Fair Housing and Equal Opportunity (FHEO) investigates fair housing complaints, conducts compliance reviews, ensures civil rights in HUD programs, and administers fair housing grants. Technology-driven changes in advertising, negotiations, and financing of housing pose new challenges for ensuring that housing is free from discrimination. HUD also has jurisdiction for other federal civil rights laws including Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of Title I of the Housing and Community Development Act of 1974, Title IX of the Education Amendments Act of 1972, the Age Discrimination Act of 1975, Title II of the Americans with Disabilities Act, and the Architectural Barriers Act. The research questions under this policy topic align with HUD's Strategic Goal 1: *Support underserved communities*, which includes Fair Housing enforcement activities to ensure that a person's future is not limited by the zip code where they live and that a person's disability or sexual identity or

any other federally protected characteristic does not limit their access to housing and their ability to fully live and participate in the community.

Foundational Learning Question: *How can housing discrimination associated with online advertising, social media, and finance be measured, investigated, and prevented?*

Priority Research Questions:

Top Priority – To what extent do people of color with disabilities seek redress related to their disability?

Intersectionality of Disability Complaints – African American adults are the most likely to have a disability (14 percent) followed by Non-Hispanic Whites (11 percent), Latinos (8 percent) and Asians (5 percent), a disparity that results from a complex interaction of socioeconomic and demographic characteristics.[10] Similarly, African Americans in HUD-assisted housing have higher rates of reported disabilities than other races/ethnicities. This research would explore whether proportionally, African Americans are less likely to file disability-related housing discrimination complaints than persons of other races/ethnicities, and if so, what factors account for the lower rate of housing discrimination complaints filed by African Americans. The goal of this research is to identify and understand those factors to better inform outreach and implementation of programs. The first phase of the research would include a qualitative study inquiring whether disabled individuals would file a complaint if they were subjected to housing discrimination, and why they would or would not do so. This initial qualitative study could expand into a broader study incorporating quantitative data sources, including a nationally representative survey or data analysis related to housing experiences among people of color with disabilities. An accompanying scan of relevant literature focusing on the reasons why the number of disability-related complaints filed might vary based on race/ethnicity would support the qualitative research and help inform any quantitative study design, as well as drive potential corrective actions/programs.

How can research support HUD and community efforts to Affirmatively Further Fair Housing (AFFH)?

Supporting AFFH With Research – The Fair Housing Act requires the HUD Secretary to "administer the programs and activities relating to housing and urban development in a manner to affirmatively to further the policies [of the Fair Housing Act]."[11] Research can assist with informing policy decisions and grantee housing and community development activities through a variety of approaches. These can include studying the ways in which HUD grant funds are used in local communities in various contexts related to obligations to affirmatively further fair housing. For example, how well are HUD housing programs contributing to improved mobility and housing opportunity outcomes, including for protected class groups, or how well do HUD community development programs contribute to place-based improvements or access to resident services, including in historically underserved communities?

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[10] https://www.nationaldisabilityinstitute.org/wp-content/uploads/2019/02/disability-race-poverty-in-america.pdf

[11] 42 U.S.C. §§ 3608

To what extent is there bias in home appraisals and automated valuations, and what are the fair housing implications?

Identifying Bias in the Appraisal Process – The Interagency Task Force on Property Assessment Valuation Equity (PAVE) was charged with identifying the extent, causes, and consequence of racial and other bias in home appraisals. The work of the Task Force will likely extend beyond the submission of its Final Report and include further exploration of research and policy topics. HUD can support this ongoing work by using data collected and administered by FHA to conduct an analysis of potential racial bias as related to several variables, including the appraised value, the contract price, the race of the borrower, the race of the appraiser, and the use of automated valuation model (AVM) estimates. This work could be greatly enhanced with an improvement of FHA's data management alongside inter-agency data sharing. Data sharing agreements between HUD and agencies such as Federal Housing Finance Agency (FHFA), USDA, and Department of Veterans' Affairs (VA) would allow for a more robust analysis of potential bias in every agency's loan underwriting activity.

Why do comparatively few fair housing complaints relate to the home sales process, and are there ways to identify discriminatory practices such as steering?

Study of Discrimination in Home Sales Markets – Data collected by HUD's Office of FHEO include relatively few fair housing complaints related to home sales, compared to the rental market. There are several potential reasons for this, including the possibility of lower prevalence of discrimination in the sales market or potential homebuyers using other means of recourse than filing a complaint with HUD, or difficulties in detecting such discrimination. This study would explore the dynamics that could lead to under-reporting of discrimination in sales markets and develop a strategy to identify discriminatory practices in home sales process. This study would help HUD identify the prevalence of different types of homes sales discrimination, such as steering, denials, and price differentials. The study team would also develop a methodology and protocol for testing and measuring discrimination in the home sales process. The study would include a geographic component, analyzing potential regional differences as well as differences across different market types (such as central cities, suburbs, and rural areas), demographics of those areas, and different housing types (e.g., condominiums, detached single-family homes, townhomes).

What do early findings show about the experiences of voucher holders in jurisdictions with local source of income discrimination ordinances?

Preventing Discrimination on the Basis of Source of Income – A growing number of states and local governments have source of income discrimination bans ("SOI laws"). HUD's "A Pilot Study of Landlord Acceptance of Housing Choice Vouchers" (Cunningham et al., 2018) found that landlords were more likely to accept vouchers in places with SOI laws, but the study had a small sample and was not designed to draw conclusions about the SOI laws themselves. This new project would explore the various SOI laws around the country to better understand their effect on the ability of voucher-recipients to find available units and successfully lease-up. The study would also consider the impact that SOI laws have on which neighborhoods voucher-recipients secure units in. In addition, the study would analyze what barriers remain in jurisdictions with SOI laws to voucher-recipients securing units, in general and in particular

neighborhoods. An important consideration is that SOI laws vary, especially in the extent to which they are enforced; capturing that variation would be an important aspect of this study.

Can innovative housing discrimination study methodologies better detect and measure evidence of discrimination in advertised units than in-person paired testing methods?

Study Comparing Methodologies for Measuring Housing Discrimination – Studies to detect and measure housing discrimination have historically relied on in-person paired-testing methodologies. Recent studies increasingly use email correspondence testing to measure discrimination in housing and other markets (such as studies of discrimination in labor market hiring). Email correspondence testing is much cheaper than in-person testing, but the measure of discrimination (disparate response to the home seekers' emails) is much cruder than is possible with in-person testing. A 2013 PD&R-funded study of discrimination against same-sex couples found no discrimination in email testing, but in-person paired-testing found that same-sex couples would be charged higher rents and other fees than opposite-sex couples (M. Davis and Company, 2013). During the COVID-19 pandemic, many landlords and property managers increased the use of live video meetings, unit tours, and other comparable approaches in order to maintain adequate social distancing. To the extent that these methods continue to be employed post-pandemic, they may be another low-cost avenue through which to conduct paired-testing. The evolution of technology and other developments in housing transactions and marketing suggests the need for developing new methodologies for detecting and measuring housing discrimination. PD&R has funded an HDS Innovative Methodology Project to identify and test new methodologies for detecting and measuring housing discrimination. The current study would compare the efficacy of paired-testing and email correspondence testing to the other promising methodologies identified through PD&R's HDS Innovative Methodology Project.

Do home seekers with communication-related disabilities experience substantial barriers to information in seeking rental units?

How Assistive Technologies can Act as Barriers to Housing Information – The most recent national study of discrimination against people who are deaf or hearing-impaired found considerable discrimination at the initial telephone inquiry about the advertised unit, but the level of discrimination appeared sensitive to the type of assistive technology employed by deaf or hearing-impaired tester (Levy et al., 2015). PD&R is in the process of developing new innovative methodologies for detecting and measuring housing discrimination through its HDS Innovative Methodology Project. This study would employ paired-testing or other methodologies to measure how the use of different assistive technologies affects the amount of information about housing options that individuals who are deaf, have hearing impairment, are blind or have low vision, or who have other communication-related disabilities, receive about the rental housing they are seeking.

How are HUD's definitions of 'areas of minority concentration' and Site and Neighborhood Standards shaping the development of new affordable housing?

Fair Housing Implications When Siting Assisted Housing – In its housing and community development programs, HUD uses site and neighborhood standards and definitions of areas of minority concentration to ensure that new housing is not built in areas of minority concentration that are not undergoing

revitalization and provides low-income minority households greater access to opportunity neighborhoods. However, HUD has never studied whether the standards and definitions are achieving their intended goals. In the RAD program, HUD is using a modified definition of an "area of minority concentration." HUD's Site and Neighborhood Standards also apply to Choice Neighborhoods developments, project-based voucher developments, Section 202 and 811, HOME, and public housing mixed finance. The modified definition used in RAD made it easier to site HUD-assisted housing in majority-minority areas. However, there is concern that this revised definition is permitting the concentration of affordable housing in areas of minority concentration (even in housing markets where there are neighborhoods that are not minority concentrated). This research would explore how further revising the definition of an "area of minority concentration" and/or revising the exceptions that allow for siting in areas of minority concentration could address this concern. The research would also compare the different formulations of site and neighborhood standards that HUD uses and has used previously to assess which best serve the goals of the site and neighborhood standards. HUD's site and neighborhood standards are intended to ensure that new housing is built in areas outside of areas of minority concentration, under the premise of promoting desegregation, expanding neighborhoods of opportunities for low-income minority households, and assisting HUD and its grantees in complying with their civil rights obligations, including the duty to affirmatively further fair housing, but HUD has never studied whether the current site and neighborhood standards criteria achieve the intended goal. This research would help inform possible changes to the definition of "minority concentration" and/or adjustments to the two exceptions that allow for siting in a minority concentrated area. The research would also consider the extent to which properties sited based on the exceptions have access to opportunity and whether adjustments to the exceptions could better ensure that they do so.

What portion of the HUD-assisted rental housing continues to be non-compliant with applicable federal accessibility requirements, including in entrances and common areas of a building?

Study of Accessibility of HUD Housing – The most recent national study of discrimination against individuals who use wheelchairs found no disparate treatment of wheelchair users by property managers, conditional on their being able to enter the building in the first place (Levy et al., 2015). However, a large proportion of the multifamily stock was excluded from the research sample before testing because the building was inaccessible. In this study, the research team would identify a representative sample of developments across HUD programs, then send a survey agent to the developments to test whether an individual using a wheelchair or with other mobility restrictions can access leasing offices, units, and other areas of buildings from outside. The study would use the data collected to estimate the portion of HUD developments that have inaccessible entrances because they do not meet the minimum requirements of the accessibility laws. The study would compare the results from these survey tests with more general measures of housing accessibility from the AHS, which in

2011 contained a module on housing accessibility (Bo'sher et al., 2015), and draw on survey data sources to attempt to model the unmet need for accessible multifamily housing.

How effective are Fair Housing Initiatives Program agencies in providing fair housing education, outreach, and investigations?

FHIP Implementation Study – 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 research would be a three-part study of FHIP to understand its activities and efficacies. The first part would entail documenting the various types of FHIP projects and activities, as well as the geographic coverage of the program and how FHIP grantees could collect and report better data. A second phase could 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. This phase of the study would assess the effectiveness of education and outreach activities for decreasing discriminatory practices by landlords, real estate agents, and lenders and for increasing awareness of such practices by tenants and home buyers. Finally, an 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.

Homeownership

Homeownership has long been viewed as an American dream, yet it remains out of reach for many low-income households and historically underserved communities and sometimes fails to fulfill its promise for these groups. The FHA provides mortgage insurance to increase the availability of mortgage finance for first-time homebuyers and others. The Government National Mortgage Association (GNMA) ensures that private capital supports federal mortgage programs by guaranteeing mortgage-backed securities backed by loans insured or guaranteed by FHA, USDA, PIH, and VA. HUD also supports homeownership through formula grants to states and cities, downpayment assistance, housing counseling, and collaboration with the Federal Housing Finance Administration. The research questions presented under this policy topic align with HUD's Strategic Goal 3: *Support homeownership opportunity*, where HUD seeks to promote wealth-building through homeownership by concentrating efforts on serving and expanding credit access to individuals in underserved communities who experience barriers to homeownership.

Foundational Learning Question: *How can federal policy make first-time homeownership more available and attainable to all Americans and more likely to result in housing stability and wealth-building for underserved populations?*

Priority Research Questions:

Top Priority - How can equity in mortgage lending best be advanced, especially as algorithmic decision making is becoming more prevalent?

Equity in Mortgage Lending in a Changing Market – More than 12 percent of Hispanic and 18 percent of Black applicants for a mortgage to purchase a home were denied in 2020 compared to less than 7 percent of White applicants (Consumer Financial Protection Bureau, 2021). Some of these disparities may be explained by differences in risk factors used in underwriting that are predictive of mortgage delinquency, but unexplained differences may reflect disparate impact of algorithms and underwriting policies or even discriminatory treatment by lenders. This study would use administrative data to analyze racial disparities in automated underwriting system (AUS) recommendations and rates of loan originations, as well as contrast these disparities with differences in subsequent loan performance. The study would help identify where disparities in loan origination manifest, evaluate the extent to which they reflect the "business necessity" of limiting risk, and what changes could lessen disparities without increasing risk.

What have HUD programs done to close the homeownership gap, and what role does homeowner equity play?

HUD's Role in Closing the Homeownership Gap – 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 current homeownership and wealth gaps between people who are White and people of Color. 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 buyers with lower incomes. This study would 1) examine the role that FHA policies and programs play in reducing the homeownership gap and in creating sustainable homeownership experiences for buyers from historically underserved communities; and 2) explore the role that FHA mortgage servicing and forbearance policies have played in preserving homeownership among these underserved populations, including the effects of the COVID-19 pandemic. Alongside data analysis, the study would include primary data collection via interviews or surveys to document the experiences of homebuyers from underserved populations with the home search and mortgage finance processes, challenges they faced keeping up with payments, and the role of forbearance processes in their homeownership outcomes.

What are FHA's policy options and tradeoffs for advancing shared equity as a federal homeownership strategy?

Advancing Shared Equity Models – In general, FHA offers limited support for shared equity models of homeownership, largely based on the restrictions on resale that shared equity programs put in place to preserve affordability. A large-scale study of the performance of loans made for the purchase of homes in shared equity programs (as well as other characteristics, such as community stability and household wealth creation) would allow FHA to properly evaluate whether increased support for shared equity

homeownership is appropriate. This study could also consider the expanded support for shared equity from the housing government-sponsored enterprises (GSEs) as part of their Duty to Serve goals.

Who has benefitted from pandemic forbearance programs?

Forbearance and Crisis Recovery – Like many homeowners, over the past 15 years FHA single-family borrowers have faced challenges to their well-being and continued successful homeownership: the Great Recession, natural disasters, and the COVID-19 pandemic. FHA has taken steps through its Loss Mitigation programs to support homeowners through these hardships in ways that also seek to create sustainable value for lenders and the FHA insurance funds. FHA offered Forbearance in response to the pandemic to over 1.5 million households. Given this scale, the dynamic nature of loss mitigation activity, and the anticipation of property destruction from the effects of climate change, loss mitigation programs are a priority area to study. This study would examine the most recent loss mitigation program—forbearance offered to households in response to the COVID-19 pandemic—and would analyze the implementation and outcomes of the program from an equity perspective, focusing on which households, including the demographics of those households, had access to and benefitted from the program.

What are the implications for the housing finance system of differences in the composition of mortgage-backed securities of GNMA versus those of the housing GSEs and their changes over time?

C*omparison of Mortgage-Backed Securities from Different Guarantors* – Mortgage-backed securities (MBS) are instruments that are secured by a package of mortgages. MBS backed by mortgages that have federal insurance or guaranties from FHA, USDA, PIH, or VA may be guaranteed by GNMA. Conventional mortgages are often securitized and guaranteed by the housing GSEs Fannie Mae and Freddie Mac. This research would examine the MBS portfolios of GNMA and the GSEs to quantify differences in the composition, changes in the composition over time, performance of the portfolios, and implications for risk of losses.

To what extent is the GNMA portfolio vulnerable to climate risk?

Assessment of Climate Risk for the GNMA Portfolio – GNMA guarantees mortgage-backed securities backed by mortgage loans insured or guaranteed by FHA, USDA, PIH, and VA. Recent increases in the number, variety, and cost of declared disasters, changes in flood risk maps, and increasing cost of homeowners' insurance point to increasing risk of losses at the community or regional scale. Such damages could lead to losses in federal mortgage insurance funds and GNMA MBS programs. This study would review the literature on climate-related risk of disasters or other losses and model the implications for GNMA's portfolio.

How much does student loan debt influence mortgage default risk?

Student Loans and Default Risk Study – A recent report by the New York Federal Reserve finds that the total amount of student loan debt outstanding has increased from $260 billion to $1.6 trillion in the last 15 years (Federal Reserve Bank of New York, 2021). A related analysis found that rising student debt may explain over 20 percent of the decline in homeownership among 24- to 32-year-olds (Mezza, Ringo,

and Somma, 2019). Completing undergraduate or graduate degree programs offers benefits in earning potential that may offset the financial impact of debt, but large debt burdens nevertheless make qualifying for a mortgage more difficult. This study would use the National Mortgage Database to examine associations between student loan debt and mortgage defaults, and whether those associations differ across protected classes. The results may help inform mortgage underwriting policy.

How effectively does a post-purchase, light-touch homeownership counseling program prepare FHA borrowers for sustainable homeownership?

Post-Purchase Counseling Study– HUD expects to complete the First-Time Homebuyer Education and Counseling Demonstration[12] in 2021, but the evaluation does not test the impact of 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 study would address that gap by analyzing FHA loan performance and credit bureau data and conducting a short survey of FHA borrowers within the first 1 to 3 years of homeownership to identify factors associated with early default versus homeownership sustainability and to assess the effect of post-purchase counseling on FHA loan performance. HUD is well-positioned to sponsor this research because of access to FHA loan-level data and potentially to client-level information on counseling reported in FHA's administrative data.

What risks and benefits are associated with providing down-payment assistance and other assistance to first-time homebuyers?

Effects of Downpayment Assistance for First-Time Homebuyers – 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 study would use administrative data from FHA's Section 203(b) mortgage insurance program to address two primary research questions. First, the study would analyze the characteristics of borrowers who use different types of downpayment assistance and the effect of downpayment assistance on increasing equitable access to mortgage credit. This analysis would also consider any increase in housing quality and sales prices enabled by downpayment assistance. Second, the study would investigate the effect of different types of downpayment assistance on the likelihood of default. The study would use survival analysis to estimate the marginal increase in the hazards of default and FHA insurance claims from different types and sources of downpayment

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[12] https://www.huduser.gov/portal/hud_firsttime_hmbyr_study.html

assistance. The analysis would also consider the competing risk of prepayment. This research would leverage HUD's administrative data and analytic expertise to inform and support FHA policy decisions.

Who is served by PHA-administered homeownership programs and to what extent have assisted households been able to maintain homeownership and build assets?

PHA Homeownership Program Evaluation – For the past two decades, the Voucher Homeownership (VHO), administered by participating public housing agencies, has allowed qualified families to use their vouchers to purchase a home and assist with monthly homeownership expenses. A 2006 study sponsored by PD&R found very low delinquency and foreclosure rates in the program, but the program has not been systematically studied since (Locke et al., 2006). Moreover, HUD administrative data do not capture default, delinquency, or foreclosures for VHO households. This study would conduct a survey of all PHAs operating the program to learn about current program operations and outcomes for buyers, including those who no longer receive the homeownership subsidy. The study could also survey PHAs about their use of the public housing homeownership option, in which PHAs may sell public housing units to their residents and other eligible low-income families in their communities. The study could also link to administrative data on delinquency and foreclosure rates and could include qualitative research with participating households. The goal of the study would be to provide meaningful data about who is served by PHA homeownership programs, what are their demographics, what are the characteristics of the areas in which they lived previously and the areas in which they purchase homes, and the extent to which homeownership has been sustainable for assisted households. Stable homeownership would be evidence of a strategy for successfully graduating households from the regular public housing or HCV program to homeownership.

What are the challenges and opportunities associated with small-dollar mortgages for low- and moderate-income homebuyers?

State of the Small-Dollar Mortgage Market - While high and rising home prices present a major problem in hotter housing markets, many potential homebuyers can face other barriers even in markets with affordable options. Potential homebuyers, especially those looking to purchase a home for first-time, can face challenges when trying to find lenders offering small-dollar mortgages. Recent research found that, in 2019 26.7 percent of home sales nationwide were for homes priced below $100,000, and of those sales only 23.2 percent were purchased with a mortgage, compared with 73.5 percent of homes priced at or above $100,000.[13] More work is needed to better understand scope of where small-dollar loans would be viable nationally, including by identifying how many affordable homes could be purchased with these loans, where these homes are located, and what kind of demand exists for mortgage products generally. This would lay the groundwork for a range of different policy interventions and provide an opportunity to test different approaches to expanding access to the small-dollar mortgage market for low- and moderate-income homebuyers. In-house modeling could provide useful

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[13] https://www.urban.org/urban-wire/making-fha-small-dollar-mortgages-more-accessible-could-make-homeownership-more-equitable

insights on broader market conditions, and a more intensive demonstration evaluation could explore more substantial changes to existing programs such as: reduced fees, payment of incentives to lenders, adjustments to terms and costs, individual financial assistance, or expanded partnerships with community-based lenders.

Housing Finance and Affordable Housing Supply

HUD's reports to Congress on Worst Case Housing Needs have long demonstrated the worsening gap between a slowly increasing supply of safe, decent, affordable rental housing and a rapidly expanding cohort of very low-income renters who need it. Housing costs include both first costs of construction and ongoing costs of operations, maintenance, and making payments on financing. HUD seeks to increase production of affordable housing through lower-cost financing via FHA mortgage insurance, direct housing grants, reducing regulatory barriers, and advancing cost-effective building technologies. The research questions activities under this policy topic align with HUD's Strategic Goal 2: *Ensure access to and increase production of affordable housing*, where HUD seeks to evaluate programs and conduct research to identify ways the federal government can make it easier to access affordable housing by implementing best practice improvements demonstrated to be successful by innovative practitioners.

Foundational Learning Question: *How can federal policy mitigate market constraints in affordable housing production and finance?*

Priority Research Questions:

Top Priority - What are the gaps in financing for multifamily housing in America, and under what conditions would an expanded FHA role be likely to support both increasing the supply of multifamily housing and preserving and enhancing the supply of naturally occurring affordable housing?

Assessing FHA's Role in Affordable Multifamily Financing – FHA offers a range of programs supporting the purchase, refinance, new construction, or substantial rehabilitation of rental housing. This research would assess FHA's Multifamily loan programs current effects, strengths, and weaknesses to inform improvements to its effectiveness. For example, the program's role in increasing the supply of affordable rental housing in underserved areas and in neighborhoods offering greater opportunity might be increased through sound enhancements to underwriting and credit requirements. This research would primarily use administrative data collected by HUD's Office of Multifamily Housing to (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.

How is the Housing Trust Fund being used to increase the production of affordable housing?

Early Implementation of the Housing Trust Fund – The Housing and Economic Recovery Act of 2008 (HERA) amended The Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (12 U.S.C. 1301 et seq.) to establish the Housing Trust Fund (HTF) and HUD began allocating funding to grantees in

2016. The purpose of the HTF is to provide grants to increase and preserve the supply of rental housing for extremely low- and very low-income families, including homeless families, and to increase homeownership for extremely low- and very low-income families. This research would conduct a comprehensive review of federal and state programs, policies, interventions for addressing the affordable housing supply challenge, centering on the early implementation of HTF and on other state and local funding. A mixed methods approach would couple analysis of national production data and market conditions with qualitative profiles of a sample of state housing finance agencies (HFAs) and their varied programs.

What happens to the LIHTC portfolio as communities start to reach the end of the extended use affordability period?

LIHTC at 30 – In a 2012 PD&R report, researchers found that, for the most part, affordable housing projects funded through the Low-Income Housing Tax Credit Program remained affordable as their 15-year restrictive use period ended (Khadduri et al., 2012). The challenge, however, is that older properties that reach the end of their compliance period will require major renovations to preserve affordable housing units. Due to concern of the longevity of these properties to offer affordable housing, allocations since 1990 are subject to an additional 15-year period of restricted use. This study seeks to understand what happens to LIHTC properties as they approach and reach the 30-year mark, focusing on owner decisions and property outcomes related to affordability for residents and property conditions and upkeep. The study would analyze trends and summary data concerning outcomes and conduct interviews with syndicators to understand motivating factors for keeping properties and/or their units affordable, for converting units to market-rate housing, or for maintaining a mixture of market-rate and affordable units.

How would changes to basis boost policies impact patterns of LIHTC development?

Locational Effects of QCT Population Caps and SDDA Implementation – HUD contributes to the implementation of the LIHTC program by determining Qualified Census Tracts (QCTs) and Small Difficult to Develop Areas (SDDAs), designated regions in which state housing finance agencies prioritize allocations of Low-Income Housing Tax Credits to developers by providing a "basis boost" that increases the number of credits a given project can receive on their eligible basis. 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. One key part of the study would assess the locational impact for the LIHTC program of these basis boost policies, first by modeling the elimination of the population cap, including the racial or ethnic concentration of the areas in which additional units would likely be sited. Another element of the study would examine the implementation of SDDAs and whether it improves citing of LIHTC units in high opportunity neighborhoods or encourages more concentration in QCTs. The analysis would use QCT and SDDA data, LIHTC Property data, and data on the existing affordable housing stock that could be obtained from the National Housing Preservation Database.

What do housing subsidies buy?

Role of Rental Subsidies in Housing Supply – The LIHTC is the primary vehicle for increasing and improving the existing stock of affordable housing units, contributing about 100,000 new and

rehabilitated affordable rental units annually. Over the past decade, about one-third of LIHTC properties received additional federal subsidies, such as CDBG, HOME, and project-based rental assistance. According to HUD's LIHTC properties placed in service database, tax credit properties leveraged with other federal subsidies are far more likely to maintain income limits below the federal maximum. This study would examine what the additional subsidy "buys" in terms of location, affordability, and population served and inform the debate concerning the costs of supply- and demand-side housing assistance. The study could also explore how market conditions influence the impact of LIHTC investment on the supply and composition of affordable housing in a given community by comparing how LIHTC is used in markets with high and low vacancy rates.

How do zoning, subdivision regulations, procedural processes, and local land use conditions affect housing supply, and what regulatory reforms are most effective at matching housing supply to demand in a way that promotes inclusive communities?

Identifying Regulatory Barriers to Housing Production – 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 would build 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 (d) 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. The research team could then produce a set of case studies of communities who have implemented policies to address regulatory barriers employing these housing production and price indices to assess the outcomes associated with those changes.

To what extent do land use policies and other regulatory factors drive differences in rents and production of affordable rental units?

Supply Constraints and Rising Rents – Land use policies vary significantly across the United States, ranging from 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 and the less incentive developers have to initiate projects in those locations. Overly restrictive policies may lead to an insufficient level of housing being constructed in those areas, resulting in higher housing costs and shortages of affordable housing for lower-income households. Looser policies can increase affordability and enable innovations, but also can have negative consequences for a community in the form of unorganized growth patterns, poorly funded public services, concentrated poverty, and potential damage to the environment. The research team 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 the community's housing. The team would also collect information on the number of building permits and of homes and apartments recently constructed at various price and rent ranges, local land use ordinances, the permitting process and permitting delays,

characteristics of housing markets such as economic and job growth statistics, and population and household estimates. The study would determine whether statistically significant differences exist in the supply of affordable housing across communities as a result of land use policies and would identify the relative contributions of input costs and regulatory factors for housing cost outcomes and deterrence of affordable housing production.

How successful have laws aimed at increasing duplexes, Accessory Dwelling Units, and other low-density, infill housing typologies been at creating new housing supply?

Encouraging "Gentle" Density – 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 to the housing stock of 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. A new study would identify jurisdictions that are unable to provide sufficient housing supply to meet demand and determine which of those jurisdictions prohibit ADUs, duplexes, and other low density building typologies, allow them by-right, or allow them through variances or other regulatory processes. Urban Institute's National Longitudinal Land Use Survey and Data (publicly available) includes ADU information as of 2019 that could be useful for the study. For each jurisdiction, researchers would determine using local data: how these building typologies are defined, the number of new units being permitted and where these units are being added.

What is the potential for alternative models for housing affordability?

Innovations in Affordability – 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, while continuing to meet federal accessibility requirements. 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 would involve a series of case studies of entities already utilizing 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 HUD-funded vouchers issued to participants in shared housing.

How can affordable housing and manufactured homes promote wealth building?

Wealth Building through Affordable Homeownership – Significant research addresses the topic of wealth building through homeownership (McCargo and Choi, 2020). This research would examine the prospect of wealth-building through ownership of manufactured homes and other lower-cost housing options, particularly focusing on housing programs or initiatives aimed at explicitly combatting the racial wealth gap and addressing equity in wealth-building. This research would also examine disparities among protected classes, such as racial disparities in wealth-building ownership of affordable housing. For this

effort, researchers would pay close attention to attributes of housing type (for example, location, land ownership, and permanent foundation) that significantly influence the likelihood of long-term appreciation or wealth generation, as well as factors associated with risk of depreciation or other capital loss. The research team initially would deliver a comprehensive review of research literature on the potential return on investment or realized success of such activities as they relate to affordable housing and wealth building. Additionally, this project would develop further recommendations for future empirical research approaches, which could include data collection on home prices or ways to assess housing appreciation.

What is the impact of Davis-Bacon wage requirements on the cost of housing development, project quality, and worker wages?

Understanding the Effects of Davis-Bacon on Housing Production – The Davis-Bacon Act of 1931 (P.L. 71–798) (Davis-Bacon) 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. For this research, HUD would analyze available data to understand the extent to which Davis-Bacon wage requirements affect the cost, quality, and/or supply of housing. The research would explore whether and by how much the 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 potential 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, project timeframes, or quality of construction.

To what extent can modular or other off-site construction methods produce affordable accessible rental units, and how does the affordability of off-site methods compare with that of site-built housing?

Lowering Costs Through Alternative Construction Methods –Davis-Bacon 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 would examine how automated, robotic, and off-site construction practices has an impact on labor cost and implications on prevailing wage determinations in an area. Automated and factory-built construction practices, which build modular, 3D Concrete Printing, and panelized housing units, are streamlining processes and shifting both labor cost and considerations. Unlike onsite construction, automated construction practices using robotic technology and the component assemblies used in a factory setting allow for a more controlled environment and require different skills set and job requirements for laborers. This research would explore what factors need to be considered by developers and sponsors when examining the implications of a shift in construction jobs, skills, and labor costs caused by automated and off-site construction trends has on Davis-Bacon requirements and prevailing wage laws, federal and state-wide, as well as implications for

federally assisted housing to comply with federal accessibility requirements if a shift to more automated production were utilized by developers of such housing.

Housing and Health

The public health community increasingly recognizes that housing is one of the most important social determinants of health outcomes. Quality housing that is free from toxins and pests provides a safe environment for living and development. Stable and affordable housing also enables occupants to focus on other needs, reducing financial problems and stress. The research questions under this policy heading align with Strategic Goal 4, *Advance sustainable communities*. One objective is to strengthen environmental justice relative to disproportionate hazards, health risks, and substandard housing, and another is to integrate healthcare and support services with housing, which has potential to reduce expenditures for Medicare, Medicaid, or other programs.

Foundational Learning Question: *How can HUD best address the health needs of residents in its assisted housing programs and also bring housing assistance to those for whom lack of housing is a major barrier to health?*

Priority Research Questions:

Top Priority - What are the most significant problems with indoor air quality in HUD-assisted housing? What are cost-effective ways to influence positive changes in indoor air quality?

Study of Indoor Air Quality and Improvement Strategies – Indoor air quality (IAQ) is increasingly recognized as an important factor in health outcomes. Air quality includes numerous diverse and regionally varying challenges: allergens or chemicals that trigger asthma, fine particulates from indoor or outdoor sources that cause respiratory and cardiovascular problems, and naturally occurring radon gas that can cause lung cancer. This research would begin with an expert convening and literature review to identify and summarize the state of knowledge regarding IAQ and IAQ remediation with reference to public and assisted housing. A representative sample of HUD-assisted units could be selected for in-depth monitoring, air sampling, measurement of contaminant levels, and assessment of causal factors. The literature review and primary data collection would inform strategies for improving IAQ in HUD-assisted housing. Selected strategies may be pilot tested to determine suitability and cost-effectiveness for scaling up. There is potential to engage EPA and other federal partners in this work.

Which program designs for deploying Integrated Pest Management in public and assisted housing are most cost-effective and manageable?

Effective Implementation Strategies for Integrated Pest Management – Healthy Homes technical studies have shown that integrated pest management (IPM) techniques for controlling pests such as cockroaches, bedbugs, and mice in housing offer important benefits including more effective pest control and better health outcomes resulting from reduction of asthma triggers and pesticide exposures. IPM techniques include controlling pest access points, removing food sources, targeted treatment, and monitoring with sticky traps. This new research into IPM program design would use methods such as literature review, expert convening, and key informant surveys to examine strategies for implementing IPM in HUD-assisted housing, including options for improving early detection of pest problems in visual

inspections conducted by HUD's Real Estate Assessment Center. REAC scores also could be compared with administratively matched AHS data. The most promising strategies can be pilot-tested at the PHAs.

How can HUD reduce the incidence of elevated blood lead levels among children of families in the Housing Choice Voucher program?

Prevention of Elevated Blood Lead among Children in the Housing Choice Voucher Program – Lead poisoning of young children has been a significant problem for the HCV program in jurisdictions with deteriorating housing stock. The 2017 Lead-Safe Housing Rule (LSHR) strengthened requirements for when and how PHAs must act when elevated blood lead is detected in children. Currently, however, HUD does not have authority to require either lead hazard screens or lead risk assessments to be conducted as preventive measures in pre-1978 HCV units in which a child under age 6 will reside. HUD proposed in the 2021 Budget to provide PHAs with funding on a voluntary basis to perform lead risk assessments and lead hazard screening in such housing units. 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. As part of this research, researchers could also explore lead risk data and the potential for new geospatial tools that map lead risk across geographies. The research would help inform Congressional decision making about enacting such requirements.

How well do HUD's homeless assistance programs meet the health needs of young children and their parents?

Family Health in the Homeless Assistance System – Among families with children experiencing homelessness, parents with children under six are disproportionately affected (Henry et al., 2020). In 2010 HUD PD&R launched the Family Options Study, a multi-arm randomized controlled trial to study the impact of various interventions on homeless families with children. Between 2010 and 2012 more than 2,000 homeless families, including more than 5,000 children, were enrolled into the Family Options Study in 12 sites located across the country. HUD recently launched a 12-year follow up with the families randomly assigned to receive one of four interventions: Rapid Re-Housing (RRH), project-based transitional housing, subsidy only (typically a Housing Choice Voucher), or usual care in emergency shelter. A component of that analysis may include looking at the health and wellbeing outcomes of the families with the youngest children served in the Family Options study using linked administrative data. Further research could inform profiles of innovative service models paired with tools like RRH, Permanent Supportive Housing (PSH), or HCVs to provide support specifically for parents with young children.

What home visiting model would most successfully promote health or other beneficial outcomes for families with children in public housing and assisted housing or emergency shelters?

Toward Home Visiting in Assisted Housing – The Mother and Infant Home Visiting Program Evaluation (MIHOPE), conducted by the HHS Office of Planning, Research, and Evaluation, is a longitudinal study of the effects of home visiting services on child and family outcomes. MIHOPE began as the legislatively mandated evaluation of the Maternal, Infant, and Early Childhood Home Visiting program that began in 2010 and has accumulated substantial evidence of effective practices. Home visiting provides individually tailored support, resources, and information to expectant parents and families with young

children. Various program models may improve outcomes in maternal health, self-sufficiency, intimate partner violence, positive parenting practices, and early childhood development. This research, which could be done in-house in collaboration with the Administration for Children and Families' Office of Planning, Research & Evaluation, would produce a white paper assessing the potential applicability of various home visiting models to the needs of young families in public and assisted housing or emergency shelters. It would develop a design for further research or pilot studies that could validate the suitability of selected home visiting models for improving child development outcomes.

What are the most significant health disparities affecting HUD-assisted households? To what extent do health challenges represent opportunities for cost-effective coordination of healthcare services with housing assistance?

Assessment of Health Disparities and Healthcare Integration Options for HUD Tenants – Exploratory research using data linkages between administrative data and national health surveys has shown that by some measures HUD-assisted individuals have worse health than others (Helms et al., 2017) but receipt of assistance is associated with improved outcomes on other dimensions (Fenelon et al., 2017). Recent developments in biomedical research highlight intriguing associations between socioeconomic or environmental conditions and chronic stress, epigenetic modifications of gene expression, chronic disease, and cellular aging (Lawrence et al. 2021). This research effort would use data linkages and other strategies to systematically document and understand health disparities affecting HUD-assisted populations—including the role of admissions preferences for people with health challenges or individuals with disabilities in general—to understand causal factors that perpetuate health disparities, including disparities along racial ethnic lines, and to identify opportunities to address causal factors.

How prevalent is receipt of Medicaid Home and Community Based Services (HCBS) among HUD-assisted households?

Examining the Integration of HUD-Assisted Housing and Home and Community Based Services – Medicaid home and community-based services (HCBS) are long term services and supports, including case management, personal care, and housekeeping, that provide an alternative to nursing homes and other institutional settings and can enable individuals to remain in homes and communities. While HCBS are typically provided to both persons with disabilities and seniors, the models on how best to integrate housing and services are likely very different for the two groups. This study would link Medicaid, Medicare, and HUD data to determine the prevalence of HCBS receipt (such as home health visits, participation in HCBS waivers, and use of personal care assistant) by different programs and populations, describe successful state models of integrating HCBS into HUD-assisted housing for seniors and non-elderly individuals with disabilities, describe HCBS being available in integrated housing settings, provide policy recommendations to HUD for how to support this integration from the federal level, and create

resources for public housing agencies and owners of multifamily housing on how best to bring these services to their residents.

What accessibility features and design standards are recommended when building or rehabilitating housing for the elderly to support residents' ability to age in place?

Design Considerations for Aging in Place – A wealth of information and requirements is available about the accessibility of multifamily buildings, both privately and publicly funded, to individuals with disabilities. These resources include HUD's Fair Housing Design Manual, the ANSI 117.1 standard, International Building Code Safe Harbor Requirements, the U.S. Access Board, and the International Residential Code. HUD's Section 504 accessibility requirements, and accessibility requirements under the Americans with Disabilities Act also apply. Less information about accessibility is available for residences that are not covered by the statutory requirements for accessibility under the Fair Housing Act, Section 504 of the Rehabilitation Act, or the Americans with Disabilities Act. Likewise, there is less information regarding single family dwellings unless they are HUD-assisted, in which case they are still subject to HUD's Section 504 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 including Section 504 compliance, the Fair Housing Design Manual, and the Medicare Advantage program and other similar programs that fund home accessibility modifications. This work would 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.

Indian and Tribal Issues

Native American communities face numerous challenges with deteriorated housing stock, geographic remoteness and economic isolation of tribal lands, and legal complications related to the sovereign status of tribes and their troubled history with the federal government. This policy topic aligns with HUD's Strategic Goal 1: *Support for underserved communities*, where HUD seeks to build an inclusive future, that promotes housing stability, asset building, and wealth creation for all people and lifts underserved communities to share in the levels of prosperity.

Foundational Learning Question: *How can HUD better respond to housing and development challenges unique to Native American communities and tribal lands?*

Priority Research Questions:

Top Priority - What is the impact of the Indian Housing Block Grant competitive grant program for housing in tribal areas?

Indian Housing Block Grant Competitive Program Evaluation – 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 would 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

would document how the new housing program fits into the whole set of tribal activities intended to meet tribal housing needs (including IHBG formula-funded activities). Finally, the study would 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.

What are the distinct impacts and challenges of climate change in tribal communities and U.S. territories, and what are implications for housing and community development?

Assessing Impacts of Climate Change on Tribal Communities and U.S. Territories – Tribal Communities and U.S. territories are some of the most impoverished and vulnerable communities in the country. Due to socioeconomic challenges, they face exacerbating impacts of climate change on economies, agrarian practices, housing and infrastructure, public health, and social well-being. Moreover, the unique culture, land tenure, and legal status of tribal communities and territories complicates the deployment of aid that might assist with adaptation and disaster recovery. While challenges in tribal communities related to housing and community development have been the subject of recent research efforts by the Department, the impacts of climate change on them are less understood. HUD programs that deploy aid within these communities would benefit from more detailed data and information about the risks of climate change to tribal communities and the impacts these may have. This study would seek to provide a detailed understanding of the types of hazards and other environmental changes that are anticipated to affect tribal communities throughout the U.S. and the implications these may have for housing and community development programs, especially given the unique circumstances of many of these communities and the disproportionate availability of data. The research would include a literature review and interviews with local leaders, practitioners, and other experts to better understand how climate change is impacting indigenous populations. The project would identify data sources on climate risks and impacts that are lacking and seek ways to fill the data gap. For example, Tribal Lands and communities are often excluded from national climate, weather, utility, geological and infrastructure data. This research would identify instances where this is the case and facilitate coordination with other federal agencies like the National Laboratories, to address exclusions. The research would also document the implications of climate change and increasing natural hazard risk for tribal and territorial housing, communities, and recommend potential tools and policy options for federal programs working within these communities to mitigate the risks.

What are the most effective disaster recovery, mitigation, and adaptation strategies undertaken by tribal communities, including pandemic response?

Pandemic and Disaster Preparedness, and Adaptation Strategies for Housing in Indian Country – Since the start of the COVID-19 pandemic, billions of dollars in relief funding have gone to tribal communities from sources at HUD and the Treasury Department. This research would document implementation of these expanded programs, and identify effective and replicable housing assistance, pandemic response, and disaster preparedness and adaption strategies in Indian Country through case studies. The study would assess the impact of IHBG and the Indian Community Development Block Grant (ICDBG) program on tribal livelihood in terms of the number of families assisted, housing units built or rehabilitated (including accessible housing for persons with disabilities), reduction in overcrowding, and economic and

educational outcomes. Since the housing needs assessment report on American Indians, Alaska Natives, and Native Hawaiians was published in 2017, there have been very few follow-ups or new studies on the housing conditions in Indian Country.

How are crisis response approaches to prevent and end homelessness different in tribal areas?

Ending Homelessness in Tribal Communities – HUD data show that native American, native Hawaiian, and Alaska natives are overrepresented among people experiencing homelessness.[14] These data may in fact understate the scale of the problem as data collection and the operations of the mainstream homeless assistance system overall have largely not included tribal lands. This study would review crisis response approaches to prevent and end homelessness in tribal areas and assess the availability and accessibility of homelessness prevention programs operated by providers in urban, suburban, and rural areas. The research would also identify causes, patterns, and types of homelessness in tribal communities. The recent expansion of the CoC program to include tribal areas presents a useful opportunity to engage tribal communities. Researching the distinct characteristics of rural homelessness would provide better evidence about whether the current crisis response approaches are meeting the needs of rural, tribal, Native Hawaiian, and Native Alaskan areas.

What is the feasibility of developing local sources of building components and materials in tribal areas to reduce housing construction costs?

Maximum Economic Use of Locally Available Construction Resources – The cost of transporting building components and materials over long distances is often a burden for Tribes, U.S. trust territories in the Pacific and Caribbean, Alaska Native Corporations, and the Department of Hawaiian Homelands in meeting the housing needs of their communities. A new competitive grant would support these HUD-assisted entities by funding expert assistance to assess the feasibility of developing local sources of components and materials, or, if they are already in pilot use, to assess their performance. Over time, the grant program would allow HUD to host a digital library of expert reports that similarly situated entities could consult.

Self-Sufficiency and Economic Opportunity

The purpose of HUD's extensive rental assistance programs is to ensure housing stability and improve peoples' lives. Increasing economic opportunity for assisted households and supporting their ability to obtain education, secure well-paying jobs, build assets and financial capability, and achieve self-sufficiency is essential to their quality of life. Such supports accelerate wealth building and ability to afford market-rate housing in areas of opportunity, which opens up housing units and subsidy resources for new, struggling households, and thereby makes the programs more effective in serving urgent housing needs. The questions presented under this policy topic align with HUD's strategic Goal 2: *Ensure access to and increase production of affordable housing in areas of opportunity*, where HUD seeks to review the services and supports delivered to families receiving HUD assistance to ensure they are

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[14] https://files.hudexchange.info/reports/published/CoC_PopSub_NatlTerrDC_2020.pdf

equitably administered and focused on meeting families' needs by building on their strengths and being flexible enough to meet each families' unique goals.

Foundational Learning Question: *How can housing assistance, including temporary assistance, best support moves to opportunity neighborhoods, human capital development, and increased economic opportunity?*

Priority Research Questions:

Top Priority - What additional approaches can encourage asset building among HUD-assisted households?

Asset Building Demonstration Evaluation – In contrast to a subsidy intended to maintain minimum levels of consumption, an effective asset building program could help very low-income families build assets. An effective asset building program for HUD-assisted households could make HUD assistance into a more effective program for work-able households and for the children in HUD-assisted households, but HUD knows very little about the impacts of asset building programs focused on outcomes related to building or improving credit, savings and investments, home equity, or education and training among HUD-assisted households. A rigorous study of the Family Self-Sufficiency (FSS) program, a component of which focuses on building an escrow account, shows that after 3 years in the 5-year program, participants improved their financial literacy and confidence, but had not increased income or employment outcomes (Verma et al., 2021). In terms of credit building, a simulation study suggests that including rent payments in credit scoring algorithms could improve credit for many HUD-assisted households (Turner et al., 2019). A new study of asset building could take the form of a demonstration through which PHAs could evaluate the impacts of programs that incentivize savings or that help residents build or improve credit, such as through reporting rent payments to credit reporting agencies.

What is the unmet need for childcare among HUD-assisted households with children?

Childcare Needs of Assisted Households – HUD-assisted households frequently cite lack of access to childcare as a major barrier to working. HUD has launched a collaborative research effort with the Administration for Children and Families of the Department of Health and Human Services to assess the take-up and impact of childcare among residents living in HUD-assisted housing and work-related outcomes of using childcare. The current study would 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. To supplement that work, researchers could create a matched data set with HUD administrative data and state-level childcare data to assess unmet childcare needs among HUD-assisted households.

What effect does improved access to affordable childcare have on the employment outcomes of parents/guardians and on the developmental outcomes of children?

Meeting the Needs of Working Families in Assisted Housing – HUD-assisted households frequently cite lack of access to childcare as a major barrier to employment. This study would explore innovative models for the provision of childcare services that meet the challenges facing low-income households such as non-standard working hours, last-minute work schedule changes, and limited transportation

options. HUD could encourage PHAs to develop partnerships with childcare providers and local employers and apply for a competitive grant to fund an innovative model for childcare services. This research would study the take-up of childcare services via the model and the extent to which the childcare provided enabled parents to increase their employment. The research would also study what hurdles remain preventing parents/guardians 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 would conduct interviews with program administrators to understand what partnerships have been created and what childcare services are offered and with residents to learn about whether and how the services are meeting families' needs. Data from NDNH and HUD's administrative data could be linked to assess the impact of providing childcare services on households' earnings.

What proportion of public housing residents employed under Section 3 requirements receive training or certifications to improve their long-term employment prospects?

Evaluating Section 3 – HUD's Section 3 regulation prioritizes low-income and very low-income individuals 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 have data on the extent to which training and experienced gained from working on Section 3-funded projects improves long-term employment prospects for low- and very low-income individuals, including public housing residents. Understanding best practices and outcomes would help PHAs and other Section 3-funded entities 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 initiatives. Any research specific to public housing residents would have to consider implicit disincentives from income-based rent subsidies. This research would draw on the lessons of HUD's evaluation of the Section 3 program's implementation (HUD, 1996) and inform how HUD promotes and monitors Section 3 in the future. The study could also serve as a platform for further research into opportunities for the federal government to meet goals of supporting small businesses and providing employment opportunities for low-income residents while increasing the supply of affordable housing.

How many HUD-assisted tenants receive services from other federal programs focused on labor market outcomes?

Connecting Assisted Households to the Workforce System - 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-E&T), or at American Jobs Centers. This project would 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 would 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 could be made available for researchers to propose studies to make use of the matched data. HUD could also partner with the Census Bureau to match HUD administrative data to the Survey of Income and Program Participation and 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.

Are there service delivery models evaluated in the research literature that could improve self-sufficiency outcomes for HUD-assisted households?

Lessons Learned in Promoting Economic Opportunity – 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 FSS program, Jobs Plus, and the Resident Opportunities and Self-Sufficiency Service Coordinator (ROSS-SC) program. 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 would identify and synthesize existing research on programs 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 could produce issue briefs targeted to PHAs with an overview of successful elements worth replicating, pitfalls to avoid, and uncertainties that must be considered in program design.

What are the costs and benefits of making broadband internet services a reimbursable expense for providers of HUD-assisted housing?

Enhancing Connectivity in Assisted Housing – High-bandwidth internet access is increasingly a prerequisite for educational opportunities, job openings, and a broad range of social, cultural, and economic needs. This study would assess the "internet readiness" of the HUD housing stock (housing choice voucher, public housing, and multi-family section 8), considering the availability of internet connections, internet capacity/bandwidth, the cost to households of internet access, the availability of internet-ready devices, and other barriers to internet access and use by assisted families including whether those barriers differ for protected classes. The study would also assess potential methods for funding internet access for assisted households, such as direct payments to property owners or increases to utility allowances, electrification methods, building codes, and estimate the costs of implementing different approaches.

What is the policy value of implementing rent payment reporting to credit bureaus, and what are the equity tradeoffs for households in HUD-assisted housing?

Building Credit Through Assisted Housing – California Senate Bill SB 1157 requires operators of multifamily units in California that receive federal, state or local subsidies to offer residents the option of having their rental payments reported to a major credit bureau. The goal of the bill is to provide renters

with the option to use their monthly rent payments as a way to build their credit history and/or increase their credit score. The implementation of SB1157 provides an opportunity to study the policy value of implementing rent payment reporting to credit bureaus using a large state sample. The study could consider the implementation of the law as well as the impact on tenants and housing providers. An implementation study could, for examine the take-up rate among tenants, the demographics of the tenants who opt-in as compared to renters generally, the experiences of landlords in collecting and reporting the data, and the costs to multifamily owners and/or tenants. An impact study could examine the extent to which the law reduced credit invisibility and/or increased credit scores by comparing outcomes for those who opted into the credit reporting to those who did not, or by comparing multifamily tenants in California to those in other state(s) where rent payment reporting is not an option. A longer-term study could also consider the impact of the rent reporting on mortgage issuances and racial disparity in mortgage approvals.

Vulnerable and Special Populations

At the core of HUD's mission – *to create strong, sustainable, inclusive communities and quality affordable homes for all* – is the recognition that individuals with varied life experiences, histories of housing instability, homelessness, or disability deserve programs that meet their needs. This requires a focus on the programs dedicated to serving individuals with distinct needs, and better understanding the way all HUD programs can serve all populations in an equitable way. The questions presented under this policy topic align with HUD's strategic Goal 1: *Support for underserved communities,* where HUD seeks to fortify support for underserved communities by supporting increased access to housing assistance among underserved communities and by implementing a Housing First approach to reducing homelessness. Work under this policy topic will improve HUD's programs that address housing needs of people experiencing homelessness, seniors, individuals with disabilities, and other groups with unique service needs or barriers to long-term housing security.

Foundational Learning Question: *How can housing assistance respond more effectively to varied individual needs of people who have barriers to housing stability, and what combination of supports and policies are most effective at preventing evictions, homelessness, and housing insecurity for lower income persons?*

Priority Research Questions:

Top Priority - How did PHAs and Continuum of Care groups (CoCs) partner to administer their allocation of Emergency Housing Vouchers (EHV) and what were the outcomes of tenants who leased up with an EHV?

Emergency Housing Voucher Program Evaluation – The American Rescue Plan provided funding for about 70,000 emergency housing vouchers for individuals and families who are homeless; at risk of homelessness; fleeing, or attempting to flee, domestic violence, dating violence, sexual assault, stalking or human trafficking; or recently homeless and for whom providing rental assistance will prevent the family's homelessness or having high risk of housing instability. Evaluating the EHV program is critical to understanding the success of the program in serving the target populations and informing future HUD efforts to target vouchers towards households that are homeless or at risk of homelessness. This mixed

methods evaluation would document: 1) how PHAs and CoCs structured and implemented the EHV program in order to serve the target populations, 2) which households (by location, race/ethnicity, homeless status and other characteristics, such as disability and status as fleeing or attempting to flee domestic violence, dating violence, sexual assault, stalking, or human trafficking) accessed and/or were served by the EHV program, and which households were not, and 3) short-term outcomes (e.g., length of tenure, neighborhood and housing type) for households that successfully leased up with an EHV. This research would help HUD understand the relationships between the almost 700 PHAs nationwide administering the vouchers and the CoCs, and document how communities used the substantial administrative fees and set of alternative waivers designed to reduce barriers often faced by the target population when attempted to lease a housing unit using a voucher.

To what extent did the Emergency Rental Assistance Program prevent evictions and homelessness in the short-term, did it have lasting effects on housing stability, and could it serve as a model for future HUD programs?

Emergency Rental Assistance Program Evaluation – Since the start of the COVID-19 pandemic, Congress has appropriated billions of dollars to federal government agencies to help people subject to catastrophic income loss maintain their housing and avoid eviction and homelessness. The Department of Treasury's Emergency Rental Assistance Program (ERAP) has allocated a total of $46.5 billion over two rounds of funding to cities, counties, and states to help keep people in their homes. This study would research the uses of ERAP funds and their effectiveness in helping households avoid eviction and homelessness and maintain housing stability. The research could include multiple components: 1) a national analysis of the uses of ERAP—answering questions such as how quickly were communities able to help families in need, how were their programs designed, what activities they chose to fund, and what barriers they faced to using the funds or reaching certain populations; 2) studies of ERAP implementation in diverse local communities to learn about approaches were perceived to be most effective in terms of eviction and homelessness prevention and lessons learned for future investment in emergency assistance; and 3) outcome, impact, and cost studies to evaluate the effectiveness different models, using metrics such as the rate at which assisted families subsequently experience eviction or homelessness or the racial and demographic characteristics of those able to access assistance. The goal of the research would be to contribute substantially to the evidence base on the role of short-term assistance in preventing eviction and promoting long-term housing stability and to lay the groundwork for a national demonstration of the most promising models.

How were eviction and foreclosure moratoria implemented during the pandemic, and what lessons does that experience have for the future?

Lessons from Pandemic Response in the Rental and Mortgage Markets – In response to the COVID-19 pandemic and subsequent economic downturn, federal, state, and local governments enacted national, state, and local eviction moratoria and moratoria on foreclosure actions in an effort to preserve housing

stability.[15] The moratoria varied in the types of actions covered and the timeframes for which they were in place. The Eviction Lab estimates that the national CDC eviction moratorium reduced evictions from rental housing by about half between September 2020 and July 2021.[16] This study would provide an overview of the eviction and foreclosure moratoria implemented during the pandemic, contrasting that effort with the response to the foreclosure crisis from 2007 to 2010. The study would employ a mixed methods approach to learn about and estimate the magnitude of the effects of the moratoria and earlier policy interventions for landlords, lenders, homeowners, and tenants, as well as for housing markets overall during both periods. To the extent possible, the study would use naturally occurring experiments—moratoria implemented in areas with similar rates of eviction and/or foreclosure for different periods of time—to estimate the impact of the moratoria on key outcomes related to housing stability. The study would also conduct key stakeholder interviews to identify lessons learned from the implementation of national, state, and local policy responses that will help inform future efforts to preserve homeownership and prevent evictions during periods of economic crisis.

How are HUD grantees implementing the Eviction Protection Grant Program?

Eviction Protection Grant Program– The Fiscal Year 2021 Appropriations Act provided $20 million for legal services to low-income tenants at risk of eviction.[17] HUD awarded the funding to nonprofit and government entities in November 2021, for use through December 2023. This evaluation would analyze the range of services funded by the grant program, as well as related services provided through other funding sources and through the court systems, to document the approaches used to prevent eviction. The mixed methods evaluation would gather qualitative information on the most successful approaches and collect data on evictions and other housing stability outcomes to document the overall effectiveness of the interventions and to compare outcomes for different types of tenants served and for different program approaches. The goal of the study would be to learn which approaches are most effective under what circumstances and how legal services and housing services can work together to help tenants avoid eviction altogether or avoid the most harmful effects of eviction.

What have been the challenges and outcomes associated with implementing pandemic-related programs to prevent and end homelessness?

Deploying Homeless Assistance Resources During the Pandemic – The homeless assistance system has faced considerable strain and undergone significant evolution since the start of the pandemic. In 2020, the Coronavirus Aid, Relief, and. Economic Security Act (P.L. 116-136) (CARES Act) provided $4 billion through the Emergency Solutions Grants (ESG) program to prevent, prepare for, and respond to coronavirus among individuals and families who are homeless or receiving homeless assistance and to support additional homeless assistance and homelessness prevention activities to mitigate the impacts created by coronavirus. FEMA's Category B COVID-19 Emergency Protective Measures have also been

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[15] Federal moratoria authorized by section 4022 (foreclosure moratorium) and 4024 (eviction moratorium) of the Coronavirus Aid, Relief, and. Economic Security Act (P.L. 116-136)

[16] https://evictionlab.org/updates/research/eviction-filing-trends-after-cdc-moratorium/#:~:text=On%20August%2026%2C%202021%2C%20the,fewer%20eviction%20filings%20than%20normal

[17] https://www.hud.gov/program_offices/spm/gmomgmt/grantsinfo/fundingopps/fy21_evictiongrantprogram

used to provide non-congregate shelter, mostly in hotels and motels, to people experiencing homelessness. Communities around the country have used these FEMA resources to expand access to non-congregate shelter units to compensate for a drop in capacity among many shelters to allow for social distancing and to provide space for people experiencing homelessness to isolate and quarantine. In 2021, Section 3205 of the American Rescue Plan Act (P.L. 117-2) (ARP) provided $5 billion through the HOME program and created new eligible activities for HOME participating jurisdictions to provide homelessness assistance and supportive services to primarily benefit ARP-defined qualifying individuals and families. This research would evaluate and document the implementation of these expanded resources, including how communities chose to use the funding within the eligible uses, document the extent to which these resources were used together or with a community strategy, analyze costs of new types of assistance relative to existing models, the temporary and ongoing changes to the homeless assistance system, who was served during this time, including persons with disabilities and victims of domestic violence, dating violence, sexual assault, and stalking, and analysis of housing stability outcomes across these expanded programs.

What are the barriers people experiencing unsheltered homelessness face when trying to access the shelter system, and what can shelter providers do to address these barriers?

Unsheltered Homelessness: Perspectives and Barriers to Shelter – After declining steadily nearly a decade, the overall number of people experiencing homelessness recorded in HUD's Point in Time Count has risen every year since 2016. Nationally, this trend is driven by an increase in the number of people experiencing unsheltered homelessness, which increased just over 30% between 2015 and 2020 while the number of people in shelters has gone down. Accompanying these trends is a growing reality that some people may choose to remain unsheltered rather than enter emergency facilities because of a range of barriers, including concerns about safety, discrimination (including based on gender identity), or limitations on partners, pets, and possessions. Seeking to expand upon and complement an effort by researchers at the University of California at San Francisco focused on unsheltered adults in California, this research would support a series of regional survey and qualitative data collection efforts designed to document the characteristics, experiences, and barriers of people experiencing unsheltered homelessness. Original data collection could take place alongside the Point in Time count with more detailed supplemental survey instruments, or separately in efforts to intentionally sample harder to reach groups within the unsheltered population. Survey data could be supplemented with more detailed qualitative and ethnographic data collection via interviews or focus groups that would explore people's perceptions about the homeless assistance system and opportunities to exit unsheltered homelessness.

What kinds of homelessness prevention and diversion strategies are communities employing, and which strategies are most effective at resolving homelessness and preventing returns to homelessness?

Homelessness Prevention Demonstration Evaluation – In communities around the country, high housing costs are the primary driver of increased inflow into homelessness that has caused homeless counts to rise nationally over the past few years, even as exits from homelessness to permanent housing have also increased. Permanent Supportive Housing using the Housing First model is the optimal, evidence-based intervention for people experiencing chronic homelessness, but there may be other more cost-effective

interventions for those with lower levels of needs. Research from the California Policy Lab on a set of homelessness prevention interventions deployed in Los Angeles County shows these programs can be successful at resolving homelessness and fostering housing stability with levels of assistance that are substantially less costly than long-term subsidies or extended shelter stays.[18] This study would build on the Policy Lab's work with a multi-site random assignment study of the costs and effectiveness of homelessness prevention interventions. The study would test the effects of receiving three types of interventions—lower intensity interventions like one-time housing assistance or a shallow time-limited subsidy; moderate intensity interventions like rapid re-housing; and higher intensity interventions like permanent housing subsidies—relative to the usual care offered to people experiencing homelessness in the community. HUD and the research team would work to integrate program delivery into the existing Coordinated Entry system to target people experiencing homelessness who would not otherwise be prioritized for slots in Permanent Supportive Housing.

For what portion of people experiencing homelessness is Rapid Rehousing the right resource, and what will the optimal program structure and duration be in different housing markets?

Effective Targeting of Rapid Re-Housing – Rapid Re-Housing (RRH) programs, which provide services and/or short- to medium-term rental assistance for people experiencing homelessness, have 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, transitional housing, or a permanent subsidy without services (Gubits et al., 2016). RRH programs have become both more sophisticated and widely adopted, and the housing market has changed dramatically since the Family Options 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 (Dunton et al., 2019) as well as participants' experiences both during and after receipt of RRH assistance over a 15-month period (Jefferson et al., 2020). This new study would use 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, taking into account changes in the local housing market over the period studied.

What strategies best support formerly homeless tenants who wish to "Move-On" from Permanent Supportive Housing?

Implementing Move-On Strategies in Permanent Supportive Housing – A considerable body of research supports using Permanent Supportive Housing with a Housing First approach to promote housing stability and improve a range of other outcomes among people experiencing chronic homeless. PSH is characterized by the combination of non-time limited housing assistance and intensive case management or other supportive services. However, some housing providers and tenants feel that a subset of PSH residents could successfully "Move-On" to other types of permanent housing assistance that do not have an on-going services component, such as a Housing Choice Voucher, thus freeing up

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[18] https://www.capolicylab.org/wp-content/uploads/2019/12/Predicting_and_Preventing_Homelessness_in_Los_Angeles.pdf

valuable and scarce PSH resources for currently unassisted people, including those experiencing chronic homelessness. A set of case studies of communities with substantive Moving-On programs would allow HUD to better understand the approaches used by implementing COCs and PHAs, as well as the challenges and opportunities associated with the model. This approach could couple qualitative data from key local stakeholders, including tenants, with administrative data on outcomes. The interviews with tenants could shed light on what services and accommodations formerly homeless people need and desire both in a PSH context, and as they move on to housing assistance without formal services.

What are the long-term outcomes of the Section 811 Housing for Persons with Disabilities program?

Section 811 Program Long-term Outcomes Evaluation – 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 (Pinkett et al., 2018) and six case studies (Northrop et al., 2018). 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 (Vandawalker et al., 2020). 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 opportunities in which individuals with disabilities reside with individuals without disabilities, 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. This mixed-methods research study would supplement earlier work by linking CMS data to HUD administrative data and by conducting interviews and surveys with program participants and key informants of state and program agencies. The study would help HUD better understand healthcare outcomes, program tenure, and service gaps across a larger sample of PRA states and assisted households and over a longer period.

Are Mainstream, Non-Elderly Disabled (NED) vouchers an effective intervention for persons with disabilities experiencing homelessness?

Mainstream Non-Elderly Disabled Voucher Program Evaluation – 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 PSH or a rapid re-housing project. This research would assess how the program is being implemented, who is being served, how partnerships are being

used, and what the initial outcomes are, including equity implementations. The evaluation would also identify successes and challenges associated with the program's implementation, barriers to participation by eligible persons, 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 would use both qualitative and quantitative analysis, employing HUD administrative data, surveys, interviews with program stakeholders and participants, and field observations. HUD would collaborate with HHS in the design and implementation of the study of this expanding program.

What are the costs and preparation necessary for older adults to age in place successfully in public and assisted housing?

Understanding Successful Aging in Place in HUD-assisted Housing – 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 the accessibility of the HUD-assisted stock and the extent to which the stock supports healthy aging in place. This research would assess the characteristics of those residents living in HUD-assisted housing who are most likely to age in place, the factors affecting their decisions to remain in HUD-assisted housing, and changes over time in the characteristics of older adults in HUD-assisted housing over time. The study would use survey data linked with HUD administrative data and other administrative datasets such as Medicare and Medicaid claims data. In the first phase, researchers would use tenant data to identify individuals who are currently "aging in place" in HUD-assisted housing, examine their demographic and health characteristics, and identify trends in the population that could inform projections about how the group might expand, contract, or behave in the future. Second, researchers would field a survey of a sample of current residents within various programs to provide information about the experiences of older adults living in HUD-assisted housing, including the accessibility or other needs they have or anticipate having (including needs for accessibility features to assist with various mobility, vision, and hearing impairments) that might force them out of independent living because the features are unavailable in their current housing. Another survey of older adults who are exiting HUD-assisted housing could provide complementary information about causes of exits, including accessibility issues.

How well are housing protections provided under the Violence Against Women Act (VAWA) assisting victims of domestic violence, dating violence, sexual assault and stalking achieve housing stability?

Emergency Transfer Requests – Victims of domestic violence, dating violence, sexual assault, and stalking are a vulnerable population with unique housing needs and concerns. VAWA provides certain housing protections to assist victims in obtaining and remaining in covered housing programs, including covered housing programs administered by HUD and HUD recipients. Among other protections, victims may be eligible for emergency transfers from their current HUD-assisted unit when they meet eligibility requirements. This study would focus on the extent to which emergency transfers are successfully utilized, including information on how often emergency transfers are sought, what kind of emergency transfers are sought and granted (e.g., internal or external), and whether covered housing providers

understand and offer this option consistent with VAWA obligations. This information will be helpful in better serving victims and ensuring their long-term housing stability.

Enhanced Data and Methods

The Evidence Act highlights evidence-building as central to improving policy and programs. The Act seeks to foster a robust culture of evaluation and research under the leadership of the Evaluation Officer and strong data governance under the leadership of the Chief Data Officer. The questions presented under this policy topic align with HUD's Strategic Goal 5: *Strengthen HUD's Internal Capacity,* where HUD works to strengthen the Department's internal capacity and efficiency to better ensure delivery of HUD's mission. This crosscutting topic has a specific focus on improving HUD's capacity to collect data, measure impact, and measure program outcomes in support of evidence-based decision making. Further discussion of Data Priorities for Evidence Building, including data gaps, is available in Section 3.

Foundational Learning Question: *How should HUD improve data, methods, and processes to build capacity for evidence-based policymaking?*

Priority Research Questions:

Top Priority - How can HUD capture "positive" and "negative" outcomes and motivations for exit by assisted tenants?

Tracking Reasons for Exit from Assisted Housing – While most types of HUD rental assistance are not time limited by design, people leave assistance for myriad reasons both positive and negative. This project would 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 program exit where the household is likely to achieve housing stability, security, and economic opportunity without HUD assistance. Longitudinal administrative data about program participation and exit could 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 could inform focused initiatives to develop targeted and coordinated supports to promote economic opportunity and asset building over the long term.

What data linkages should HUD invest in as permanent, regular linkages and what data linkages can remain as ad-hoc efforts?

Assessment of HUD's Existing and Potential Data Linkages – 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 study would integrate insights from published or unpublished assessments of data linkages involving the AHS, ACS, National Health Interview Survey, National Health and Nutrition Examination Survey, and CMS data to summarize issues of data pre-

processing, linkage methods, privacy preservation, and linkage error. The second phase of this report would recommend a process to discover additional data linkage opportunities.

Could HUD link IRS, HUD, and Census records to add to the evidence base on the effects of housing assistance on tenants' employment, income, and earnings?

IRS Data Matching – Prior research generally finds negative, though somewhat inconsistent, effects of housing assistance on tenants' employment, income, and earnings. In large part, these inconsistent results stem from methodological difficulties inherent in the study of the housing assisted population. This project would link HUD, IRS, and decennial Census records using the Person Identification Validation System. Once linked, the data can provide detailed individual income information for the HUD-assisted population working for an employer (via IRS Forms W-2) and household (tax unit) income information for the population filing an income tax return (via IRS Forms 1040). This linkage would: 1) allow HUD researchers to gauge the income trajectories of HUD-assisted individuals over time and track their receipt of tax benefits, 2) compare the income trajectories of individuals receiving different types of HUD housing assistance, including different demographic subgroups, to gauge the relative efficacy of different HUD programs in generating positive economic outcomes, and 3) assess income trajectories for individuals both while on HUD assistance and after exiting HUD programs to better understand why individuals exit and how they fare after exiting HUD programs.

What can HUD learn about mortality outcomes through data linkages with the Census Bureau?

Mortality Data Matching – It is well documented that mortality rates are higher for low-income groups relative to wealthier ones. This research proposes to study changes in mortality in the HUD-assisted population as well as among individuals who have left the HUD program in the last two decades (1995-2015). This research proposes to link HUD administrative data to Census Numident records to identify deaths occurring between 1995 and 2015 among former and current HUD program beneficiaries. In addition, HUD individual-level records would be linked to their matching ACS responses (when available) to better understand the demographic and socioeconomic characteristic of individuals who died during enrollment in the HUD program, and those who died after they left the HUD program. This project would allow HUD researchers to study mortality patterns in the former and current HUD rental-assisted populations relative to other low-income populations and to the general population of the U.S.

Are there components of HUD's administrative data collection that do not yield sufficiently complete and/or high quality data for effective policymaking? How can these deficiencies be addressed?

Improving HUD's Tenant Data – 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. For example, the definition of a "person with disabilities" used in these forms differs from the definition in the Fair Housing Act, Section 504, and the Americans with Disabilities Act, which may result in housing providers not fully reporting on the participation of individuals with disabilities in these programs. This two-phase

study would 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 would 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 or ensure completeness of date, (3) identify opportunities to implement uniform terminology across these and other HUD forms to make comparison of data easier, and (4) provide recommendations for updating questions on the forms including opportunities for data standardization. The second phase of the study would assess how the use of third-party reporting systems affects the quality of data input from these forms. This work would highlight the pros and cons of the most common third-party systems used for reporting data from these forms; present case studies illustrating the most common errors that occur for PHAs while reporting using third-party systems; estimate the impact of reporting error and discuss the implication; and discuss the benefits of HUD potentially providing its own application programming interface for PHA reporting in terms of reducing reporting error and whether the benefits would outweigh the costs.

Which data currently collected on paper forms would support useful policy analysis and performance assessment if digitized in accessible and searchable form?

Digitizing HUD Data – 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 would then work with a contractor to (3) assess the opportunity and challenges for converting high-utility non-digital assets to an accessible electronic record and (4) 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.

Are there data sources that HUD maintains internally that could be made public while protecting privacy?

Transparency and Privacy in Public Data Assets – 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. This research would support the development of HUD's Data Sharing Plan in compliance with the Evidence Act through these objectives:

- o 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.

- o 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.
- o 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.
- o 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.
- o 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.

How do REAC physical inspection results for the HUD stock compare with occupant-reported data from the American Housing Survey and the American Healthy Homes Survey?

Healthy Homes Attributes of HUD-Assisted Housing Units – HUD's Real Estate Assessment Center conducts physical inspections of housing units assisted through HUD's project-based programs. These inspections address numerous conditions associated with the health and safety of the units and buildings. The tenants occupying those units may have different perspectives on the quality of their homes that are captured in the AHS and American Healthy Homes Surveys. This study would use data matching at the Census Bureau's research data center to associate REAC inspection results with survey data. The survey data may validate the inspection results as well as identify opportunities for future enhancements to the National Standards for Physical Inspection of Real Estate (NSPIRE).

What would be the policy value of creating a national evictions database, including how the database could inform policy to advance housing stability?

National Evictions Database – HUD's 2021 Report to Congress on the Feasibility of Creating a National Evictions Database (HUD-PD&R, 2021) discussed existing efforts to collect data on court-ordered and extra-legal evictions and the additional steps needed to create a national evictions database. The report acknowledged the need for comprehensive stakeholder engagement on the proposals in the report for creating such a database. Such stakeholder engagement is also needed to identify the policy value of creating a database and how the database could be used to advance housing stability. This study would conduct structured engagement with the following stakeholder groups: federal agencies that have programs or initiatives related to eviction, court systems, legal services providers, landlords, tenant and eviction prevention advocacy organizations, and tenants. The engagement would solicit ideas on topics such as: the program and policy uses of a national evictions database; the types of evictions that should be included in the database (e.g., court-ordered as well as extra-legal evictions); the specific information to be collected (e.g., reasons for eviction, landlord and tenant information); what information should be available to the general public and what should be available for restricted use or shielded from public view; and risks or potential negative consequences from creating the database. This qualitative study would identify a broad range of stakeholders to engage, conduct the engagement, document the ideas

surfaced through the engagement, and synthesize the findings into a report on the policy value of creating a national evictions database.

What can we learn from the American Housing Survey about how renter and homeowner decisions are changing in response to climate change?

Climate Driven Disaster Risk and Housing Choices – Climate change may affect renter and homeowner decisions on where to live, how to remodel their homes, and their preparedness for climate-related natural disasters, but little is known about how renters and homeowners take into account climate change in their decision making. Through analysis of data from the 2021 AHS on wildfire risk and future data collections and analysis on housing-related climate risks and decisions related to those risks, PD&R seeks to assess the climate change risks facing American households and their responses to these risks. Through data collection and research, PD&R wants to understand the role, if any, that climate change-related hazards play in where recent renters and homebuyers decide to live. Do they consider flood risk, fire hazards, resistance to high winds, durability of building materials and designs, safe rooms or shelters, cooling and heating costs, home insurance or flood insurance costs, proximity to first responders, accessibility of the built environment, and reliability of utilities when making their decision of which unit to rent or purchase? To what extent do homeowners make improvements to their homes to prepare for, respond to, or prevent damages caused by climate change? Related to climate change prevention, to what extent do homes in the United States use solar photovoltaic cells and other forms of renewable energy and to what extent are such energy sources sufficient to meet households' needs. Related to data collection and research conducted by FEMA, how ready are households to move in response to climate-related natural disasters? Differences in readiness levels among renters and homeowners will be further examined. As a first step in this research area, PD&R could pursue research and analysis of the 2021 AHS module on wildfire risk. This module, developed with input from the National Fire Prevention Association, will be useful in analyzing housing characteristics that make housing units vulnerable to wildfires in areas at greater risk of wildfire and in understanding how households are alerted about wildfires.

As HUD works to test and validate the American Housing Survey Housing Insecurity module, are there examples or test cases worthy of research for how a housing insecurity index might be applied?

Housing Insecurity Module Validation and Testing – HUD developed and implemented a housing insecurity research module as a follow-on to the 2019 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. Index options are being tested and analyzed and compared to contextual questions about stress and basic needs tradeoffs, food security index scores, self-reported health, and core affordability and quality measures from the AHS. 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. Informed by the results of the research, PD&R plans to administer a reduced set of housing insecurity questions to the full sample of the AHS, re-calibrate housing insecurity index options through further scale development research, and seek out opportunities to test the index in other surveys or studies. Throughout the process, PD&R will share results and seek input from OMB, Interagency partners, and external experts.

What do the next generation surveys on lead hazards and healthy homes tell us?

Comparative Analysis of Healthy Homes Surveys – Nationally representative surveys have provided important baseline information for understanding environmental health and safety conditions in homes. This study would summarize and supplement existing research using the National Survey of Lead and Allergens in Housing (1999), two American Healthy Homes Surveys (2005–2006; 2018–2019), and healthy housing modules included in the 2011 AHS and 2015 AHS. The integrative work would provide insights about healthy homes hazards, future surveys, data linkage and research methods, and policy needs, including applications to HUD's assisted rental programs such as informing future enhancements to the National Standards for Physical Inspection of Real Estate (NSPIRE).

How could HUD cost-effectively capture data on energy expenditures and energy consumption for public and assisted housing developments?

Measuring Energy Performance in HUD Project-based Developments – 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 Public Housing and assisted 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 pilot project would 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.

Which drivers of customer experience most frequently hinder satisfaction and trust for specific program services?

Using the 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 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. The overall goal of the tool is to improve customer satisfaction, reduce costs, and facilitate data-driven decisions on policy and resourcing.

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 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, bridges, and public facilities 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.

Data Governance

OMB describes the Evidence Act as establishing a new paradigm for enterprise-level data governance by "calling on agencies to significantly rethink how they currently plan and organize evidence-building, data management, and data access functions to ensure an integrated and direct connection to data and evidence needs" (OMB, 2019). The statute requires a new Data Governance Board that comprises the three newly designated officials—the Chief Data Officer, Evaluation Officer, and Statistical Official—and other senior managers. The purpose of the Data Governance Board is to set priorities to support managing data as a strategic asset and answering priority questions laid out in the Learning Agenda. The Chief Data Officer plays a key coordinating and supporting role in enterprise data governance and providing open access to data.

Emerging Roles of the Chief Data Officer and the Statistical Official

Appointing a Chief Data Officer (CDO) and a Statistical Official are among the most significant elements of the Evidence Act. HUD's CDO and Statistical Official are situated, along with the Evaluation Officer, in PD&R[19] to make it the hub for the Department's evidence-building.

In Fiscal Year 2021, Congress funded a new 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

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[19] HUD's Evidence Act Officials are listed here: https://data.hud.gov/eac.html

- 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 to that of the CDO and integrates HUD's existing survey-related work. In the coming years, the Statistical Official will:

- Oversee HUD-sponsored survey efforts with the Census Bureau
- Support the Evaluation 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

Data Resources

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.[20]

- **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

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

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.

- **Pulse Household Survey** was developed by the Census Bureau early in 2020 with substantial input from HUD and other agencies to track critical information nearly in real time as the COVID-19 pandemic has evolved. The survey is conducted every few weeks and released about a week later, so it has provided crucial information about pandemic impacts including financial distress and housing instability in the form of eviction and foreclosure risk.

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
- 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
- 2021—Delinquent Payments and Notices, Intent to Move, Wildfire Risk, Pets, Expanded Renter Housing Search, Smoking Module

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.[21] 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
- Longitudinal tenant microdata files across programs and multiple years
- HUD Enterprise Geographic Information System (HUD eGIS)
- Affirmatively Furthering Fair Housing Data and Mapping Tool (AFFH-T)
- Community Assessment Reporting Tool (CART)[22]
- Geocoding Service Center—a PD&R federal shared service that determines addresses and other geospatial information to enhance administrative and survey records

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

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

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
- 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)[23]
- HUD Environmental Review Online System (HEROS)

Office of Fair Housing and Equal Opportunity
- HUD Enforcement Management System (HEMS)

Office of Field Policy and Management
- Section 3 Performance Evaluation and Assessment System (SPEARS)

Government National Mortgage Association
- MyGinnieMae
- 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 Learning Agenda questions and proposed 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 Learning Agenda 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 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.[24]

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

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

[24] 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.

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.[25]

- 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.

- Current Population Survey (CPS; 2006–2020). With USDA collaboration, a recent data linkage with the Food Security supplement of the December CPS at the Census Bureau allows HUD to estimate the level of food insecurity and SNAP food assistance participation among HUD-assisted households.

- National Longitudinal Study of Adolescent Health (Add Health, 1994–2018). Through a Research Partnerships grant, University of North Carolina researchers have linked HUD's tenant data with Add Health, a nationally representative panel survey of adolescents who were in grades 7 to 12 during the 1994–95 school year. The survey was originally designed to assess the effect of contextual factors on health-promoting and health risk behaviors of adolescents and additional surveys have added rich data of many types. The linked data are available for researchers through UNC's Carolina Population Center.

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.

Linkage with Other Administrative Data
HUD also links its administrative data with administrative data of other agencies:

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[25] 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[26] 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.

- Federal Emergency Management Agency. HUD tenant data are linked with FEMA data to conduct duplication of benefits checks and facilitate moves into permanent housing. FEMA data also inform CDBG-DR formula grant allocations and planning for CDBG-DR assisted activities.

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.[27] 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.[28] Other restricted-access data linkage research efforts highlighted in this learning agenda involve IRS tax records and Numident mortality records.

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[26] 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.

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

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

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 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.[29]

Protecting Privacy through Disclosure Avoidance

HUD's Evaluation Policy Statement (HUD, 2021) 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 follows the Rule of Eleven: disclose no information about any group of individuals or households numbering less than 11, 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 sponsored a "white hat" test of the robustness of the Rule of Eleven for preventing reidentification of assisted households in public datasets. The internal study showed that although the Rule of Eleven is quite effective in preventing disclosure, a small residual risk (less than 1 percent) of potential reidentification remains.

Priority Data Gaps, 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.

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

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. Matching to these data sources could provide a valuable picture of the characteristics and life trajectories of LIHTC tenants. 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. These data could help researchers better understand where LIHTC fits within broader placed-based policy discussions, for example whether these units are being built in areas of opportunity or in areas of concentrated poverty. 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.

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 Learning Agenda 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 Learning Agenda's research proposals, HUD seeks to leverage research to inform potential enhancements of tenant data systems to capture information about tenant conditions at the point of exit.

Usability of IDIS Data for Research

A long-term challenge associated with block grant programs in general, and especially with community-serving activities, is using available data to both conduct monitoring of financial operations and to gather more detail on the outputs and outcomes of these programs. An initial significant step would be improving the reliability of data on where certain activities are taking place, so as to better understand 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. Other changes, including more detailed demographic information of recipients of funds through certain activities – e.g. HOME Tenant-Based Rental Assistance – could provide valuable information on the equity and efficacy of HUD's major block grant programs.

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.

Lead Hazard Control Administrative Data

As part of the mandate of the federal Open Data Policy and Evidence Act to make data open by default, a key opportunity that HUD has identified is the administrative data for the Lead Hazard Control grant program. Following resolution of issues of data quality and confidentiality, these data potentially have evidence-building applications related to linkage with CDC neighborhood-level risk estimates of elevated blood lead in children or with HUD's existing geospatial lead targeting tools.

Picture of Single-Family FHA-insured Households

The 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 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 microdata. A team of PD&R, FHA, and Office of the Chief Data Officer experts could 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.

PHA Waiting Lists and Preferences

Housing Assistance is not an entitlement: as such only around one in four eligible households receives assistance from HUD. To manage scarce housing resources PHAs that have more applicants than vouchers or units available establish wait lists. Additionally, households often do not simply come off their respective wait lists in the order they enrolled, as PHAs commonly establish preferences for household characteristics – such as families with children, seniors, individuals with disabilities, or people experiencing homelessness – that can allow certain households assistance sooner. PD&R published a study in 2014 focused specifically on efforts by PHAs to serve homeless households with mainstream housing assistance resources that also served as snapshot of the varied approaches to preferences (Khadduri et al., 2014). More work is needed to document on a regular basis the open/closed status of PHA waitlists nationally and what kinds of preferences PHAs are employing in order to meet the needs of the communities they serve.

Sexual Orientation and Gender Identity Data

Valid, reliable, and nationally representative data on the housing conditions of LGBTQ+ individuals are essential to HUD's goal of ensuring equitable housing opportunities regardless of sexual orientation and gender identity. To promote greater equity in the housing market for underserved communities, HUD and Census could partner to collect more data to understand the unique barriers that members of underserved communities face in accessing and staying in decent and affordable housing in opportunity neighborhoods, especially in terms of gender identity and sexual orientation where substantial data gaps exist. To this end, PD&R is pursuing research on the development of self-report and proxy questions for measurement of sexual orientation and gender identity of household members and evaluating the feasibility of adding the questions to the American Housing Survey.

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."[30]

HUD's Evaluation Policy Statement (HUD, 2021) specifies that program evaluations will be conducted using the most rigorous methods appropriate for the research question. 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:[31]

- Housing Allowance Demonstration—1970s-era test of the tenant-based rental assistance model that later became HUD's Housing Choice Voucher program.

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

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

- 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.

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 in depth, 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 in depth 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 from the OMB for collections of information, which generally requires publication of notices in the *Federal Register*, 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.[32]

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 submitted in accordance with 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.[33]

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).

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[32] 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.

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

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.

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. Concurrently with development of this Learning Agenda, HUD developed a *Capacity Assessment for Research, Evaluation, Statistics, and Analysis*. This assessment, a parallel requirement of the Evidence Act, seeks to systematically assess evidence-building capacity, maturity, and barriers. The Capacity Assessment draws on a 2020 HUD-administered key informant survey of HUD's senior managers and the GAO's 2020 Federal Managers' Survey and is being published concurrently with this Learning Agenda and HUD's Strategic Plan Fiscal Year 2022–2026.

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. Notably, the definition of disability used in these forms is inconsistent with the definition in the Fair Housing Act, Section 504, and the Americans with Disabilities Act, which may contribute to housing providers not complying with federal accessibility requirements and a lack of consistent data.

- 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.

- Access to data within programmatic silos can be hindered by the effort needed to collect and integrate them across the HUD enterprise.[34]

- 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.[35]

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 Learning Agenda 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.

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[34] 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.

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

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 by more than 100 activity codes in the administrative data system.[36] The Government Accountability Office (2012) has documented this challenge for block grant programs. Self-funded programs such as FHA's mortgage insurance funds 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

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[36] 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.

Bureau adopts more rigorous differential privacy practices, publicly available data assets such as user-defined tables created with the American Housing Survey Table Creator have been subjected to greater amounts of data suppression so that output is mostly blank for some smaller population subgroups and lower-frequency data attributes.

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.

4. Implementing the Learning Agenda

This section discusses issues and necessary steps for developing this Learning Agenda 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.

Documenting New and Ongoing Evaluation Activities

Prior to the Evidence Act, HUD traditionally developed an evaluation plan each year as part of the budget development process for the Research and Technology account for the Office of Policy Development and Research 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 has expanded these Congressional submissions into Annual Evaluation Plans that are aligned and released with HUD's Annual Performance Plan.

Selection of significant studies for the Annual Evaluation Plan includes significant evaluation activities launching that year that 1) align with the long-term, strategic learning agenda of this Learning Agenda or 2) address emerging needs of policymakers and program officials in an appropriately responsive way. The Learning Agenda provides an important filter for significant studies to include in annual evaluation plans based on the Learning Agenda's criteria of policy relevance, timeliness and tractability, and using HUD's comparative advantage effectively.

Assessing and Increasing Evidence-Building Capacity

In addition to developing learning agendas, the Evidence Act requires agencies to 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 drew on a PD&R-administered key informant survey of HUD's senior managers in 2020 and the GAO's 2020 Federal Managers' Survey to produce its first *Capacity Assessment for Research, Evaluation, Statistics, and Analysis*, published concurrently with this Learning Agenda and HUD's Strategic Plan Fiscal Year 2022–2026. Subsequent capacity assessments will further explore the issues identified in the first phase and surface other issues that may have arisen since.

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.[37]

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 Learning Agenda are envisioned as in-house research.

External Resources

Partnerships with philanthropies, academic institutions, and research organizations provide another potential source of funding for the research projects. 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.[38]

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 Learning Agenda. As significant research findings emerge from both PD&R-funded and philanthropic research initiatives, this public-private collaboration will accelerate progress in improving policy and program effectiveness.

Innovative HUD Research Mechanisms

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

- **Research NOFO.** HUD's Research Notice of Funding Opportunity (NOFO) encourages a collaborative partnership to undertake research projects that will have great value for the housing and community development fields. NOFOs 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 NOFO approach involves substantial negotiation between HUD and the selected research teams to ensure that the research successfully answers the questions posed in the NOFO, produces

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[37] HUD's Congressional Justifications for Fiscal Year 2022 are found at https://www.hud.gov/cj

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

high-quality research products, and generates datasets that are available for use by other researchers.

The NOFO process shares the strength of a competitive contracting approach in ensuring that the most qualified research organizations are engaged. NOFO applicants must meet the specific requirements and qualifications specified in the NOFO, 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 NOFO 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.

- **Historically Black Colleges and Universities (HBCU) Research Center of Excellence.** In Fiscal Year 2021, HUD launched an initiative designed to conduct research projects enabling the establishment of up to two HBCU Center(s) of Excellence to (COE). The research projects are intended to initiate an ongoing series of reports focused on housing, community, and economic development in underserved communities that can serve as national, local, or regional benchmarks and assist in support of COE(s) that expand the housing and community development research efforts at HBCUs. The purpose of the COE is to conduct innovative research of housing and economic development topics that include but are not limited to home ownership, the production and availability of affordable housing, neighborhood distress including abandoned or low-quality housing issues, housing shortage including issues of overcrowding and/or homelessness, and related issues. The COE should take a multidisciplinary approach to housing and community development research, and aim to influence policy at the local, state, and national levels.

- **Multidisciplinary Research Team (MDRT).** The MDRT, established in Fiscal Year 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 Learning Agenda in connection with proposed research projects and data infrastructure.

Appendix A. How this Learning Agenda was Developed

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.

A key element of the Learning Agenda 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 Learning Agenda development process through five steps:

- Collect ideas and research questions
- Compile and organize research questions and projects
- Prioritize research questions and projects
- Develop project proposal summaries
- Combine research priorities with complementary information required for Learning Agendas

Each step is described briefly below.

Collect Ideas and Research Questions

To solicit a wide range of views and suggestions, PD&R's Learning Agenda team again engaged with internal and external stakeholders during Fiscal Year 2021 using a variety of methods:

1. An email outreach to federal evaluators and policy experts solicited suggestions in program and policy domains that overlap with HUD's mission.
2. An electronic mailbox devoted to the Learning Agenda remains open for ongoing suggestions about important research questions on any HUD-related topic: HUDLearningAgenda@huduser.gov.
3. Listening sessions were held with HUD program offices, PD&R staff, external federal stakeholders, and people with lived experience with HUD programs.[39]

Through these sources, the Learning Agenda team recorded hundreds of 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.

Compile and Organize Research Questions and Projects

The Learning Agenda team compiled a database of the suggestions from stakeholders. Research questions were classified primarily in two ways:

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[39] 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.

- **New research questions**—Foremost, PD&R sought suggestions from participants about new important research questions to address during the next 5 years.
- **Research Questions from the Research Roadmap**—Some questions were derived from existing proposals on the *Research Roadmap: 2020 Update*. Some questions incorporate substantial changes while others use the same content that was submitted as the Department's Interim Learning Agenda.

The team classified the suggestions into 11 policy topics to help PD&R prioritize the questions:

1. Community Development and Place-based Initiatives
2. Core Housing Programs
3. Disaster Recovery Energy and Climate Change
4. Fair Housing
5. Housing Finance and Affordable Housing Supply
6. Housing and Health
7. Indian and Tribal Issues
8. Self-sufficiency and Economic Opportunity
9. Homeownership
10. Vulnerable and Special Populations
11. Enhanced Data and Methods

Prioritize Research Questions and Projects

The Learning Agenda gave PD&R staff the opportunity to weigh in on the suggested research questions. Staff collectively assessed the value and viability of the collection of proposed research questions and developed a list of questions that were worth pursuing. PD&R's leadership and management team reviewed and discussed that list of questions and developed a priority list of research questions and project suggestions to be assigned to subject matter experts (SMEs) for proposal development.

Develop Project Proposal Summaries

The Learning Agenda SMEs developed project proposal summaries for each prioritized research question using a standard template. The resulting project proposal summaries accompany each research question in the body of the Learning Agenda.

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. The team assembled additional material on Data Needs, Methods for Evidence-Building, Barriers to Evidence-Building, and Implementation to complete the Learning Agenda.

Appendix B. List of Learning Questions by Policy Topic

Policy Topics, Foundational Learning Questions, and Priority Research Questions
Community Development and Place-based Initiatives
Foundational Learning Question: *How can federal policy most effectively support equitable place-building, community development, and quality of life improvements in American communities?*   **Priority Research Questions:**   • What were the outcomes of the Choice Neighborhoods program for both residents and the communities in which it was implemented?   • How effective are CDBG economic development activities across different community types and program approaches?   • To what extent does CDBG investment benefit low- and moderate-income persons and individuals who are members of protected class groups or underserved communities?   • How are CDBG grantees using the Section 108 loan guarantee program to support innovative affordable housing and economic development models?   • How can HUD support and increase access to healthy environments in communities through assets connected to place-based investments?   • To what extent can technical assistance build capacity and improve financial management of distressed local governments?   • How effective are homeowner rehabilitation programs at improving individual quality of life and what effect do they have on neighborhood quality?   • How much affordable housing is created within Opportunity Zones, and what is the broader change in housing affordability in those areas?   • What has been the impact of the HOPE VI Urban Revitalization program over 20 years?   • What are the personal reasons, outcomes, and destinations of households who leave gentrifying neighborhoods? What motivations and perceptions of neighborhood change influence the choices of leavers and stayers?   • What are the housing needs of agricultural workers?
Core Housing Programs
Foundational Learning Question: *How can HUD most effectively meet needs for high-quality, rent-assisted housing that supports housing security and economic advancement?*   **Priority Research Questions:**   • What are the best most effective ways of engaging with and attracting landlords to the voucher program?   • What would change if tenant-based rental assistance programs made payments directly to tenants?   • What would it take to improve accessibility in the assisted housing stock, including public housing and privately owned multifamily housing?   • How does housing quality affect assisted housing tenure, employment, and quality of life outcomes of public housing and HCV tenants?   • What are the tenant, neighborhood, and PHA outcomes associated with the implementation of Small Area FMRs?   • What are the barriers to applying for federal housing assistance, especially for individuals who are members of protected class groups or underserved communities, and would tools that facilitate applying for housing assistance address them? What is the pattern and distribution of voucher portability in the Housing Choice Voucher Program?

Policy Topics, Foundational Learning Questions, and Priority Research Questions
• How can HUD better support students in post-secondary education who are at risk of housing insecurity and homelessness? • What are the pros and cons of updating utility allowances through energy consumption modeling rather than relying on actual utility data in multifamily properties? • How do energy standards affect the long-term viability of RAD conversions? • How are PHAs implementing the Project-Based Voucher program? • Is the Project-Based Voucher program benefiting HUD's target populations and do underserved communities have equitable access to the program? • What are the long-term social and economic outcomes of persons who have exited public and assisted housing?

Disaster Recovery, Energy, and Climate Change
Foundational Learning Question: *How can federal policy and funding best support disaster recovery, climate resilience, and sustainability and strengthen environmental justice?* **Priority Research Questions:** • Does HUD need to modify the CDBG-DR allocation process to account for new needs related to climate change? • How do the impacts, costs, and resulting needs of slow-onset disasters compare with those of declared disasters, and what are implications for slow-onset disaster declarations, recovery aid programs, and HUD allocation formulas? • What HUD-assisted properties are repeatedly harmed by or at increasing risk of disasters and what is the cost to HUD? What are risks to HUD-assisted and other vulnerable populations? • What enhancements to disaster-related data collection and data sharing between agencies are needed to improve coordination and accelerated recovery? • How does the impact of CDBG-Disaster Recovery funding vary across communities, and how do impacts vary with local capacity? • What are the outcomes of CDBG-Disaster Recovery buyout programs and are these programs administered equitably? • Where do people go after a disaster? • What is the optimal level of flood insurance coverage for the FHA single-family mortgage portfolio and how can flood insurance policies maximize coverage? • Are current building efficiency, safety and resiliency codes for various types of housing adequate? • How are climate change risk and disasters affecting mortgage performance, and what are implications of including climate risk in underwriting procedures?

Fair Housing
Foundational Learning Question: *How can housing discrimination associated with online advertising, social media, and finance be measured, investigated, and prevented?* **Priority Research Questions:** • To what extent do people of color with disabilities seek redress related to their disability? • How can research support HUD and community efforts to Affirmatively Further Fair Housing (AFFH)? • To what extent is there bias in home appraisals and automated valuations, and what are the fair housing implications? • Why do comparatively few fair housing complaints relate to the home sales process, and are there ways to identify discriminatory practices such as steering?

Policy Topics, Foundational Learning Questions, and Priority Research Questions
• What do early findings show about the experiences of voucher holders in jurisdictions with local source of income discrimination ordinances?   • Can innovative housing discrimination study methodologies better detect and measure evidence of discrimination in advertised units than in-person paired testing methods?   • Do home seekers with communication-related disabilities experience substantial barriers to information in seeking rental units?   • How are HUD's definitions of 'areas of minority concentration' and Site and Neighborhood Standards shaping the development of new affordable housing?   • What portion of HUD-assisted rental housing continues to be non-compliant with applicable federal accessibility requirements, including in entrances and common areas of a building?   • How effective are Fair Housing Initiatives Program agencies in providing fair housing education, outreach, and investigations?

Homeownership
Foundational Learning Question: *How can federal policy make first-time homeownership more accessible to all Americans and more likely to result in housing stability and wealth-building for underserved populations?*   **Priority Research Questions:**
• How can equity in mortgage lending best be advanced, especially as algorithmic decision making is becoming more prevalent?   • What have HUD programs done to close the homeownership gap, and what role does homeowner equity play?   • What are FHA's policy options and tradeoffs for advancing shared equity as a federal homeownership strategy?   • Who has benefitted from pandemic forbearance programs?   • What are the implications for the housing finance system of differences in the composition of mortgage-backed securities of GNMA versus those of the housing GSEs and their changes over time?   • To what extent is the GNMA portfolio vulnerable to climate risk?   • How much does student loan debt influence mortgage default risk?   • How effectively does a post-purchase, light-touch homeownership counseling program prepare FHA borrowers for sustainable homeownership?   • What risks and benefits are associated with providing down-payment assistance and other assistance to first-time homebuyers?   • Who is served by PHA-administered homeownership programs and to what extent have assisted households been able to maintain homeownership and build assets?

Housing Finance and Affordable Housing Supply
Foundational Learning Question: *How can federal policy mitigate market constraints in affordable housing production and finance?*   **Priority Research Questions:**
• What are the gaps in financing for multifamily housing in America, and under what conditions would an expanded FHA role be likely to support both increasing the supply of multifamily housing and preserving and enhancing the supply of naturally occurring affordable housing?   • How is the Housing Trust Fund being used to increase the production of affordable housing?   • What happens to the LIHTC portfolio as communities start to reach the end of the extended use affordability period?   • How would changes to basis boost policies impact patterns of LIHTC development?

Policy Topics, Foundational Learning Questions, and Priority Research Questions
• What do housing subsidies buy?
• How do zoning, subdivision regulations, procedural processes, and local land use conditions affect housing supply, and what regulatory reforms are most effective at matching housing supply to demand in a way that promotes inclusive communities?
• To what extent do land use policies and other regulatory factors drive differences in rents and production of affordable rental units?
• How successful have laws aimed at increasing duplexes, Accessory Dwelling Units, and other low-density, infill housing typologies been at creating new housing supply?
• What is the potential for alternative models for housing affordability?
• Can affordable housing and manufactured homes promote wealth building?
• What is the impact of Davis-Bacon wage requirements on the cost of housing development, project quality, and worker wages?
• To what extent can modular or other off-site construction methods produce affordable accessible rental units, and how does the affordability of off-site methods compare with that of site-built housing?

Housing and Health

Foundational Learning Question: *How can HUD best address the health needs of people in its assisted housing programs and also bring housing assistance to those for whom lack of housing is a major barrier to health?*

Priority Research Questions:

- What are the most significant problems with indoor air quality in HUD-assisted housing? What are cost-effective ways to influence positive changes in indoor air quality?
- Which program designs for deploying Integrated Pest Management in public and assisted housing are most cost-effective and manageable?
- How can HUD reduce the incidence of elevated blood lead levels among children of families in the Housing Choice Voucher program?
- How well do HUD's homeless assistance programs meet the health needs of young children and their parents?
- What home visiting model would most successfully promote health or other beneficial outcomes for families with children in public housing and assisted housing or emergency shelters?
- What are the most significant health disparities affecting HUD-assisted households? To what extent do health challenges represent opportunities for cost-effective coordination of healthcare services with housing assistance?
- How prevalent is receipt of Medicaid Home and Community Based Services (HCBS) among HUD-assisted households?
- What accessibility features and design standards are recommended when building or rehabilitating housing for the elderly to support residents' ability to age in place?

Indian and Tribal Issues

Foundational Learning Question: *How can HUD better respond to housing and development challenges unique to Native American communities and tribal lands?*

Priority Research Questions:

- What is the impact of the Indian Housing Block Grant competitive grant program for housing in tribal areas?
- What are the distinct impacts and challenges of climate change in tribal communities and U.S. Territories, and what are implications for housing and community development?
- What are the most effective disaster preparedness recovery, mitigation, and adaptation strategies undertaken by tribal communities, including pandemic response?

Policy Topics, Foundational Learning Questions, and Priority Research Questions
• How are crisis response approaches to prevent and end homelessness different in tribal areas? • What is the feasibility of developing local sources of building components and materials in tribal areas to reduce housing construction costs?
Self-sufficiency and Economic Opportunity
Foundational Learning Question: *How can housing assistance, including temporary assistance, best support moves to opportunity neighborhoods, human capital development, and increased economic opportunity?* **Priority Research Questions:**
• What additional approaches can encourage asset building among HUD-assisted households? • What is the unmet need for childcare among HUD-assisted households with children? • What effect does improved access to affordable childcare have on the employment outcomes of parents/guardians and on the developmental outcomes of children? • What proportion of public housing residents employed under Section 3 requirements receive training or certifications to improve their long-term employment prospects? • How many HUD-assisted tenants receive services from other federal programs focused on labor market outcomes? • Are there service delivery models evaluated in the research literature that could improve self-sufficiency outcomes for HUD-assisted households? • What are the costs and benefits of making broadband internet services a reimbursable expense for providers of HUD-assisted housing? • What is the policy value of implementing rent payment reporting to credit bureaus, and what are the equity tradeoffs for households in HUD-assisted housing?
Vulnerable and Special Populations
Foundational Learning Question: *How can housing assistance respond more effectively to varied individual needs of people who have barriers to housing stability, and what combination of supports and policies are most effective at preventing evictions, homelessness, and housing insecurity for lower income persons?* **Priority Research Questions:**
• How did PHAs and Continuum of Care groups (CoCs) partner to administer their allocation of Emergency Housing Vouchers (EHV) and what were the outcomes of tenants who leased up with an EHV? • To what extent did the Emergency Rental Assistance Program prevent evictions and homelessness in the short-term, did it have lasting effects on housing stability, and could it serve as a model for future HUD programs? • How were eviction and foreclosure moratoria implemented during the pandemic, and what lessons does that experience have for the future? • How are HUD grantees implementing the Eviction Protection Grant Program? • What have been the challenges and outcomes associated with implementing pandemic-related programs to prevent and end homelessness? • What are the barriers people experiencing unsheltered homelessness face when trying to access the shelter system, and what can shelter providers do to address these barriers? • What kinds of homelessness prevention and diversion strategies are communities employing, and which strategies are most effective at resolving homelessness and preventing returns to homelessness? • For what portion of people experiencing homelessness is Rapid Rehousing the right resource, and what will the optimal program structure and duration be in different housing markets? • What strategies best support formerly homeless tenants who wish to "Move-On" from Permanent Supportive Housing?

Policy Topics, Foundational Learning Questions, and Priority Research Questions
• What are the long-term outcomes of the Section 811 Housing for Persons with Disabilities program?
• Are Mainstream, Non-Elderly Disabled (NED) vouchers an effective intervention for individuals with disabilities experiencing homelessness?
• What are the costs and preparation necessary for older adults to age in place successfully in public and assisted housing?
• How well are housing protections provided under the Violence Against Women Act (VAWA) assisting victims of domestic violence, dating violence, sexual assault and stalking achieve housing stability?

Enhanced Data and Methods

Foundational Learning Question: *How should HUD improve data, methods, and processes to build capacity for evidence-based policymaking?*

Priority Research Questions:

- How can HUD capture "positive" and "negative" outcomes and motivations for exit by assisted tenants?
- What data linkages should HUD invest in as permanent, regular linkages and what data linkages can remain as ad-hoc efforts?
- Could HUD link IRS, HUD, and Census records to add to the evidence base on the effects of housing assistance on tenants' employment, income, and earnings?
- What can HUD learn about mortality outcomes through data linkages with the Census Bureau?
- Are there components of HUD's administrative data collection that do not yield sufficiently complete and/or high quality data for effective policymaking? How can these deficiencies be addressed?
- Which data currently collected on paper forms would support useful policy analysis and performance assessment if digitized in accessible and searchable form?
- Are there data sources that HUD maintains internally that could be made public while protecting privacy?
- How do REAC physical inspection results for the HUD stock compare with occupant-reported data from the American Housing Survey and the American Healthy Homes Survey?
- What would be the policy value of creating a national evictions database, including how the database could inform policy to advance housing stability?
- What can we learn from the American Housing Survey about how renter and homeowner decisions are changing in response to climate change?
- As HUD works to test and validate the American Housing Survey Housing Insecurity module, are there examples or test cases worthy of research for how a housing insecurity index might be applied?
- What do the next generation surveys on lead hazards and healthy homes tell us?
- How could HUD cost-effectively capture data on energy expenditures and energy consumption for public and assisted housing developments?
- Which drivers of customer experience most frequently hinder satisfaction and trust for specific program services?

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