



December 2021

DISASTER RECOVERY

Additional Actions Needed to Identify and Address Potential Recovery Barriers



A Century of Non-Partisan Fact-Based Work

GAO@100 Highlights

Highlights of [GAO-22-104039](#), a report to congressional requesters

Why GAO Did This Study

Disasters affect numerous American communities and cause billions of dollars of damage. Many factors affect individual and community recovery. Recently, federal actions have focused on equitable administration of federal recovery assistance.

Members of Congress asked GAO to report on the impact of federal disaster recovery programs on various societal groups. This report addresses (1) research findings on recovery outcomes related to select federal programs, (2) research findings and recovery stakeholder perspectives on participation in select federal recovery programs, and (3) the extent to which federal disaster recovery agencies have taken actions to identify and address potential access barriers and disparate outcomes.

GAO conducted a literature review to summarize key research findings and interviewed state, tribal, and nonprofit recovery stakeholders to gain their perspectives. GAO analyzed program documentation and interviewed federal program officials from the six federal programs selected because of their historically large obligations for disaster recovery.

What GAO Recommends

GAO recommends that FEMA, HUD, and SBA lead an interagency effort to develop (1) a plan to ensure use of comprehensive information and (2) processes to identify and address access barriers and disparate outcomes. FEMA and SBA concurred. HUD did not agree or disagree with the recommendations, but officials stated they would work with federal recovery partners on these issues.

View [GAO-22-104039](#). For more information, contact Chris Currie at (404) 679-1875 or CurrieC@gao.gov

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What GAO Found

Limited research exists on the relationship between disaster outcomes and the six federal recovery programs included in this GAO review: the Federal Emergency Management Agency's (FEMA) Individual Assistance and Public Assistance programs, National Flood Insurance Program, and Hazard Mitigation Grant Program; the Small Business Administration's (SBA) Disaster Loan program; and Housing and Urban Development's (HUD) Community Development Block Grant-Disaster Recovery. The design of the nine available studies did not allow GAO to draw conclusions about causal relationships between federal disaster recovery programs and overall recovery outcomes. Of the studies that were available, GAO grouped the findings into two categories: (1) socioeconomic outcomes and (2) community resilience outcomes. Our review of socioeconomic studies suggested that outcomes of disaster assistance for individual programs may be uneven across communities. This review also suggested that federal programs may enhance community resilience and prevent flood-related fatalities for vulnerable residents.

Limited research exists on the relationship between participation in select federal recovery programs and individual, community, and program characteristics. However, GAO found that some studies and stakeholder perspectives provided insight into the relationships between socioeconomic, demographic, community, and programmatic characteristics and participation. For example, a study of counties in one state found greater levels of flood mitigation in communities with larger tax revenues and larger budgets for emergency management. In addition, officials representing states said larger cities can hire a third party to manage disaster recovery, but small towns and rural areas may lack resources to contract for disaster recovery services. Similarly, an official representing tribal nations told GAO that not all tribal nations have sufficient funding to develop emergency management departments, which can be a barrier to accessing federal resources. Further, representatives from voluntary organizations told GAO that conditions of socioeconomic vulnerability—such as lower-income households or homelessness—may present barriers to participating in federal recovery programs.

Some of the six federal recovery programs in this report have taken some actions that could help officials identify and address potential access barriers and disparate outcomes. However, programs lack key information—data and analysis—that would allow them to examine patterns and indicators of potential access barriers and disparate recovery outcomes. Moreover, the programs have not taken action to determine (1) the universe of data needed to support this kind of analysis; and (2) sources and methods to obtain those data when the programs do not already collect them, including overcoming key challenges. These programs also lacked routine, interagency processes to address such barriers within or across recovery programs on an ongoing basis. Systematic efforts to collect and analyze data, and routine, interagency processes to address any identified access barriers or disparate outcomes, would help ensure equal opportunity to participate in disaster recovery in a meaningful way. Such actions would be consistent with the National Disaster Recovery Framework and recent governmentwide equity initiatives.

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Abbreviations

CDBG-DR	Community Development Block Grant Disaster Recovery
FEMA	Federal Emergency Management Agency
HUD	Department of Housing and Urban Development
NFIP	National Flood Insurance Program
SBA	Small Business Administration
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act

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December 15, 2021

The Honorable Bennie G. Thompson
Chairman
Committee on Homeland Security
House of Representatives

The Honorable Elizabeth Warren
United States Senate

According to the Federal Emergency Management Agency (FEMA)—the agency that facilitates the coordination of disaster recovery support at the national level—too many disaster survivors, specifically those living in low-income neighborhoods, communities of color, people with disabilities, older adults, those with language barriers, and those living in rural and isolated areas, face barriers in accessing disaster assistance programs and resources to support their recovery. In a June 2021 testimony before Congress, the Administrator stated that FEMA in collaboration with all disaster stakeholders, must work aggressively and collectively to ensure equity in disaster response and recovery, including identifying access barriers and the root causes of differing recovery outcomes for survivors.¹ In the first 9 months of 2021, there have been 18 natural disaster events with losses exceeding \$1 billion each in the United States, according to the National Oceanic and Atmospheric Administration.

Disaster recovery, as described in the National Disaster Recovery Framework, is a complex process for individuals and communities.² As discussed in the framework, the local jurisdictional governments and nongovernmental sectors within affected communities generally make decisions about resources for community recovery. In cases where communities request federal resources to help with recovery, primary decision-making still flows from the community level, while state governments and federal agencies take on roles and responsibilities

¹Deanne Criswell, FEMA Administrator, “*Examining FEMA’s Readiness to Meet its Mission*,” virtual testimony before the House of Representatives Committee on Homeland Security, 117th Cong., 1st sess., June 29, 2021.

²The National Disaster Recovery Framework outlines the strategy and doctrine for how the whole community—including individuals and communities, the private and nonprofit sectors, and all levels of government—builds, sustains, and coordinates delivery of recovery capabilities. Department of Homeland Security. *National Disaster Recovery Framework*, 2nd ed. (Washington, D.C.: June 2016).

through the auspices of their disaster assistance programs and may influence outcomes through various aspects of program implementation.

According to the National Disaster Recovery Framework, the recovery process is best described as a sequence of interdependent and often concurrent activities that progressively advance a community toward its planned recovery outcomes. Decisions made and priorities set by a community predisaster and early in the recovery process have a cascading effect on the nature, speed, and inclusiveness of recovery.

The federal government has dozens of programs that provide recovery assistance in the wake of a disaster to eligible state, local, tribal, and territorial governments; businesses; and individuals and communities. This report focused on six federal assistance programs specifically authorized for disaster recovery with historically large obligations.³ These programs are (1) FEMA's Individual Assistance Program; (2) FEMA's Public Assistance Program; (3) FEMA's National Flood Insurance Program (NFIP); (4) FEMA's Hazard Mitigation Grant Program; (4) the Department of Housing and Urban Development's (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR); and (6) the Small Business Administration's (SBA) Disaster Loan program.⁴

You asked us to review issues related to the impact of federal disaster recovery programs on various socioeconomic and demographic groups. For the six federal recovery programs with historically large financial obligations, this report addresses (1) what the available research reported about the relationship between selected federal programs and recovery outcomes, (2) what the available research and recovery stakeholders reported about individual or community participation in selected federal recovery programs, and (3) the extent to which federal recovery programs

³Each of the six federal assistance programs included in this review had total obligations of at least \$2.3 billion during fiscal years 2005 through 2014. See GAO, *Federal Disaster Assistance: Federal Departments and Agencies Obligated at Least \$277.6 Billion during Fiscal Years 2005 through 2014*, [GAO-16-797](#) (Washington, D.C.: September 22, 2016).

⁴GAO has previous work examining disparate outcomes in various federal efforts. For example, we have previously recommended that the FEMA Administrator, as part of a redesign, take action to better understand and incorporate the needs of customers and stakeholders. See GAO, *Disaster Assistance: Additional Actions Needed to Strengthen FEMA's Individuals and Households Program*, [GAO-20-503](#) (Washington, D.C.: September 30, 2020).

have taken action to identify and address potential access barriers and potential disparate outcomes.

To address the first two objectives, we conducted a literature review of available research that examined some aspect of participation in or recovery outcomes related to any of the six federal programs in our scope.⁵ We searched databases for peer-reviewed, governmental and nongovernmental studies published between 2005—when Hurricane Katrina hit—through 2020, the most recent full calendar year at the time of our review. Of the 204 studies identified in our search, we identified nine studies relevant to our objective on recovery outcomes and 23 studies relevant to our objective on participation in the six selected federal programs. We included studies that met all of the following criteria: (1) the studies had quantitative or qualitative research designs that examined participation or outcomes for at least one of the six federal disaster assistance programs in our scope; (2) the studies were published on or after 2005; (3) the studies contained at least some data on or after 2000; (4) the studies examined a population or subpopulation within the United States; and (5) the studies were peer reviewed or published as governmental or nongovernmental think tank reports. We excluded studies that did not disaggregate data for individual programs.

We also interviewed three groups of disaster recovery stakeholders—(1) voluntary organizations, (2) state emergency managers and organizations that represent state and local governments, and (3) organizations representing tribes and tribal emergency management groups—to provide perspectives on recovery challenges for socioeconomic or demographic populations that these stakeholders believed to be vulnerable. The first of these groups was voluntary organizations that serve disaster survivors during recovery. Specifically, we interviewed stakeholders from six voluntary organizations with experience working across multiple disasters and multiple regions. The organizations were members of the national consortium of disaster nonprofits—the National Voluntary Organizations Active in a Disaster—and that, according to fiscal year 2017 data from the Center for Disaster Philanthropy, received the

⁵In this report, a “recovery outcome” refers to any individual or community outcome after participating in one of the six selected federal recovery programs that is not related to the immediate response to a natural disaster. “Participation” refers to both access (whether or not an individual, household, or community accessed a program) and the extent to which they participated (for example, the amount of funds received or Community Rating System scores). FEMA’s Community Rating System reduces flood insurance premiums to incentivize implementing new flood protection activities.

largest amount of donations from philanthropic foundations to help organizations with their disaster assistance efforts.

The second group was state emergency managers and organizations that represent state and local governments. Specifically, we asked the National Emergency Management Association to identify state directors of emergency management who had been particularly focused on equity in disaster recovery.⁶ We interviewed two directors identified by the association. We also interviewed officials from the National Association of Counties and the National League of Cities to obtain their perspectives and experiences regarding any potential participation barriers and potential disparate outcomes at the state and local levels.

The third group we interviewed was organizations representing tribes and tribal emergency management groups. Specifically, we spoke with two organizations that represent tribes to gather views on federal actions to identify and address potential participation barriers and potential disparate outcomes during disaster recovery, as well as tribes' experiences receiving federal disaster assistance. The perspectives we gathered from the interviews with these three groups are not generalizable to all voluntary organizations or state, local, and tribal governments; however, they provide important insight into the kinds of experiences these entities have observed when working with disaster survivors.

To address our third objective, we considered whether the six selected federal programs, individually and collectively, had internal controls in place that would support achievement of key principles contained in the National Disaster Recovery Framework. Specifically, those principles call for recovery partners, including federal agencies, to (1) identify and remove social and institutional barriers, whether intentional or unintentional, to meaningful participation in recovery efforts; (2) identify strategies and benchmarks for how they will measure their actions, both qualitatively and quantitatively; and (3) measure progress toward recovery. To collect information on the actions the federal agencies in our scope have taken to identify and remove barriers to recovery efforts, we

⁶We consulted the National Emergency Management Association for help identifying state emergency management directors because it serves as the professional association of and for emergency management directors from all 50 states, five U.S. territories, and the District of Columbia. As a result, we believe its staff were well positioned to identify state emergency management directors who would be particularly well equipped to offer perspectives on equity in disaster recovery efforts.

conducted interviews with program officials and reviewed available documentation that supported program officials' statements on the actions they described.

We also interviewed program officials to obtain their perspectives on challenges related to identifying and addressing potential access barriers and potential disparate outcomes, as well as future opportunities to improve these actions. We then compared the actions agency officials reported against relevant internal controls to determine progress toward identifying and addressing barriers and disparate outcomes.⁷ We determined that the component of internal controls related to information and communication was significant to identifying potential access barriers and disparate outcomes, particularly the principle that calls for management to use quality information to achieve objectives. Specifically, this principle calls for management to identify information requirements and related risks relevant to the objective. The principle further calls for management to identify the sources of relevant data that correspond to those information requirements and to process those data into quality information that can be used to make informed decisions and to evaluate the entity's performance in achieving key objectives. We determined that the component of internal control related to risk assessment was significant to addressing any identified access barriers or disparate outcomes, particularly the principle that calls for management to identify, analyze, and respond to risks related to achieving the defined objectives. This internal control principle describes the need for management to design to respond to any risks it deems significant. Additional details on our scope and methodology are in appendix 1.

We conducted this performance audit from January 2020 through December 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁷See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 10, 2014).

Background

Six Federal Disaster Recovery Programs

Our review focused on six federal recovery programs with historically large amounts of disaster-specific obligations. The six programs include the following:

1. **FEMA's Public Assistance.** The Public Assistance program reimburses state, local, tribal, and territorial governments and certain types of nonprofit organizations for the cost of disaster-related debris removal, emergency protective measures to protect life and property, and permanent repair work to damaged or destroyed infrastructure.

Public Assistance is available to eligible applicants in areas with a major disaster or emergency declaration under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) for which Public Assistance is approved.⁸ Public Assistance is the largest of the disaster recovery grant programs authorized under the Stafford Act and funded through FEMA's Disaster Relief Fund.⁹ In general, the Stafford Act prohibits duplication of benefits—meaning that no person, business concern, or other entity may receive financial assistance with respect to any part of losses as a result of a major disaster or emergency for which they received financial assistance under any other program or from insurance or any other source.¹⁰ In practice, this may require recipients to repay grants later that are determined to be covered through insurance or other sources.

⁸A major disaster is any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought); or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which the President determines causes damage of sufficient severity and magnitude to warrant major disaster assistance to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating damage, loss, hardship, or suffering. See 42 U.S.C. § 5122(2). An emergency is any occasion or instance for which, in the determination of the President, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States. 42 U.S.C. § 5122(1).

⁹FEMA's Disaster Relief Fund is a major source of federal disaster recovery assistance for state, local, and territorial governments when a disaster occurs.

¹⁰42 U.S.C § 5155. The Disaster Recovery Reform Act of 2018 provided that the President may waive the general prohibition on duplication of benefits if the President finds such a waiver is in the public interest and will not result in waste, fraud, or abuse. Pub. L. No. 115-254, div. D, § 1210(a)(1), 132 Stat. 3186, 3442-43 (codified at 42 U.S.C. § 5155(b)(4)).

In the majority of cases, Public Assistance recipients must pay a share of the costs—known as the nonfederal cost share. The nonfederal cost share for Public Assistance is generally 25 percent, but in some cases it has been reduced to 10 percent or waived altogether.¹¹

2. **FEMA’s Individual Assistance.** The Individual and Households Programs within FEMA’s Individual Assistance program provides financial and direct assistance to eligible individuals and households who have necessary expenses not met through insurance and serious needs created by disaster.¹² When making a recommendation to the President on the need for Individual Assistance, FEMA considers the demographics of the impacted population—such as the percentage receiving government assistance, the percentage that is 65 years or older, and the predisaster unemployment rate—among other factors.¹³

Like Public Assistance, Individual Assistance is authorized by the Stafford Act and funded through the Disaster Relief Fund.¹⁴ It is available to eligible residents of areas covered under a major disaster or emergency declaration that has been approved for Individual Assistance. Most of the programs under Individual Assistance do not require a nonfederal cost share. Two programs, one designed to identify and meet needs not covered by other Individual Assistance programs and another to provide temporary sheltering, may be subject to a cost share with state, territorial, or tribal government. All Individual Assistance programs are subject to restrictions on duplication of benefits.

3. **FEMA’s Hazard Mitigation Grant Program.** The Hazard Mitigation Grant Program is designed to help communities reduce the risk of

¹¹See, e.g., 44 C.F.R. § 206.47

¹²The individual Assistance Program has multiple programs that provide an array of services such as case management, crisis counseling, and disaster unemployment compensation to eligible applicants. This report focuses on the largest of these programs, the Individuals and Households Program,

¹³FEMA considers the following factors: state fiscal capacity and resource availability; uninsured/underinsured home and personal property losses; disaster impacted population profile; impact to community infrastructure; casualties; and disaster related unemployment. 44 C.F.R. § 206.48(b).

¹⁴See 42 U.S.C. § 5174.

property loss and infrastructure damage from future disasters. It funds a wide range of hazard mitigation projects, generally executed by tribal or municipal governments. Examples of hazard mitigation projects include acquiring existing properties and restricting future development in flood-prone areas, adding shutters to windows, and rebuilding culverts in drainage ditches.

Like Public Assistance and Individual Assistance, the Hazard Mitigation Grant Program is authorized by the Stafford Act and funded out of the Disaster Relief Fund.¹⁵ It is awarded to states, territories, or tribes with a major disaster declaration, which can then apply it to any eligible hazard mitigation activity anywhere within their jurisdictional boundaries. Like the other Stafford Act programs, the grants are subject to a nonfederal cost share and prohibition on duplication of benefits.

4. **FEMA’s National Flood Insurance Program.** The purpose of the NFIP is to protect homeowners from flood losses, minimize the exposure of properties to flood damage, and alleviate taxpayers’ exposure to flood loss. The program has four key elements: (1) identifying and mapping flood hazards, (2) floodplain management, (3) flood insurance, and (4) incentivizing flood-risk reduction through grants and premium discounts. As part of its efforts to incentivize flood risk-reduction, NFIP offers premium discounts for certain flood mitigation activities through the Community Rating System.

FEMA administers the NFIP and delivers the program to the public by a network of approximately 50 insurance companies and the NFIP Direct Servicing Agent.¹⁶ Federal flood insurance is not a disaster assistance grant. It is insurance available to residents of approximately 23,000 participating communities, who register and pay their premiums, to help with recovery after a flood-related loss.

5. **HUD’s Community Development Block Grant Disaster Recovery.** Numerous supplemental appropriations acts have provided CDBG-DR funding to help affected communities with unmet needs, especially in

¹⁵See 42 U.S.C. § 5170c.

¹⁶The NFIP Direct Servicing Agent is a FEMA program that assists in issuing flood insurance policies and payment of claims under the NFIP as prescribed by FEMA.

low- and moderate-income areas.¹⁷ Grant recipients use this flexible funding for a range of efforts to help rebuild their communities and mitigate future disaster risk. The prohibition against duplication of benefits in the Stafford Act programs (described above) applies to duplication with CDBG-DR. Grantees may use the block grants for the nonfederal cost share of awards under the Stafford Act programs described above.

6. **SBA's Disaster Loan.** SBA makes direct, low-interest loans to help businesses, nonprofit organizations, homeowners, and renters repair or replace property damaged or destroyed in a federally declared disaster. Additionally, SBA provides eligible small businesses with funds to help with operating expenses that cannot be met as a result of a federally declared disaster.

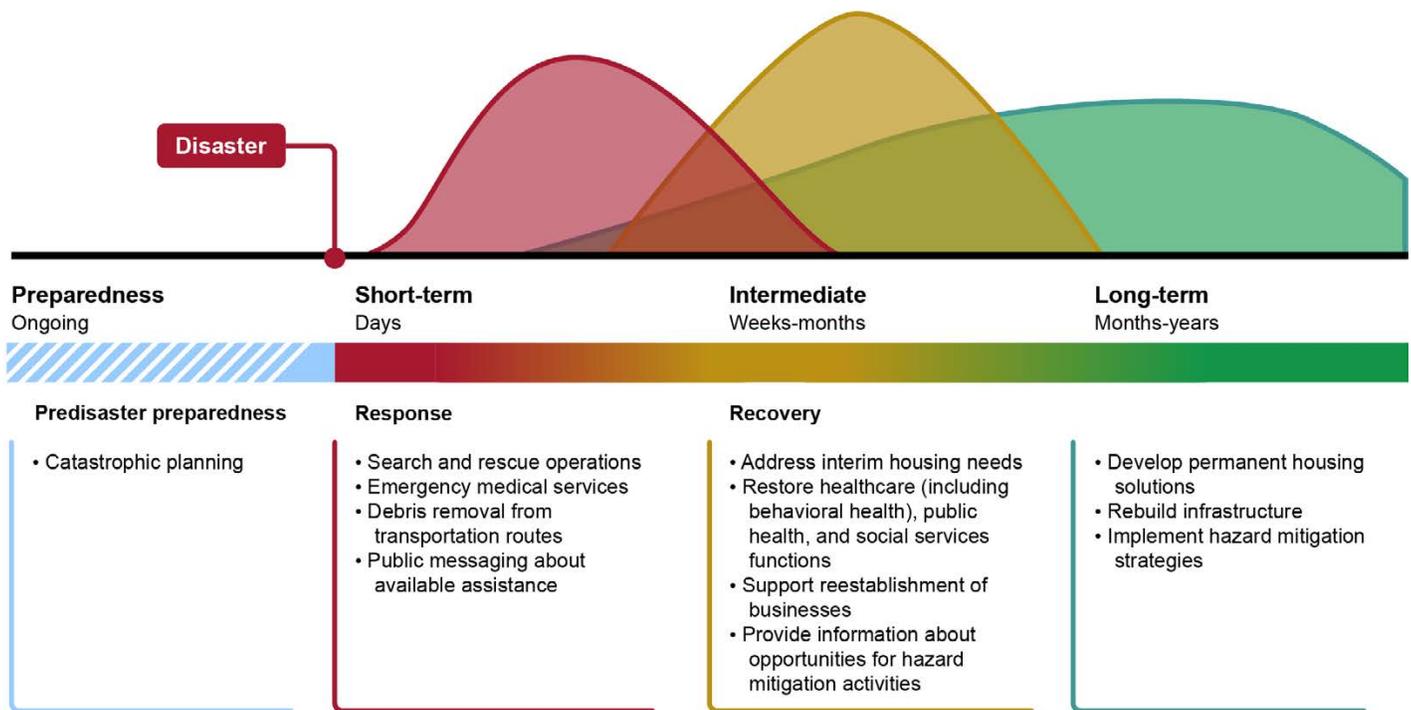
These six federal programs are part of a network of over 30 federal departments and agencies that provide various degrees of support for community disaster recovery, as appropriate. The National Disaster Recovery Framework organizes support around Recovery Support Functions, which describe the roles and responsibilities for providing the kind of support that communities may need. Each Recovery Support Function is headed by a coordinating federal agency, under which supporting agencies and entities provide subject matter expertise. The Recovery Support Function Leadership Group—a federal interagency group comprised of the relevant federal departments and agencies—is designed to identify and facilitate resolution of operational and policy issues related to the framework. FEMA serves as a focal point for this group and its interagency coordination actions.

¹⁷The Housing and Community Development Act of 1974 created the Community Development Block Grant program to develop viable urban communities by providing housing and a suitable living environment and by expanding economic opportunities, principally for low- and moderate-income persons. When disasters occur, Congress often appropriates Community Development Block Grant Disaster Recovery funding through supplemental appropriations. Prior GAO work noted the program's lack of permanent authorization and identified challenges grantees face in meeting customized grant requirements for each disaster, such as funding lags, varying requirements, and coordination with multiple programs. We recommended that Congress consider legislation establishing permanent statutory authority for a disaster assistance program administered by HUD or another agency that responds to unmet needs in a timely manner and directing the applicable agency to issue implementing regulations. See GAO, *Disaster Recovery: Better Monitoring of Block Grant Funds Is Needed*, [GAO-19-232](#) (Washington, D.C.: Mar. 25, 2019).

Community and Individual Disaster Recovery

The National Disaster Recovery Framework defines the time frames for different phases of recovery after a disaster, as seen in figure 1 below.¹⁸ Though there are distinct phases of the recovery continuum, the framework explains that the recovery phases involve interdependent activities, where a community's recovery progress depends on earlier, predisaster actions.

Figure 1: Disaster Recovery Phases and Example Actions, by Phase



Source: GAO analysis of Department of Homeland Security policy. | GAO-22-104039

According to the framework, the federal government's role in disaster recovery is to support state, local, tribal, territorial, and insular area governments in pursuit of their own successful recoveries. These nonfederal entities are responsible for defining their own long-term recovery goals, which the federal government helps to support through funding and technical assistance. Communities and individuals can use a variety of federal programs to support recovery after disasters. The

¹⁸Department of Homeland Security. *National Disaster Recovery Framework*, 2nd ed.

National Disaster Recovery Framework notes that state, local, tribal, territorial, and federal governments have the primary role of planning and managing all aspects of a community's recovery. See appendix II for more information about federal efforts to fund individual and community recovery needs after a disaster.

State, tribal, and territorial governments also have a critical role in supporting local recovery efforts. State and territorial governments can support local governments by coordinating or providing any needed technical or financial support to help communities address recovery needs. States assist local governments after disasters by identifying, securing, and leveraging recovery resources and funds for local governments. States also oversee coordination of state-wide and regional recovery initiatives, set priorities, and direct assistance where it is needed. In addition to managing federally provided resources, state, tribal, and territorial governments may develop programs or secure funding that can help finance recovery. For recovery on tribal lands, tribal governments have primary responsibility for defining recovery goals and leading recovery efforts.¹⁹ Depending on the nature of the disaster, the type of disaster declaration, and the complexity of the tribal government, tribal leaders may also provide the kind of regional and tribe-wide coordination role that states leaders play.²⁰

Community and individual recovery is a complex and multifaceted process. Multiple federal, state, and local programs of different sizes and purposes intersect with nongovernmental efforts and individual decision-making. For example, FEMA requires that certain survivors first be denied an SBA disaster loan before receiving certain Individual Assistance Grants, and we have previously reported that FEMA, state, local, and territory officials said that survivors did not understand and were frustrated by this requirement.²¹ A combination of factors can lead to different kinds of outcomes for communities and individuals—such as how quickly and completely or whether at all people return to their

¹⁹We previously reported on the administrative challenges tribal nations have faced in the past when requesting federal assistance for a disaster or emergency. See GAO, *Emergency Management: Implementation of the Major Disaster Declaration Process for Federally Recognized Tribes*, [GAO-18-443](#) (Washington, D.C.: May 23, 2018).

²⁰The Sandy Recovery Improvement Act of 2013 amended the Stafford Act to provide tribal governments with the option to request a presidential emergency or major disaster declaration. 44 U.S.C. §§ 5170(b), 5191(c).

²¹[GAO-20-503](#).

predisaster living conditions and routines or whether small businesses survive and thrive in the wake of a disaster.

The National Disaster Recovery Framework Calls for Equity in Recovery

In its guiding principles, the National Disaster Recovery Framework calls for all the partners in recovery operations to pay attention to equity. The framework states that all community members must have equal opportunity to participate in community recovery efforts in a meaningful way. It advises and specifically charges federal recovery partners to identify and remove social and institutional barriers to program participation, whether intentional or unintentional, a principle that is in keeping with the idea of addressing inequities in participation. Additionally, the framework states that integrating socioeconomic, demographic, accessibility, and risk assessment information in recovery planning processes and strategies is a critical task for federal recovery partners, like the selected agencies in our review, who are the federal leaders by virtue of the size of their recovery programs.

The framework also states that all federal partners involved in recovery have an interest in looking at how their actions affect the overall progress of recovery efforts. It calls on governments and organizations to identify strategies and benchmarks for how they will measure their actions both qualitatively and quantitatively and to measure progress toward recovery holistically, recognizing that recovery outcomes are measured beyond a single criterion, such as dollars spent or assistance delivered on a program-by-program basis.

Emerging Federal Actions to Focus on Equity

A number of federal laws prohibit explicit discrimination in federal programs, including recovery programs.²² Among these are Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975. In addition, the Stafford Act prohibits discrimination in disaster assistance on the basis of race, color, religion, nationality, sex, age, and economic status.²³

²²Title VI of the Civil Rights Act of 1964 protects individuals from discrimination based on race, color, or national origin in connection with programs receiving federal financial assistance. 42 U.S.C. § 2000d et seq. Section 504 of the Rehabilitation Act of 1973 forbids discrimination on the basis of disability. 29 U.S.C. § 794. The Age Discrimination Act of 1975, as amended, prohibits discrimination in federally supported activities on the basis of age. 42 U.S.C. § 6102.

²³42 U.S.C. § 5151.

In its November 2020 report, the National Advisory Council, which advises the FEMA Administrator on all aspects of emergency management, defined equity as ensuring the flow of resources to those with the most need.²⁴ In contrast, the report defined equality as providing the same level of resources to achieve some minimal outcome or goal, independent of need.

The federal government has acknowledged a need for more focus on equity—that is, identifying and addressing social and institutional barriers as called for in the National Disaster Recovery Framework—while maintaining a focus on equality through the lens of compliance with laws prohibiting discrimination. For example:

- The Federal Insurance and Mitigation Administration’s—the part of FEMA that manages the Hazard Mitigation Grant Program and administers NFIP—strategic plan for fiscal years 2021 through 2023 calls for a focus on the needs of historically marginalized populations when delivering programs.²⁵
- FEMA’s 2020 National Preparedness Report noted that age, financial insecurity, pregnancy, and identification with a historically disadvantaged group—including minorities and the lesbian, gay, bisexual, transgender, and queer community—are all factors that can increase vulnerability to disasters.²⁶ The report stated that these affected individuals or groups may require additional or distinct support after a disaster.
- The November 2020 National Advisory Council Report notes that FEMA should ensure that existing and new programs, policies, and practices do not exacerbate existing inequities and the disparities caused by these inequities.²⁷ The report recommended that FEMA’s Administrator should, by the end of 2021, create an equity standard by which to judge whether FEMA’s grants increase or decrease equity over time. The report also notes that FEMA has an opportunity to set

²⁴Department of Homeland Security. *National Advisory Council Report to the FEMA Administrator* (November 2020).

²⁵Department of Homeland Security, FEMA, *Fiscal Year 2021-2023 Federal Insurance and Mitigation Administration Leadership Intent* (Oct. 1, 2020).

²⁶Department of Homeland Security, *2020 National Preparedness Report*.

²⁷Department of Homeland Security, *National Advisory Council Report to the FEMA Administrator*.

an example for state and local emergency management agencies that are also seeking guidance on how best to incorporate equity-centered principles.

- On January 20, 2021, the President issued Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. The executive order calls for the federal government to pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.²⁸ Further, Executive Order 13985 directs federal agencies to assess whether underserved groups face systemic barriers in accessing opportunities and benefits available pursuant to certain programs and to produce a plan for addressing any identified barriers to full and equal participation in the programs.

Limited Research on Potential Relationships between Selected Federal Programs and Socioeconomic and Community Resilience Outcomes

The research described some potential relationships between selected federal programs and recovery outcomes; however, limitations in the research make it difficult to discern any definitive understanding of these relationships. The National Disaster Recovery Framework discusses a broad array of possible recovery outcomes, which may include how quickly or completely neighborhoods, schools, businesses, and other critical community functions return to their predistaster, normal state. They may also include the effects disasters have on the health (physical and mental), education, and welfare of individuals and households in affected communities. Another facet of recovery outcomes is the extent to which communities and individuals are able to use information and opportunities arising from their disaster experiences to reduce the risk or severity of future disaster effects.

We identified nine studies in our literature review that met our criteria and examined the relationship between at least one selected federal recovery program and any recovery outcome. Each of the six programs in our review appeared in at least one of the nine studies.²⁹ Drawing bottom-line conclusions about the relationships between recovery outcomes and

²⁸Exec. Order No.13,985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, 86 Fed. Reg. 7009 (Jan. 25, 2021).

²⁹Three studies reported on NFIP; two studies reported on SBA's Disaster Loan program; two studies reported on FEMA's Public Assistance program, and two studies reported on FEMA's Hazard Mitigation Grant Program; one study reported on HUD's CDBG-DR; and one study reported on FEMA's Individual Assistance program. This total does not add up to nine because two studies examined more than one program.

selected federal recovery programs is difficult because of the lack of available research, particularly with study designs that demonstrate cause and effect relationships. Moreover, these studies varied in terms of their research methodologies and research objectives, as well as the programs, populations, geographic areas, and points in time examined. For more details about the outcomes identified for each program in the research, see appendix III.

These studies can help illustrate some of the recovery outcomes that may be related to at least one selected federal recovery program. However, the research findings are not necessarily reflective of the range of possible outcomes that communities and individuals could experience during and after a disaster recovery. We grouped the available study findings into two categories: (1) research related to selected federal programs' relationship to socioeconomic outcomes; and (2) research related to selected federal programs' relationship to enhancing community resilience.³⁰

Socioeconomic Outcomes

Four of the nine studies in our review reported on aspects of some socioeconomic outcomes potentially related to Individual Assistance, Public Assistance, NFIP, SBA's Disaster Loan program, or CDBG-DR. Our review of these studies suggested that outcomes of disaster assistance for individual programs may be uneven across communities. For example, one study on Public Assistance found that wealth became more unequal over time between more and less advantaged residents when their counties received more Public Assistance after a disaster.³¹

The study modeled how wealth changed from 1999 through 2013 along racial, educational, and initial wealth groups and across counties that received various levels of Public Assistance after a disaster. This study reported that as local damages increased, so did wealth inequality. This study also reported that at any given level of local damage, the more aid an area received from FEMA, the more wealth inequality grew along the lines of race, education, and homeownership. Further, a descriptive study of communities in Louisiana and Mississippi 5 years after Hurricanes

³⁰The National Preparedness Goal defines "resilience" as the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies.

³¹Junia Howell and James R. Elliott, "Damages Done: The Longitudinal Impact of Natural Hazards on Wealth Inequality in the United States," *Social Problems*, vol. 66 (2019): 448-467. This study did not fully account for preexisting trends in inequality, which may have also contributed to inequality in areas that received Public Assistance.

Katrina and Rita found that low-income neighborhoods were more likely to receive CDBG-DR assistance and to still have damaged structures even after receiving the assistance.³²

Community Resilience

Five out of the nine studies in our review reported on the relationship between increased community resilience and four programs—Public Assistance, NFIP, the Hazard Mitigation Grant Program, or SBA’s Disaster Loan program. Although one study investigated how NFIP has served different groups in the wake of a disaster, the other four studies did not report outcomes by sociodemographic group. Moreover, one study did not examine these outcomes as a direct result of a disaster; rather, the study examined nationwide data collected from 1970 through 2010 in order to examine the effects of the NFIP’s Community Rating System.

Our review of these five studies suggested that these four programs may enhance community resilience and prevent flood-related fatalities for vulnerable residents. For example, two studies found that receiving grants from the Hazard Mitigation Grant Program or the Public Assistance program made communities less likely to experience property damage as a result of future natural hazards.³³ Another study found that counties with higher rates of NFIP participation experienced fewer fatalities from flood events because the floodplain management and mitigation efforts required for participation in the program helped to reduce fatalities.³⁴ This study also found that counties with more vulnerable residents—such as residents with lower education levels and poor housing quality—experienced more flood-related fatalities.

³²Jonathan Spader and Jennifer Turnham, “CDBG Disaster Recovery Assistance and Homeowners’ Rebuilding Outcomes Following Hurricanes Katrina and Rita,” *Housing Policy Debate*, vol. 24, no. 1 (2014): 213-237.

³³Meri Davlasheridze, Karen Fisher-Vanden, and H. Allen Klaiber, “The Effects of Adaptation Measures on Hurricane Induced Property Losses: Which FEMA Investments have the Higher Returns?” *Journal of Environmental Economics and Management*, vol. 81 (2017): 93-114; and Hyunjung Ji and David Lee, “Disaster risk reduction, community resilience, and policy effectiveness: the case of the Hazard Mitigation Grant Program in the United States,” *Disasters* (2019).

³⁴Jungmin Lim and Mark Skidmore, “Flood Fatalities in the United States: The Roles of Socioeconomic Factors and the National Flood Insurance Program,” *Southern Economic Journal*, vol. 85, no. 4 (2019): 1032-1057.

Moreover, our review of the findings of another study suggested that disaster loans may contribute to the survival of business establishments and can be particularly important to the livelihood of the smaller establishments. The study of SBA's Disaster Loan program explored the relationship between these loans and the economic resilience of small businesses in national data from 1998 through 2010.³⁵ The study found that for every additional dollar spent on disaster loans per establishment in a county, four small businesses survived in the wake of extreme events—a finding that was driven largely by businesses with fewer than 50 employees.

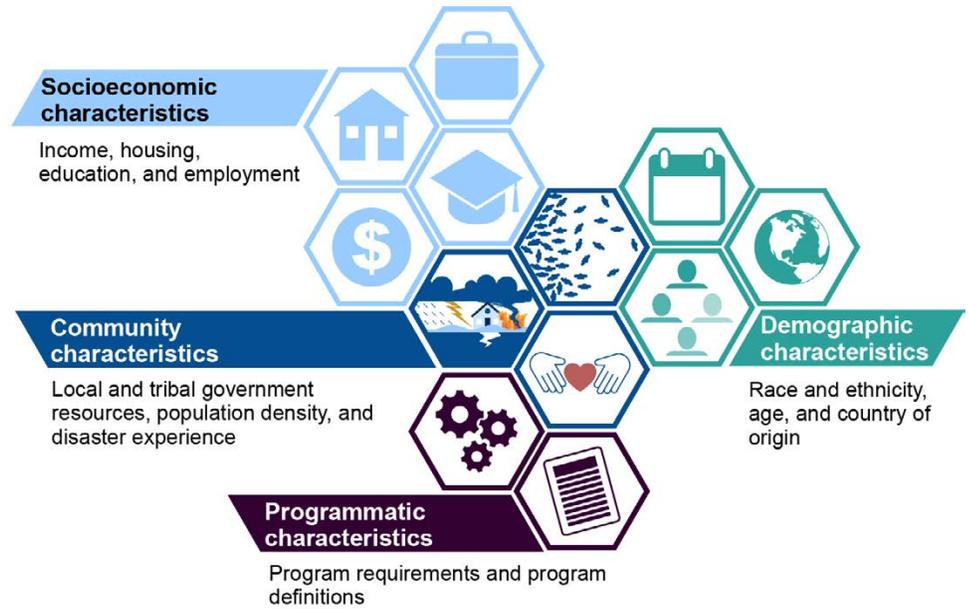
Stakeholders and Limited Research Described Potential Relationships between Participation in Selected Recovery Programs and Various Characteristics

Although limited research exists to understand the relationship between participation in each of the selected federal programs and various characteristics, our review of the research and interviews with disaster recovery stakeholders described some potential relationships.³⁶ For the purposes of this report, we considered any characteristic that may influence an individual's or a community's choice or ability to access one of the selected disaster recovery efforts. We identified 23 studies in our literature review that met our criteria and examined characteristics related to individual or community participation in at least one of the six federal recovery programs in our scope. For more details on the 23 studies in our review, including the findings and limitations, see appendix IV. We grouped these characteristics into four categories: (1) socioeconomic; (2) demographic; (3) community; and (4) programmatic, as shown in figure 2.

³⁵Meri Davlasheridze and Pinar C. Geylani, "Small Business vulnerability to floods and the effects of disaster loans," *Small Business Economics*, vol. 49 (2017): 865-888.

³⁶When reviewing the research, we focused on participation, with the understanding that a finding of reduced participation for specific groups may be, but is not necessarily, an indicator that those groups experienced challenges accessing the programs. The federal recovery programs included in this review are largely voluntary, and a number of factors may influence individual and community decisions to participate. The reasons why individuals and communities do or do not participate are multifaceted, making it difficult for researchers to isolate the causes of nonparticipation.

Figure 2: Categories of Characteristics from Selected Literature That May Be Related to Participation in Selected Federal Disaster Recovery Programs



Source: GAO analysis of research and expert perspectives. | GAO-22-104039

Note: Characteristics represent variables examined in at least one of the studies included within the scope of our review. Characteristics were studied in at least one of the programs, or a program element, and are not necessarily applicable to the entire program. No characteristic was studied in each of the six federal programs we reviewed. Characteristics are not necessarily exhaustive of all characteristics that may affect participation in these programs. The studies were published between 2005 and 2020 and used different methodologies of varying strengths to produce the findings.

Drawing bottom-line conclusions about the relationships between the various characteristics and participation in selected federal recovery programs is difficult. These studies varied in terms of their research methodologies and research objectives, as well as the program or component of a program, population, geographic area, and point in time examined. However, these studies, together with the perspectives from recovery stakeholders during interviews, can help illustrate some of the characteristics that may be related to participation in at least one selected federal recovery program.

Most (16 out of 23) studies reported on characteristics related to participation in NFIP.³⁷ Most of the studies provided limited insight into program participation by specific socioeconomic or demographic groups. However, one study did not examine participation by specific groups. The definition of “participation” varied across the studies and programs because of the differences in program purposes and function.³⁸

Socioeconomic Characteristics

Our review of the research and recovery stakeholder interviews provided examples of potential relationships between participation for some populations and socioeconomic characteristics—including income, housing, education, and employment. Fourteen of the 23 studies in our review examined the relationship between socioeconomic characteristics and participation in at least one of the five selected federal recovery programs.

Income and housing. Eight studies examined the relationship between income or housing values with participation in NFIP, Individual Assistance, CDBG-DR, or SBA’s Disaster Loan program. Our review of these eight studies suggested that these programs provide assistance based on property losses, so communities and households with higher incomes and higher housing values may participate more actively in these programs. For example, one study in our review that focused on measuring social equity in flood recovery funding found that as per capita

³⁷Five studies reported on characteristics related to participation in Individual Assistance, and one study reported on characteristics related to participation in Public Assistance. Two studies reported on characteristics related to participation in SBA’s Disaster Loan program, and two studies reported on characteristics related to participation in HUD’s CDBG-DR. None of the studies reported on participation characteristics for the Hazard Mitigation Grant Program; however, we previously reported that state and local officials from selected jurisdictions experienced challenges with FEMA’s Hazard Mitigation Grant Program. See GAO, *Disaster Resilience: FEMA Should Take Additional Steps to Streamline Hazard Mitigation Grants and Assess Program Effects*, [GAO-21-140](#) (Washington, D.C.: Feb. 2, 2021).

³⁸For the purposes of this report, “participation” refers to factors that may influence an individual’s or a community’s choice or ability to access one of the selected disaster recovery efforts. Specifically, participation for grant programs—like FEMA’s Public Assistance program and HUD’s CDBG-DR—included analysis of the number or amount of grants given to communities. Participation in Individual Assistance included analysis of individuals who applied for or received federal assistance. Participation for SBA’s Disaster Loan program included analysis of the number of people or businesses that received loans or the total amount of loans received by selected individuals and communities. Participation for NFIP included analysis of the number of active policies, the amount of payouts, and participation in FEMA’s Community Rating System—a system that reduces flood insurance premiums to incentivize implementing new flood protection activities.

income increased in South Carolina, the average award from the Individual Assistance program also increased in counties in this state.³⁹ Three studies—one that used nationwide data and two that used data on southern coastal states—found that higher housing values had a positive relationship with greater participation in NFIP.⁴⁰ Another study found that communities in North Carolina with higher median household incomes had higher Community Rating System points, indicating greater levels of flood mitigation activities. At the same time, less flood mitigation had occurred in communities that had higher levels of crime and unemployment and lower levels of school quality, suggesting that income and housing contribute to Community Rating System participation alongside other competing public priorities.⁴¹

Representatives from voluntary organizations told us that socioeconomically vulnerable populations—such as lower-income households, individuals who are homeless or in danger of losing housing, and renters—may experience barriers when trying to participate in federal recovery programs. For example, representatives from one voluntary organization told us that lower-income households that experience a disaster might see a drop in income if the disaster leaves them unable to work. In turn, disaster survivors may not be able to pay for essential services, such as phone and internet, which they need to be able to participate in some federal recovery programs.

In addition, representatives from another voluntary organization told us that individuals who are homeless face unique challenges when trying to access assistance given that (1) they did not have adequate housing predisaster, (2) recovery programs focus on returning disaster survivors

³⁹Christopher T. Emrich et al., “Measuring social equity in flood recovery funding,” *Environmental Hazards*, vol. 19, no. 3 (2020): 228-250.

⁴⁰Douglas S. Noonan et al., “What Drives Community Flood Risk Management? Policy Diffusion or Free-Riding,” *International Journal of Sustainable Development and Planning*, vol. 15, no. 1 (2020): 69–80; Mary Paille et al., “Influences on Adaptive Planning to Reduce Flood Risks among Parishes in South Louisiana,” *Water*, vol. 8, no. 57 (2016); and Sammy Zahran, et al., “Modeling National Flood Insurance Policy holding at the county level in Florida, 1999-2005,” *Ecological Economics*, vol. 68 (2009): 2627-2636. Beginning on October 1, 2021, new NFIP policies will be subject to a new pricing methodology, Risk Rating 2.0—Equity in Action, to allow FEMA to more accurately set premiums for policyholders based on the value of their home and the unique flood risk to their property.

⁴¹Jingyuan Li and Craig E. Landry, “Flood Risk, Local Hazard Mitigation, and the Community Rating System of the National Flood Insurance Program,” *Land Economics*, vol. 94, no. 2 (2018): 175-198.

to their predisaster state, and (3) recovery assistance is tied to assets. One state emergency manager told us that homeowners' recovery is prioritized over renters' recovery, and representatives from another voluntary organization explained that federal programs focus on homeowners and struggle to assist renters.

Education. Six studies examined the relationship between education and participation in NFIP or the Individual Assistance program. Our review of these six studies and recovery stakeholder interviews suggested that education may facilitate participation in NFIP or the Individual Assistance program, but that finding did not hold true in all of the research on this subject. One of these studies reported that after Hurricane Sandy, Zip codes in New Jersey, Maryland, and New York with higher percentages of the population with at least a high school diploma received higher damage assessments in the Individual Assistance program.⁴² One other study reported that counties with higher proportions of high school and college graduates had a positive relationship with higher numbers of active NFIP policies in Georgia counties.⁴³

Similarly, officials from one voluntary organization told us that the scope, scale, and complexity of federal recovery programs limit some individuals' ability to access them because it can be hard to navigate the process without the right education, resources, or support. However, one study of phone survey respondents living along the Texas Gulf Coast after Hurricane Harvey found that respondents who applied for an Individual Assistance grant were less likely to have earned a postgraduate degree.⁴⁴

Employment. Four studies examined the relationship between employment and participation in CDBG-DR, Public Assistance, Individual Assistance, or NFIP. Our review of these four studies suggested that communities with a larger number of individuals employed in socially vulnerable occupations may be more dependent on federal grant

⁴²Laura E. Grube, Rosemarie Fike, and Virgil Henry Storr, "Navigating Disaster: An Empirical Study of Federal Assistance Following Hurricane Sandy," *Eastern Economic Journal*, vol. 44, no. 4 (2018): 576-693.

⁴³Ajita Atreya, Susana Ferreira, and Erwann Michel-Kerjan, "What drives households to buy flood insurance? New evidence from Georgia," *Ecological Economics*, vol. 117 (2015): 153-161.

⁴⁴Jason D. Rivera, "Deciding to Apply for Federal Disaster Assistance: A Preliminary Investigation of Disaster Decision-Making using a Bounded Rationality Framework," *Journal of Homeland Security and Emergency Management* (2019).

programs for recovery. For example, two studies in our review—one that examined CDBG-DR funding in South Carolina and another that examined nationwide data of Public Assistance award distribution—found that employment in the service sector, among other socioeconomic characteristics, was positively related to participation in these programs.⁴⁵

Demographic Characteristics

Our review of the research and recovery stakeholder interviews suggested potential relationships between participation for some populations and demographic characteristics—including race and ethnicity, age, and country of origin. Six out of 23 studies in our review examined the relationship between demographic characteristics and participation in at least one of the five selected federal recovery programs.

Race and ethnicity. Our review of the findings from three studies on this topic suggested that there may be some relationships between race or ethnicity and participation in NFIP, Individual Assistance, SBA's Disaster Loan program, or CDBG-DR. For example, one study examined the relationship between race and disaster recovery funding and found that as the percentage of Black households increased in Census tracts in South Carolina, the average number of loans from the SBA Disaster Loan program decreased.⁴⁶ Another study found that Georgia counties with higher percentages of Black individuals had a higher demand for flood insurance.⁴⁷

Age. Our review of findings from the four studies that examined the relationship between age and participation in NFIP, the Individual Assistance program, or the Public Assistance program suggested that socially vulnerable age groups participated in these programs. For

⁴⁵Simone J. Domingue and Christopher T. Emrich, "Social Vulnerability and Procedural Equity: Exploring the Distribution of Disaster Aid Across Counties in the United States," *American Review of Public Administration*, vol. 49, no. 8 (2019): 897–913; and Emrich et al. "Measuring Social Equity in Flood Recovery Funding." The authors did not define "service sector" in the study. The North American Industry Classification System introduced by the U.S. Census Bureau defines the service sector to include the following subsectors: (1) Professional, Scientific, and Technical Services; (2) Administrative and Support and Waste Management and Remediation Services; (3) Educational Services; (4) Health Care and Social Assistance; (5) Arts, Entertainment, and Recreation; and (6) Other Services (Except Public Administration), including real estate and foodservice, among others.

⁴⁶Emrich et al. "Measuring Social Equity in Flood Recovery Funding."

⁴⁷Atreya, Ferreira, and Michel-Kerjan, "What drives households to buy flood insurance?"

example, one study of nationwide data found an increased likelihood of greater Public Assistance funding distribution for populations aged under 5 years or 65 and older.⁴⁸ In addition, two studies examined age in relation to participation in NFIP and found greater participation among older age groups in Georgia or North Carolina.⁴⁹

However, representatives from one voluntary organization with tribal experience explained that tribal members who are older face participation challenges in federal programs because they may lack access to transportation or the internet. The representatives also told us that older tribal citizens may be cautious about participation in federal programs, even after a disaster, because they have had negative or unsuccessful experiences with federal efforts in general. We previously reported on the ways that voluntary organizations assist individuals who are older or have disabilities.⁵⁰

Country of origin. Our review of findings from the two studies that examined the relationship between country of origin and participation in the Individual Assistance program suggested that being born outside of the United States had a negative relationship to participation in that program for selected populations affected by Hurricanes Sandy or Harvey. For example, one study examined data from FEMA's Individuals and Households Program in New Jersey, New York, and Maryland after Hurricane Sandy in 2012 and found that differences in the extent of damage explain much of the variation in the size of the federal disaster assistance awarded.⁵¹ The study found that Zip codes with a higher

⁴⁸Simone J. Domingue and Christopher T. Emrich, "Social Vulnerability and Procedural Equity: Exploring the Distribution of Disaster Aid Across Counties in the United States" (2019): 897–913.

⁴⁹Atreya, Ferreira, and Michel-Kerjan, "What drives households to buy flood insurance?"; and Li and Landry, "Flood Risk, Local Hazard Mitigation, and the Community Rating System of the National Flood Insurance Program."

⁵⁰See GAO, *Disaster Assistance: FEMA Action Needed to Better Support Individuals Who Are Older or Have Disabilities*, [GAO-19-318](#) (Washington, D.C: May 14, 2019). In that report, we recommended that the FEMA Administrator develop and publicize guidance for partners working to assist individuals who are older or have disabilities for requesting data and working with FEMA staff throughout the data-sharing process to obtain Individual Assistance data, as appropriate. As of December 2, 2021, this recommendation was still open.

⁵¹Grube, Fike, and Storr, "Navigating Disaster."

percentage of foreign-born individuals received lower damage assessments and lower amounts of Individual Assistance.

Representatives from four voluntary organizations explained that immigration status can affect eligibility, though the documentation and citizenship status for immigrant populations was not included in the studies we reviewed. Additionally, officials from two local government associations told us that populations for whom English is not their first language may face language barriers when trying to participate in federal recovery programs. We previously reported that CDBG-DR grantees in Puerto Rico faced challenges finding bilingual candidates to administer CDBG-DR funds.⁵²

Community Characteristics

Our review of the research and recovery stakeholder interviews provided examples of potential relationships between participation for some populations and community characteristics—including community resources and population density, and disaster experience. Ten out of 23 studies in our review examined the relationship between community characteristics and participation in NFIP or Individual Assistance.

Local and tribal government resources and population density. Five studies examined the relationship between community resources or population density and participation in NFIP. Our review of these five studies and interviews with stakeholders suggested that more populated and better-resourced communities—that is, communities with more staff, funding, time, government revenue, capital outlay, or budgets for emergency management—participated more actively in NFIP and federal disaster resilience initiatives. Our review also suggested that rural and lower-resourced communities may face some challenges participating in NFIP.

For example, one study used nationwide data and found that government capacity—such as the size of government staff levels—had a positive relationship with participation in NFIP and that rural communities were

⁵²See GAO, *Disaster Recovery: Better Monitoring of Block Grant Funds is Needed*, [GAO-19-232](#) (Washington, D.C.: March 25, 2019).

less likely to participate in NFIP's Community Rating System.⁵³ A second study of counties in North Carolina found that higher levels of local government tax revenue, greater budgets for emergency management, and population density all had a positive relationship with flood mitigation activities.⁵⁴ However, two of the studies found different results. One study found that government revenue did not appear to influence Community Rating System scores for parishes in south Louisiana in 2014; the other study found communities that participated in the Community Rating System generally had lower population densities.⁵⁵

Although the research that covered these characteristics largely focused on participation in NFIP and its Community Rating System, recovery stakeholders told us that communities with low-income populations and fewer resources also face other kinds of challenges when trying to recover from a disaster. They noted that often low-income and rural communities do not have the capacity to support recovery activities. For example, one official representing tribal nations told us that not all tribal nations have sufficient funding to develop emergency management departments, which can be a barrier to accessing federal resources. The official also said that it is difficult for tribal citizens in rural locations to apply for federal recovery programs if they do not have consistent access to the internet.

In addition, representatives from one voluntary organization told us that some communities may not have sufficient staffing levels to manage a recovery grant.⁵⁶ Similarly, officials from tribal organizations described specific challenges that remote tribes face in receiving assistance after a

⁵³Abdul-Akeem Sadiq and Douglas Noonan, "Flood disaster management policy: An analysis of the United States Community Ratings System" (2014). Rural counties were measured on a scale from one to nine, with one indicating counties in metro areas with over 1 million people in the population and nine indicating rural counties with less than 2,500 people in the population and no adjacent metro area.

⁵⁴Li and Landry, "Flood Risk, Local Hazard Mitigation, and the Community Rating System of the National Flood Insurance Program."

⁵⁵Paille et al., "Influences on Adaptive Planning to Reduce Flood Risks among Parishes in South Louisiana."; and Noonan et al., "What Drives Community Flood Risk Management? Policy Diffusion or Free-Riding."

⁵⁶We have previously reported on challenges that tribes face when managing grants associated with federal disaster declarations. See GAO, *Emergency Management: Implementation of the Major Disaster Declaration Process for Federally Recognized Tribes*, [GAO-18-443](#) (Washington, D.C.: May 23, 2018).

disaster, such as a lack of access to transportation, which makes it difficult for tribal members to get to disaster recovery centers where they can learn about and apply for assistance. Moreover, officials representing states said that larger cities can hire a third party to manage disaster recovery, but small towns and rural areas may lack resources to contract for disaster recovery services.

Similarly, the November 2020 National Advisory Council report suggests the potential for a compound effect on low-resource communities if they face barriers to accessing funding for preparedness and disaster resilience.⁵⁷ Specifically, the report states that by perpetually assisting larger communities that already have considerable resources, the smaller, less resource-rich, less-affluent communities cannot access funding to appropriately prepare for a disaster, leading to inadequate response and recovery, and little opportunity for mitigation.

Disaster experience. Our review of the findings from eight studies, and interviews with recovery stakeholders, suggested that experience with prior disasters, higher risk of flood, or the severity of disaster loss may facilitate participation in NFIP or Individual Assistance. For example, one study of Georgia counties with higher levels of historical flood damage found that experiencing recent flood events affected disaster survivors' perception of risk and was positively related to the number of active NFIP policies for up to 3 years.⁵⁸ Another study of North Carolina counties found that flood frequency, prior flood-related property damage, and geographical risk factors—like precipitation and surface water coverage—had a positive relationship with participation in the Community Rating System.⁵⁹ However, two studies found different results; the first study found that flood exposure did not have a relationship with Community Rating System scores for parishes in south Louisiana.⁶⁰ The second study found that previous disaster experience was not related to individuals' decision to apply for Individual Assistance among survey respondents affected by Hurricane Harvey; however, those who chose to

⁵⁷Department of Homeland Security, *National Advisory Council Report to the FEMA Administrator*.

⁵⁸Atreya, Ferreira, and Michel-Kerjan, "What drives households to buy flood insurance?"

⁵⁹Li and Landry, "Flood Risk, Local Hazard Mitigation, and the Community Rating System."

⁶⁰Paille et al., "Influences on Adaptive Planning to Reduce Flood Risks among Parishes in South Louisiana."

apply were more likely to have had a home or automobile damaged by the storm, had been evacuated during the storm, or perceived their storm loss as severe.⁶¹

Recovery stakeholders we interviewed also told us that in their experience, communities without prior disaster experience were less likely to participate in federal recovery programs. They opined that communities that have not previously experienced a disaster may lack knowledge about the federal resources available and how to access those resources.

Programmatic Characteristics

Our review of the research and recovery stakeholder interviews suggested potential relationships between participation for some populations and programmatic characteristics—including the program requirements and program definitions. Twelve out of 23 studies in our review examined the relationship between programmatic characteristics and participation in NFIP, Individual Assistance, SBA's Disaster Loan program, or HUD's CDBG-DR.

Program requirements. Our review of the findings from the seven studies that examined the relationship between program requirements and participation suggested that, in some instances, some populations may experience challenges in understanding or navigating administrative program requirements for NFIP, Individual Assistance, or the SBA's Disaster Loan program. For example, one study used interviews to investigate the perceived relationship between Individual Assistance program requirements and participation following the 2015 wildfires in Washington State to examine how social interactions influenced recovery dynamics.⁶² The study found that applicants perceived a lack of transparency in the application requirements and experienced uncertainty about which aspects of the application disqualified them from receipt of grants. Participants were concerned about the accurate representation of the extent or range of damage for the assessment process and believed these issues were related to decreased participation in the program.

Similarly, representatives from two voluntary organizations and one state emergency manager described challenges related to some program

⁶¹Rivera, "Deciding to Apply for Federal Disaster Assistance."

⁶²Catrin M. Edgeley and Travis B. Paveglio, "Community recovery and assistance following large wildfires: The Case of the Carlton Complex Fire," *International Journal of Disaster Risk Reduction*, vol. 25 (2017): 137-146.

requirements for applicants to demonstrate physical property ownership in order to establish eligibility. For example, stakeholders from one voluntary organization explained that some tribal citizens have experienced difficulty participating in some federal programs that require documentation of property rights because tribal property is not always deeded.⁶³

Program definitions. Our review identified one study that examined program definitions. This study experimented with modeling different hypothetical service areas of various population sizes in New York State for CDBG-DR.⁶⁴ The authors found it difficult to produce service areas that met the grant’s low- and moderate-income definition outside of New York City, and this difficulty increased as the proposed service area size increased. The authors also found that as the areas outside New York City that sustained more disaster damage increased in size, the less likely the model was to produce a service area that met the definition for low- and moderate-income, despite sizeable low- and moderate-income population in these service areas. In New York City, however, where the majority of service areas are low- and moderate-income, larger service areas were more likely to be classified as low- and moderate-income and, therefore, eligible for this grant’s funding. If similar situations were found in other areas, the authors suggested that it may be more difficult to demonstrate compliance with the mandate to serve low- and moderate-income communities in service areas with lower population densities, even though those projects may actually benefit low- and moderate-income populations.

⁶³In September 2021, FEMA announced that they will reduce administrative burdens on survivors by expanding the list of approved documentation (in addition to deeds) to prove ownership or occupancy for homeowners and renters.

⁶⁴Simon McDonnell et al., “Potential Challenges to Targeting Low and Moderate Income Communities in a Time of Urgent Need: The Case of CDBG-DR in New York State after Superstorm Sandy,” *Housing Policy Debate*, vol. 28, no. 3 (2018): 466-487. CDBG-DR grantees must define a service area—such as a town or school district—that captures the primary beneficiaries for grant activities and generally, 70 percent of CDBG-DR funds are required to benefit low- and moderate-income persons.

Federal Recovery Programs Have Taken Some Actions but Lack Quality Information and Routine Processes to Identify and Address Access Barriers and Disparate Outcomes

Among the six federal recovery programs in our review, we found actions that could help officials identify and address potential access barriers and disparate outcomes. However, programs lack key information—data and analysis—that would allow officials to examine patterns and indicators of potential access barriers and disparate recovery outcomes for select groups. Specifically, within and across federal programs, there were no actions to (1) ensure the availability and use of quality information to identify potential access barriers or disparate outcomes or (2) establish routine processes to address any identified access barriers and disparate outcomes on an ongoing basis.

Federal Recovery Programs Have Taken Some Actions That May Help Them Identify and Address Potential Access Barriers and Disparate Outcomes

Recovery program officials from each of the three federal agencies that are responsible for the six recovery programs in our review— FEMA, SBA, and HUD—described various actions and early-stage initiatives that may help with identifying and addressing social and institutional barriers. Specifically, program officials from four of the six recovery programs described actions that may help their programs to identify and address access barriers or disparities in recovery outcomes. These were the following:

- FEMA’s Public Assistance officials described their efforts to provide technical assistance to applicants with limited skills—including applicants with technology and computer access issues, those with no or limited previous Public Assistance program experience, and those with limited resources to respond and recover from a disaster. However, the program does not have criteria to identify which applicants may need additional assistance.
- Officials from FEMA who provide research services to FEMA program offices described research to examine variations in participation in the Individual Assistance program by selected demographic factors. Specifically, the research used data from the program’s applicants along with Census data—used as a proxy for the universe of applicants in an area—to assess if there were differences in the way individuals applied for funding and the extent to which program officials approved applications. FEMA officials stated that the intention of the analysis was to provide information to ensure equitable access in the Individual Assistance program, and program officials have recently begun to consider the findings from this research to identify and develop policy and regulatory updates.

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- Additionally, FEMA has developed a 2-year study consisting of four surveys of a panel of Individual Assistance grantees conducted at 6 months, 12 months, 18 months, and 24 months after the end of the application period. The survey includes demographic information and asks about preparedness and outcomes resulting from assistance awarded. FEMA officials stated that they sent the initial surveys in October 2021.
 - SBA officials stated that they use Census data to inform Disaster Loan program administration, including marketing strategies and language resources, among other things, pre- and post disaster. For example, they use data on non-English speakers to estimate the need for languages resources. SBA officials also use other variables, including business industry types, to further inform marketing strategies if determined to be relevant. SBA officials stated that they also meet with local chambers of commerce and civic organizations to get an understanding of the makeup of the community they are serving and will augment their flyers to address the specific needs of the community.
 - FEMA Hazard Mitigation Grant Program officials said they are beginning to identify challenges and opportunities to address disparities associated with delivery of grant awards. The officials stated they are considering initiatives that may include identifying the geographical location of the award recipient, identifying lower socio-economic locations, and providing more targeted outreach and technical assistance to communities with a lower capacity to navigate the application progress.

Moreover, HUD and SBA officials described actions they undertake to implement their programs while avoiding explicit bias in eligibility and award decisions. For example, HUD officials said they have actions in place to monitor income requirements because HUD's CDBG-DR is designed to benefit low- and moderate-income persons.⁶⁵ In addition, SBA officials said their goal is to provide as many loans as possible to eligible applicants, but they do not collect demographic information at the time of application in order to avoid even the appearance of discrimination in lending decisions.

⁶⁵Under the traditional CDBG program, grantees must use at least 70 percent of their funds for activities that principally benefit low- and moderate-income people. 42 U.S.C. 5301(c); and 24 C.F.R. 570.200(a)(3). Supplemental appropriations for CDBG-DR have in the past allowed HUD to waive this requirement on a case-by-case basis.

FEMA officials also noted broader action driven by government-wide requirements such as engagement between the Office of Management and Budget and multiple federal agencies to lay the ground work for implementing Executive Order 13985 on advancing racial equity and plans to respond to the National Advisory Council's call for an equity standard.⁶⁶ The officials similarly described planned actions to respond to the Foundations for Evidence-Based Policymaking Act of 2018, in which the agency is considering what kind of learning objectives and data it would need to address inequity in the longer term.⁶⁷

Recovery Programs Lack Quality Information and Routine Processes to Identify and Address Potential Access Barriers and Disparate Outcomes

Standards for Internal Control in the Federal Government states that quality information is vital for an entity to achieve its objectives, which is particularly relevant to the National Disaster Recovery Framework's call to identify access barriers and to assess the effect of program actions on recovery progress.⁶⁸ Specifically, relevant internal controls call for entities—in this case the federal agencies responsible for recovery support—to identify information requirements and related risks relevant to the objective. The principle further calls for management to identify the sources of relevant data that correspond to those information requirements and process those data into quality information that can be used to make informed decisions and evaluate the entity's performance in achieving key objectives.

Recovery programs in our review lacked quality information—in this case data and analysis—that would allow them to identify potential access barriers and disparate outcomes. The programs have not taken systematic action to determine (1) the universe of data needed to support this kind of analysis; and (2) sources and methods to obtain those data when the programs do not already collect them, including overcoming key challenges. One of the six recovery programs in our review, however, is beginning to collect and analyze demographic data from applicants

⁶⁶Exec. Order No.13,985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, 86 Fed. Reg. 7009 (Jan. 25, 2021).

⁶⁷According to the Office of Management and Budget, the Foundations for Evidence-Based Policymaking Act of 2018 emphasizes collaboration and coordination to advance data and evidence-building functions in the federal government by requiring federal evidence-building activities, open government data, and confidential information protection and statistical efficiency. See Pub. L. No. 115-435, 132 Stat. 5529.

⁶⁸GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (September 10, 2014); and Department of Homeland Security. *National Disaster Recovery Framework*, 2nd ed.

specifically for this purpose. Officials from FEMA's Individual Assistance program stated they added demographic application questions related to the race, ethnicity, and tribal membership.⁶⁹ When the other program officials described collecting data in the application process, however, they did not do so with the aim of identifying and addressing potential access barriers and disparate outcomes; rather, they collected only data that directly supported the implementation of their programs. Specifically:

- Officials from FEMA's Public Assistance program stated that their program does not collect demographic information or conduct any kind of demographic analysis (gender, age, race, median income makeup of the community) because demographic information is not embedded in the eligibility requirements.⁷⁰
- Officials from FEMA's Hazard Mitigation Grant Program stated they do not gather information from local communities that benefit from the program because there is nothing that dictates that they must direct resources to certain demographic groups or certain community segments.
- Officials from NFIP stated they do not collect any demographic information, such as race and age, on policyholders because they set insurance premiums based on properties' flood risk.
- Officials from SBA's Disaster Loan program stated they have not collected ethnicity or race information since the mid-1990s because their program is concerned with an applicant's adequate credit, ability to repay the loan, and lawful immigration status. These officials stated their application forms do not request or require demographic information and expressed concerns about the appearance of bias in loan approval decisions if they were to collect demographic data at the time of application.
- Officials that administer HUD's CDBG-DR explained that they can access the demographic data that their grantees are required to collect on beneficiaries to help address inequities. However, they do not routinely and systematically use the data to identify access barriers, because it is difficult to conduct analyses across grants

⁶⁹According to officials responsible for the Individuals and Households Program, the largest Individual Assistance Program, they are in the process of adding demographics questions to the registration intake process, but have to complete several more administrative process steps and approvals before this action is complete. They estimated completion of this action in December 2021.

⁷⁰According to Public Assistance officials, their program requires state, local, and tribal partners to collect demographic data to inform their COVID equity reporting requirements.

because of the flexibility given to each grant in its administration of funds.

FEMA, SBA and HUD officials described various challenges with data collection, information sharing, and data privacy they would need to address as part of a plan to identify and address potential access barriers and disparate outcomes. For example, FEMA officials acknowledged that the data reliability, quality, and availability needed to assess disparities in recovery is a challenge. FEMA officials also told us that they want to create a meaningful action plan for advancing equity that will be sustainable in the long term. Further, the most recent report from the National Advisory Council recommended that FEMA invest in a comprehensive data management infrastructure to support data collection and analytics for outcome measures.⁷¹

Additionally, HUD and FEMA officials who manage grants for activities that are carried out primarily at the state and local level described some challenges in developing and using this kind of information because the relationships and decisions take place more at the state than at the federal level. HUD officials explained that CDBG-DR grantees are better positioned to identify potential access barriers because states have a more direct relationship with program beneficiaries. Specifically, these officials explained that the nature of the block grant—when grantees are ultimately responsible for who participates—makes it challenging for HUD to systematically identify and address access barriers. Officials responsible for FEMA’s Hazard Mitigation Grant program described a similar concern, given their direct relationship with the states and lack of direct relationship with the beneficiaries.

Nevertheless, it is possible for programs to work with state, local, tribal, and territorial partners to which they have provided federal funds to design a means to collect and analyze relevant data. For example, HUD officials described a situation where they worked with a state-level grantee, as a result of a voluntary compliance agreement, to improve service to applicants who self-identified as Hispanic by adjusting the state

⁷¹Department of Homeland Security. *National Advisory Council Report to the FEMA Administrator*.

grantee's marketing strategy.⁷² This experience demonstrates one example of how federal agencies with recovery programs that serve state-level beneficiaries might work with them to identify and address access barriers.

We acknowledge challenges to obtaining data that would support high-quality analysis of potential access barriers and disparate outcomes, particularly for analyses that cross agency boundaries. Nevertheless, working together, the federal agencies with large recovery programs have opportunities to devise workable approaches—grounded in the newer requirements for equity actions—to solve these challenges. Until the agencies determine the information needs and sources, as well as strategies for overcoming challenges related to data reliability, quality, and availability, they will continue to face limitations on their ability to identify and address potential access barriers. These include barriers before the application point—and disparate outcomes—as well as information about what happens to participants after their interaction with one or more federal recovery programs.

Without information to help identify potential access barriers, programs will not have the tools they need to help address inequities in disaster recovery. A plan that outlines the data requirements, data sources, and strategies for overcoming information challenges would help ensure that federal recovery programs have the information they need to identify potential access barriers within and across programs. Program officials from all three agencies acknowledged the increasing emphasis on equity and the importance of identifying potential access barriers and disparate outcomes, as well as the need for quality information to do so. Moreover, FEMA programs discussed the need to develop information that will help them meet the requirements of certain government-wide initiatives such as the Executive Order on Advancing Racial Equity and the Foundations for Evidence-Based Policymaking Act of 2018.⁷³

⁷²In April 2013, the Latino Action Network, Fair Share Housing Center, and New Jersey State Conference of the National Association of the Advancement of Colored People filed a complaint with HUD's Office of Fair Housing and Equal Opportunity related to affordable housing opportunities for lower-income households whose homes were damaged or destroyed by Hurricane Sandy. The complaint resulted in a voluntary compliance agreement between HUD, the state of New Jersey, and the complainants.

⁷³Exec. Order No.13,985, 86 Fed. Reg. 7009 (Jan. 25, 2021); Pub. L. No. 115-435, 132 Stat. 5529.

Recovery Programs Lack Routine Processes to Address Any Identified Access Barriers and Disparate Outcomes on an Ongoing Basis

Standards for Internal Control in the Federal Government describes the need for management to design and respond to any risks it deems significant, which corresponds with the National Disaster Recovery Framework's call to remove access barriers and to assess the effect of program actions on recovery progress.⁷⁴ Specifically, relevant internal controls call for entities—in this case the federal agencies responsible for recovery support—to identify, analyze, and respond to risks related to achieving the defined objectives.

While obtaining information through the collection and analysis of data is necessary, it is only the first step to identify and address potential access barriers and disparities in recovery outcomes. The actions described above may help programs equitably serve all disaster survivors—including vulnerable populations. However, these actions do not ensure systematic and routine action to identify and address access barriers and disparate outcomes on an ongoing basis, either within or across federal recovery programs.

Additionally, FEMA, HUD, and SBA have not established processes to systematically and routinely identify (1) the characteristics of different groups of those who do and do not participate in their recovery programs or (2) the relationship between their recovery programs and recovery outcomes across demographic groups, including vulnerable populations. Officials from all three agencies explained that this is due, in part, to challenges associated with collecting program participation data. Further, FEMA officials provided another reason they had not established processes: the goal of ensuring equity in administration of federal programs—including federal disaster recovery programs—has only recently received new focus and attention. However, the lack of routine and interagency processes leaves programs without assurance that they will address potential access barriers, understand the relationship between program assistance and outcomes, or help achieve the equity goals articulated in the National Disaster Recovery Framework and

⁷⁴GAO-14-704G and Department of Homeland Security. *National Disaster Recovery Framework*, 2nd ed.

reinforced by principles articulated in the most recent National Advisory Council report and Executive Order 13985.⁷⁵

Routine processes to address identified access barriers and disparate outcomes could help all federal agencies involved in recovery support to address program administration issues that may have the effect of unintentional systemic exclusion, both within and across major federal recovery programs.

Conclusion

Recovery is a complex process that involves intersecting programs of various purposes and functions. Concerted interagency efforts to systematically determine if access barriers and disparate recovery outcomes exist could help agencies more equitably serve disaster survivors. Although there are challenges related to data collection and sharing, an interagency effort led by federal agencies with large recovery programs to create a plan that specifies the data needed, the sources of those data, and strategies for overcoming challenges would help the programs devise solutions to the challenges.

FEMA, SBA, and HUD—the agencies that administer recovery programs with historically large disaster-specific obligations—have the opportunity to be better partners in recovery and to lead other federal, state, tribal, and nonfederal partners in identifying and addressing access barriers or disparate outcomes. While some of these federal agencies have begun to create initiatives to address inequities by addressing access barriers, there is no systematic and consistent action to identify and address access barriers and disparate outcomes in recovery within and across programs.

Without a plan to ensure the availability of comprehensive information that allows program officials to examine patterns and indicators of potential access barriers and disparate recovery outcomes for select groups, programs lack a means to identify potential social and institutional barriers in their own programs and across programs. Similarly, without routine processes, programs lack the mechanism to ensure that they are able to address any potential access barriers or disparate outcomes they might identify, particularly if the cause of those barriers or disparate

⁷⁵The National Disaster Recovery Framework outlines the strategy and doctrine for how the whole community—including individuals and communities, the private and nonprofit sectors, and all levels of government—builds, sustains, and coordinates delivery of recovery capabilities. Department of Homeland Security. *National Disaster Recovery Framework*, 2nd ed.; and Exec. Order No.13,985; 86 Fed. Reg. 7009 (Jan. 25, 2021).

outcomes arises from the interaction between or among programs. Developing a plan to ensure the availability of information and establishing routine, interagency processes to analyze the collected information and act on the results of those analyses may also help federal agencies as they embark on actions like implementation of Executive Order 13985, design of an equity standard, and other emerging equity initiatives.

Recommendations for Executive Action

We are making six recommendations, including two recommendations to FEMA, two recommendations to HUD, and two recommendations to SBA to take steps to help ensure the availability and use of quality information and establish routine processes that allow federal recovery agencies to identify and address access barriers and disparate outcomes.

The FEMA Administrator should, in coordination with the SBA Associate Administrator of the Office of Disaster Assistance and the HUD Assistant Secretary for Community Planning and Development, develop, with input from key recovery partners, and implement an interagency plan to help ensure the availability and use of quality information that includes (1) information requirements, (2) data sources and methods, and (3) strategies for overcoming information challenges—to support federal agencies involved in disaster recovery in identifying access barriers or disparate outcomes. (Recommendation 1)

The FEMA Administrator should coordinate with the SBA Associate Administrator of the Office of Disaster Assistance and the HUD Assistant Secretary for Community Planning and Development to design and establish routine processes to be used within and across federal disaster recovery programs to address identified access barriers and disparate outcomes on an ongoing basis. (Recommendation 2)

The HUD Assistant Secretary for Community Planning and Development should, in coordination with the FEMA Administrator and SBA, develop, with input from key recovery partners, and implement an interagency plan to help ensure the availability and use of quality information that includes (1) information requirements, (2) data sources and methods, and (3) strategies for overcoming information challenges—to support federal agencies involved in disaster recovery in identifying access barriers or disparate outcomes. (Recommendation 3)

The HUD Assistant Secretary for Community Planning and Development should coordinate with the FEMA Administrator and SBA to design and establish routine processes to be used within and across federal disaster

recovery programs to address identified access barriers and disparate outcomes on an ongoing basis. (Recommendation 4)

The SBA Associate Administrator of the Office of Disaster Assistance should, in coordination with the FEMA Administrator and the HUD Assistant Secretary for Community Planning and Development, develop, with input from key recovery partners, and implement an interagency plan to help ensure the availability and use of quality information that includes (1) information requirements, (2) data sources and methods, and (3) strategies for overcoming information challenges—to support federal agencies involved in disaster recovery in identifying access barriers or disparate outcomes. (Recommendation 5)

The SBA Associate Administrator of the Office of Disaster Assistance should coordinate with the FEMA Administrator and the HUD Assistant Secretary for Community Planning and Development to design and establish routine processes to be used within and across federal recovery programs to address identified access barriers and disparate outcomes on an ongoing basis. (Recommendation 6)

Agency Comments and Our Evaluation

We provided a draft of this report to DHS, HUD, and SBA for review and comment. Officials provided written comments, which are reproduced in appendixes V-VII. DHS and SBA concurred with both of the recommendations we made to each of them. HUD did not agree or disagree with our recommendation.

In response to the two recommendations that we made to the FEMA Administrator, DHS officials provided additional detail on efforts that FEMA and its offices have underway to help ensure equity in disaster assistance. DHS's letter stated that FEMA would work with SBA and HUD to implement the two recommendations and estimated that they would complete implementation of each recommendation by November 30, 2022.

In response to the first recommendation that we made to the HUD Assistant Secretary for Community Planning and Development, HUD officials noted challenges it had encountered in the past with interagency data sharing in the larger context, and stated that those would need to be overcome before they could work with interagency recovery partners on our recommendation for a plan to identify data, information, and analysis needed to identify potential access barriers and disparate outcomes. We note that the plan we recommended includes identifying existing challenges and opportunities to mitigate them, so the existing data

sharing challenge could be a part of devising the plan rather than a precursor to it. Regarding our second recommendation, to establish ongoing interagency processes to monitor for access barriers and disparate outcomes and address any that might be identified, HUD officials stated that they are prepared to engage with federal partners.

In response to the first recommendation that we made to SBA Associate Administrator of the Office of Disaster Assistance, SBA officials described actions that its Office of Disaster Assistance has taken or plans to take to more fully understand access barriers and associated effects on outcomes, which align with this recommendation. In response to the second recommendation that we made to the SBA Associate Administrator of the Office of Disaster Assistance, the SBA letter stated that SBA will explore potential processes to address access barriers and disparate outcomes. To fulfill the intent of the recommendation all three agencies will need to work to together to design and institutionalize such processes.

We are sending copies of this report to the appropriate congressional committees, the Secretary of the Department of Homeland Security, the Secretary of Housing and Urban Development, and the Administrator of the Small Business Administration, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>. If you or your staff have any questions about this report, please contact me at (404) 679-1875 or CurrieC@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VIII.



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Appendix I: Objectives, Scope, and Methodology

This report addresses the following three questions: (1) What has available research reported about the relationship between selected federal programs and disaster recovery outcomes? (2) What have available research and recovery stakeholders reported about individual or community participation in selected federal recovery programs? and (3) To what extent have federal disaster recovery programs taken action to identify and address potential access barriers and potential disparate outcomes?

To address our first two objectives, we conducted a literature review on findings from available research about the relationship between (1) selected federal disaster recovery programs and recovery outcomes; and (2) participation in selected federal disaster recovery programs and selected characteristics. For the purposes of this report, disaster recovery outcomes refer to any individual or community outcome after participating in one of the six selected federal disaster recovery programs that is not related to the immediate response to a natural disaster. For the purposes of this report, we defined participation as including both whether or not an individual, household, or community accessed a program and the extent to which they participated. We included any characteristic that may influence an individual's or a community's choice or ability to access one of the selected disaster recovery efforts. We identified 23 studies relevant to our objective on participation in the selected programs and nine studies relevant to our objective on disaster recovery outcomes of the selected programs.

To identify these sources, we searched several databases, such as Scopus, ProQuest, and EBSCO for peer-reviewed, governmental, or nongovernmental publications published between 2005 and 2020 that discussed participation in or outcomes of at least one of the six federal programs in our scope. We reviewed literature from calendar years 2005—when Hurricane Katrina hit—through 2020, the most recent full calendar year at the time of our review.

We reviewed abstracts of 204 studies and 110 full texts identified in this search, excluding those that were not relevant to our objectives or did not meet our standards for empirical analysis. To determine relevance to our objectives, two analysts independently reviewed abstracts to assess their relevance to participation in or outcomes of the selected federal disaster recovery programs. We included studies that met all of the following criteria: (1) quantitative or qualitative research designs to examine participation or outcomes of at least one of the six federal disaster assistance programs in our scope, (2) were published on or after 2005,

(3) contained at least some data on or after 2000, (4) examined a population or subpopulation within the United States, and (5) were peer reviewed or published as governmental or nongovernmental papers, articles, or reports. We excluded studies that did not disaggregate data for individual programs. Once we developed a set of studies for review, we searched the references of each included study to identify additional publications that were not included in our database search.

For the resulting studies, we reviewed the studies to confirm relevance and appropriate methodological rigor for our purpose. A team of GAO analysts and specialists (including methodologists, statisticians, and economists) reviewed the studies and reached consensus on the full set of studies and analyses in our final review. Although we examined each study's methodological approach, we did not independently assess evidence discussed or the data used, and we did not verify the analysis or conclusions reached. While the statistical models used in the studies we reviewed controlled for factors that could influence the outcomes of interest for the individuals or communities studied, these models are also subject to some biases and imperfections. For example, studies might not have accounted for all factors that could influence the effect or might not have controlled for selection biases that influenced how and to whom assistance was awarded.

To organize the findings presented in the studies on recovery outcomes, we categorized the findings identified in the studies into one of two categories based on the outcomes' similarities: (1) research related to selected federal programs' relationship to socioeconomic characteristics of program participants and (2) research related to selected federal programs' relationship to enhancing community resilience. To determine the classifications, one GAO analyst categorized the findings, and another GAO analyst reviewed those determinations; the two analysts discussed any disagreements and came to a reconciled decision to classify each finding under a specific theme.

To organize the findings presented in the studies on participation characteristics, we categorized the characteristics identified in the studies into one of four categories based on the characteristics' similarities: (1) socioeconomic characteristics, (2) demographic characteristics, (3) community characteristics, and (4) programmatic characteristics. To determine the classifications, one GAO analyst categorized the findings, and another GAO analyst reviewed those determinations; the two analysts discussed any disagreements and came to a reconciled decision to classify each finding under a specific theme.

To supplement our understanding of what affects participation in the selected federal disaster assistance programs and of the recovery outcomes of those programs, we interviewed various recovery stakeholders, including two organizations that represent local governments, one organization that represents state governments, two organizations that represent tribal governments, and six voluntary organizations that serve disaster survivors during recovery. These organizations were selected for diversity of experience across multiple disasters and multiple geographic regions. Using the four categories mentioned before, we synthesized the information we received from stakeholder interviews with the information identified in our literature review to provide a summary of various characteristics affecting participation and stakeholder perspectives on participation in the disaster recovery programs.

We interviewed organizations that represent state, local, and tribal governments because they are the nation-wide organizations for each level (state, local, tribal), and they work on emergency management issues. We obtained perspectives from the following organizations on characteristics affecting participation in federal recovery programs and recovery outcomes. The organizations are the National League of Cities, the National Association of Counties, the National Emergency Management Association, the National Congress of American Indians, and the National Tribal Emergency Management Council.

In order to select organizations with experience working across multiple disasters and multiple regions, we selected seven organizations that were members of the national consortium of disaster nonprofits—the National Voluntary Organizations Active in a Disaster—and that, according to the Center for Disaster Philanthropy Fiscal Year 2017 report, received the largest amount of donations from philanthropic foundations that give to organizations to help their disaster assistance efforts. The five organizations that agreed to our request for interviews were the American Red Cross; the Salvation Army; United Way; Team Rubicon; and Catholic Charities, USA. To obtain the perspective of those working with tribal populations, we also included the Partnership with Native Americans, which is a member of the National Voluntary Organizations Active in a Disaster. We asked these organizations about their experience working with federal partners and asked them to identify individual and community-level characteristics related to participation in federal programs.

To assess the extent to which federal disaster recovery programs have taken actions to identify and address potential access barriers and potential disparate outcomes, we considered whether the agencies, individually and collectively, had internal controls in place that would support achievement of key principles contained in the National Disaster Recovery Framework. Specifically, those principles call for recovery partners, including federal agencies, to recovery partners, including federal agencies, with (1) identifying and removing social and institutional barriers, whether intentional or unintentional, to meaningful participation in recovery efforts, and (2) identifying strategies and benchmarks for how they will measure their actions, both qualitatively and quantitatively, and (3) measure progress toward recovery. To collect information on the actions the federal agencies in our scope have taken to identify and remove barriers to recovery efforts, we conducted interviews with agency officials and reviewed available documentation that supported program officials' statements on the actions they described. We also interviewed program officials to obtain their perspectives on challenges related to identifying and addressing potential access barriers and potential disparate outcomes. We also determined that the using quality information component of internal controls was significant to this objective because of the underlying principle that management should have effective information and communication to achieve its objectives. We compared agency actions to relevant internal controls to determine progress toward identifying and addressing barriers to program access and disparate outcomes. We determined that the component of internal controls related to information and communication was significant to identifying potential access barriers and disparate outcomes, particularly the principle that calls for management to use quality information to achieve objectives. Specifically this principle calls for management to identify information requirements and related risks relevant to the objective. The principle further calls for management to identify the sources of relevant data that correspond to those information requirements and to process those data into quality information that can be used to make informed decisions and to evaluate the entity's performance in achieving key objectives. We determined that the component of internal control related to risk assessment was significant to addressing any identified access barriers or disparate outcomes, particularly the principle that calls for management to identify, analyze, and respond to risks related to achieving the defined objectives. This internal control principle describes the need for management to design a response to any risks it deems significant. We conducted this performance audit from January 2020 through December 2021 in accordance with generally accepted government auditing standards. Those standards

**Appendix I: Objectives, Scope, and
Methodology**

require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Federal Efforts to Help Individuals and Communities Recover after a Disaster

As of November 5, 2020, GAO identified 27 programs or subprograms from seven federal departments that become available to help individuals recover after a natural disaster. The 27 efforts in table 1 below are only available to disaster survivors and disaster-affected communities after a natural disaster. The efforts cover a variety of purposes, such as providing housing assistance, crop protection, or mental health care, and the efforts are offered through a variety of methods, including financial assistance (including reimbursement), direct services, grants, loans, and insurance.

Table 1: Federal Efforts to Help Individuals and Communities Recover That Become Available Exclusively After a Natural Disaster

Federal effort	Description	Recipient(s)	Assistance type
Department of Homeland Security's Federal Emergency Management Agency (FEMA)			
Individual Assistance: Individuals and Households Program	FEMA's Individuals and Households Program provides financial and direct assistance to eligible applicants after a disaster. The program provides assistance for uninsured or underinsured necessary expenses and serious needs as a direct result of the disaster.	Individuals and households	Financial and nonfinancial
Individual Assistance: Disaster Case Management	Disaster Case Management is a time-limited program that involves a partnership between a case manager and a disaster survivor to develop and carry out a Disaster Recovery Plan. It provides the survivor with a single point of contact to facilitate access to a broad range of resources.	Individuals and households	Nonfinancial
Individual Assistance: Disaster Legal Services	Disaster Legal Services are provided for free to low-income individuals who are unable to secure legal services to meet their unmet disaster-caused needs.	Individuals and households	Nonfinancial
Individual Assistance: Crisis Counseling	Crisis Counseling provides grants that enable states to offer crisis counseling services, when required, to victims of disasters	States, territories, and tribal entities	Nonfinancial
Individual Assistance: Disaster Unemployment Assistance	The Disaster Unemployment Assistance program provides temporary benefits to people who lost or had their employment or self-employment interrupted as a direct result of a disaster and are not eligible for regular state unemployment insurance. It is funded by FEMA but is administered by the Department of Labor and state agencies.	Individuals	Financial
National Flood Insurance Program	The National Flood Insurance Program allows homeowners, business owners, and renters in communities that participate to buy federally backed flood insurance. This insurance helps cover repairs for flood damage to buildings and contents.	Individuals and households, and businesses	Financial

**Appendix II: Federal Efforts to Help Individuals
and Communities Recover after a Disaster**

Federal effort	Description	Recipient(s)	Assistance type
Public Assistance	The Public Assistance program is FEMA's primary form of assistance for state, local, tribal, and territorial governments, as well as specified private non-profit entities. It provides grant and direct assistance for many eligible purposes, including the following: (1) emergency work, which provides for the removal of debris and emergency protective measures, such as the establishment of temporary shelters and emergency power generation; (2) permanent work, which provides for the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain private nonprofit organizations; and (3) management costs, which reimburses some of the applicant's administrative expenses incurred in managing the totality of the Public Assistance program's projects and grants.	State and local governments	Financial and nonfinancial
Community Disaster Loans	The Community Disaster Loan program provides loans to local governments that have suffered substantial loss of tax and other revenue and can demonstrate a need for financial assistance to perform its governmental functions in areas included in a major disaster declaration. The loan may not exceed 25% of the local government's annual operating budget for the fiscal year of the disaster and is not to exceed \$5 million.	Local governments	Financial
Hazard Mitigation Grant	The Hazard Mitigation Grant Program provides grants to states for implementing mitigation measures after a disaster and to provide funding for previously identified mitigation measures to lessen future damage and loss of life.	States, territories, tribes, and the District of Columbia	Financial
Cora Brown Fund	At the direction of a FEMA Regional Director or representative, the Cora Brown Fund can be used to direct limited financial resources to individuals or groups for disaster-related needs that have not been or will not be met by government agencies or other organizations.	Individuals and households	Financial
Department of Health and Human Services (HHS)			
Substance Abuse and Mental Health Services Administration Disaster Relief Response	This program helps areas affected by disasters develop effective disaster behavioral health response plans; works with FEMA to provide technical assistance and training as part of the crisis counseling assistance and training program; and operates a disaster distress helpline.	States, territories, federally recognized tribes, local entities, and individuals.	Nonfinancial
Department of Housing and Urban Development (HUD)			
Section 203(h) Mortgage Insurance for Disaster Victims	Section 203(h) Mortgage Insurance for Disaster Victims helps make it easier for survivors to get a mortgage to buy or rebuild a home.	Individuals and households	Financial

**Appendix II: Federal Efforts to Help Individuals
and Communities Recover after a Disaster**

Federal effort	Description	Recipient(s)	Assistance type
Community Development Block Grant – Disaster Recovery	This program provides flexible grants to help cities, counties, and states recover from presidentially declared disasters, especially in low-income areas, subject to the availability of supplemental appropriations. The program is funded through supplemental appropriations and provides grants to rebuild the affected areas and provide crucial seed money to start the recovery process.	Cities, counties, states	Financial
Department of Interior’s Bureau of Indian Affairs (BIA)			
Bureau of Indian Affairs - Financial Assistance and Social Services Program: Emergency Assistance	This program provides assistance directly to individuals whose homes suffered from personal property damage or were destroyed by fire, flood, or other calamities. It is used for the essential needs of food, shelter, and utilities when other resources are not available.	Individuals and households	Financial
Bureau of Indian Affairs – Tribal Resilience Program	This program provides funding for projects that support tribal resilience and ocean and coastal management planning as tribes incorporate science and technical information to prepare for the impacts of extreme events and harmful environmental trends.	Tribal communities or Native American groups	Financial
Department of Labor			
Dislocated Worker Activities	This program provides disaster-relief employment and employment and training activities in disaster-declared areas.	States and local governments	Financial
Small Business Administration (SBA)			
Economic Injury Disaster Loans	This program assists small businesses and nonprofits suffering economic injury as a result of disasters by offering loans and loan guarantees.	Businesses and nonprofits	Financial
Physical Disaster Loans	This program provides loans to individuals, businesses, and nonprofits in declared disaster areas for uninsured physical damage and losses. The maximum loan amount for businesses is \$2 million. Loan terms may extend for up to 30 years.	Individuals and households, businesses and nonprofits	Financial
Department of Agriculture (USDA)			
Tree Assistance Program	The Tree Assistance Program provides payments to qualifying orchardists and nursery tree growers after an eligible loss.	Eligible orchardists and nursery tree growers	Financial
Summer Food Service Program – Disaster Response	The Summer Food Service Program provides grants to states to conduct nonprofit food service programs for children in needy areas when school is not in session. After a disaster, state agencies, school food authorities, and sponsors may decide to open emergency program feeding sites when schools or daycare centers must stay closed.	Individuals and households	Non-Financial

**Appendix II: Federal Efforts to Help Individuals
and Communities Recover after a Disaster**

Federal effort	Description	Recipient(s)	Assistance type
Noninsured Crop Disaster Assistance Program	The Noninsured Crop Disaster Assistance Program offers payments to producers of eligible crops when low yields, loss of inventory, or prevented planting occur due to a natural disaster.	Farms	Financial
Livestock Indemnity Program	The Livestock Indemnity Program offers payments to livestock owners or contract growers for livestock deaths in excess of normal mortality and for sales of injured livestock at a reduced price, if the death or injury occurred as a direct result of an eligible cause of loss.	Farms	Financial
Livestock Forage Disaster Program	The Livestock Forage Disaster Program offers payments to eligible livestock owners or contract growers who are eligible producers or eligible grazed forage crop acreage for eligible grazing losses for covered livestock that occur due to a qualifying drought or fires.	Farms	Financial
Emergency Farm Loan	The Farm Service Agency's Emergency Loan Program helps eligible farmers and ranchers rebuild and recover from sustained losses due to natural disasters or USDA quarantine.	Farms	Financial
Emergency Conservation Program	The Emergency Conservation Program offers funding and technical assistance to repair damage to farmlands caused by natural disasters and helps to put emergency water conservation methods in place and pay for their installation in times of severe drought.	Farms	Financial and nonfinancial
Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program	The Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program provides emergency assistance to eligible producers. The funds cover losses due to eligible adverse weather or other eligible loss conditions.	Farms	Financial
Crop Insurance	The Federal Crop Insurance Program helps farmers manage the risks inherent in farming by allowing them to insure against losses caused by poor crop yields, declines in prices, or both. USDA partners with private insurers that sell and service policies. The federal government is the primary reinsurer for participating private insurance companies, allowing private insurers and the government to share in the risk of loss and the opportunity for gain associated with the policies.	Farms	Financial

Source: GAO review of [disasterassistance.gov](https://www.disasterassistance.gov) | GAO-22-104039

Appendix III: Research on the Relationship between Selected Federal Programs and Socioeconomic and Community Resilience Outcomes

Meri Davlasheridze, Karen Fisher-Vanden, and H. Allen Klaiber, "The Effects of Adaptation Measures on Hurricane Induced Property Losses: Which FEMA Investments have the Higher Returns?" *Journal of Environmental Economics and Management*, vol. 81 (2017): 93-114.

This study used econometric modeling of Federal Emergency Management Agency (FEMA) expenditure and FEMA damage data. The study's results provided evidence that increases in per capita FEMA spending on Public Assistance and Hazard Mitigation Grant Program resulted in a reduction in per capita property losses. The authors provided evidence that FEMA's Hazard Mitigation Grant Program reduced the probability of damages, while FEMA's Public Assistance program was effective at reducing realized property losses.

Meri Davlasheridze and Pinar C. Geylani, "Small Business vulnerability to floods and the effects of disaster loans," *Small Business Economics*, vol. 49 (2017): 865-888.

This study used the Small Business Administration's (SBA) Disaster Loan data for the entire United States from 1998 through 2010. The results suggested that the number of total businesses significantly increased in response to increased spending on SBA Disaster Loans per establishment in a county, apparently driven by small business establishments. Additionally, the results indicated that small business establishments were generally vulnerable to weather shocks; the study also found that small businesses in coastal counties were mostly unaffected by flood incidents, which the study suggested is attributable to adaptation as a result of more frequent exposure to weather events.

Junia Howell and James R. Elliott, "Damages Done: The Longitudinal Impact of Natural Hazards on Wealth Inequality in the United States," *Social Problems*, vol. 66 (2019): 448-467.

This study used FEMA Public Assistance expenditure data for 1999 through 2013 and data from the Panel Survey of Income Dynamics, U.S. Census, Spatial Hazard Events and Losses Database for the United States to model how wealth changed over time for different groups and across counties that received Public Assistance funds after a disaster. Among other findings, the study reported that the more FEMA aid a county received, the more

unequal wealth became between more and less advantaged residents, holding all other variables constant, including local hazard damages. There is not a direct causal link between Public Assistance dollars at the county level and disparate individual wealth outcomes within each county because individuals do not receive the Public Assistance funds.

Hyunjung Ji and David Lee, "Disaster risk reduction, community resilience, and policy effectiveness: the case of the Hazard Mitigation Grant Program in the United States," *Disasters* (2019).

This study, drawing on multiple program and administrative data sources, constructed a dataset to examine property losses for all counties that received a Hazard Mitigation Grant Program grant or disaster declaration from 2010 to 2015. Regression model results provided evidence that the counties that received Hazard Mitigation Grant Program funding to implement mitigation projects during their disaster recovery processes were likely to experience less property damage as a result of future natural hazards. The findings support the claim that the Hazard Mitigation Grant Program has achieved its intended goal of providing opportunities for local communities to undertake hazard mitigation projects, thereby diminishing the risk of property loss owing to future disasters triggered by natural hazards. However, the authors advise cautious interpretation of results because of data challenges that prevented the authors from controlling for relevant unobserved characteristics, such as the capacity of a county government to implement the proposed projects and the support of private organizations during the response and recovery phases.

Jungmin Lim and Mark Skidmore, "Flood Fatalities in the United States: The Roles of Socioeconomic Factors and the National Flood Insurance Program," *Southern Economic Journal*, vol. 85, no. 4 (2019): 1032-1057.

This study analyzed administrative data from 1996 through 2015 on flood fatalities collected by the National Oceanic and Atmospheric Administration's National Centers for Environmental Information and merged with major socioeconomic, housing, and government expenditure data collected at the county level from the Census Bureau. These data, among other data collected, were used in analytic models. The authors found that counties with higher rates of National Flood Insurance Program (NFIP)

participation experienced fewer fatalities from flood events. The authors suggest that this is due to the mitigation and protective components of NFIP participation. The study also found that counties with more vulnerable residents, such as residents with lower education levels and poor housing quality, experienced more flood-related fatalities.

Douglas S. Noonan and Abdul-Akeem A Sadiq, "Flood Risk Management: Exploring the Impacts of the Community Rating System Program on Poverty and Income Inequality," *Risk Analysis*, vol. 38, no. 3 (2018): 489-503.

This study of nationwide data collected from 1970 through 2010 examined the relationship between participation in the NFIP's Community Rating System and local poverty and income inequality. The study used fixed effect regression models and found small but statistically significant associations between Community Rating System participating neighborhoods and lower median income, higher poverty rate, greater number of top earners (but less so where flood risk is greatest), and greater income inequality, as measured by the Gini coefficient, relative to Community Rating System nonparticipating neighborhoods. The analyses controlled for community conditions, such as population density, property damage, unemployment rate, and a community's share of renters and empty houses. Communities participating in the Community Rating System had lower median incomes and higher poverty rates. However, a more granular analysis showed that neighborhoods in communities participating in the Community Rating System that were also in floodplains had higher median incomes, higher percentages of high-income earners, lower rates of poverty, and lower rates of income inequality, whereas neighborhoods in communities participating in the Community Rating System that are not in floodplains had higher rates of income inequality.

Rodney C. Runyan, "Small Business in the Face of Crisis: Identifying Barriers to Recovery from a Natural Disaster," *Journal of Contingencies and Crisis Management*, vol. 14, no. 1 (2006): 12-26.

This qualitative study conducted interviews within 3 months of Hurricane Katrina with small business owners and representatives of five community chambers of commerce in Mississippi and

Louisiana identified as severely affected by the disaster. The authors identified that recovery for the business owner meant a reestablished cash flow and self-sufficiency from business operations. The interviewees identified several ways in which they perceived FEMA and the SBA had impeded their recovery, including delays in decision-making for rebuilding opportunities and dis-incentivizing the local labor market to fill employment opportunities for rebuilding through offering subsidized assistance.

Jonathan Spader and Jennifer Turnham, "CDBG Disaster Recovery Assistance and Homeowners' Rebuilding Outcomes Following Hurricanes Katrina and Rita," *Housing Policy Debate*, vol. 24, no. 1 (2014): 213-237.

This study used data from Community Development Block Grant-Disaster Recovery (CDBG-DR) assistance, FEMA damage assessments, on-site property observations, and a telephone survey of property owners to describe rebuilding outcomes for a sample of households in Louisiana and Mississippi 5 years after Hurricanes Katrina and Rita. The authors described differences in the state programs funded by CDBG-DR and reported rates of housing outcomes for the different program types for housing assessed as sustaining major or severe damage. Rates of rebuilding varied between locations and between households that received specific types of disaster assistance. In Louisiana, homeowner properties that received CDBG-DR assistance contained fewer rebuilt structures, more damaged structures, and cleared lots as of early 2010 than properties that had not received CDBG-DR assistance. In Mississippi, homeowner properties that had received CDBG-DR assistance contained more rebuilt structures and fewer damaged and unoccupied structures than properties that had not received CDBG-DR assistance. Homeowner properties in low-income neighborhoods were both more likely to receive CDBG-DR assistance and more likely to contain a damaged structure in early 2010 than homeowner properties in middle- and high-income neighborhoods and had higher rates of gaps between funding and expected rebuilding costs. The authors note that differences in rebuilding outcomes among CDBG-DR recipients and nonrecipients cannot be interpreted to reflect the impact of CDBG-DR funds, as a range of factors may impact rebuilding outcomes, including spatial patterns of hurricane damage, delays in the return of schools and

**Appendix III: Research on the Relationship
between Selected Federal Programs and
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Outcomes**

neighborhood residents, demographic differences, and unobserved differences due to individual decision-making.

Jenna Tyler and Abdul-Akeem Sadiq, "Business Continuity and Disaster Recovery in the Aftermath of Hurricane Irma: Exploring Whether Community-Level Mitigation Activities Make a Difference," *Natural Hazards Review*, vol. 20, no. 1 (2019).

This study examined business continuity and the disaster recovery process following Hurricane Irma in relation to county participation in FEMA's Community Rating System. A sample of 150 businesses was drawn from four counties in Florida, and interviews were conducted with 19 Florida business-owner respondents, emergency management directors in the four counties, and two Community Rating System coordinators. Of the business owners interviewed, those businesses in higher Community Rating System participating communities recovered faster than those businesses in lower Community Rating System participating communities. Notably, the interviews were conducted from October through November 2017, only 1 to 2 months after Hurricane Irma. Therefore, the perspectives offered are not inclusive of long-term recovery. Respondents cited a number of factors that hampered business continuity and recovery.

Appendix IV: Research on the Relationship between Participation in Selected Recovery Programs and Various Characteristics

Ajita Atreya, Susana Ferreira, and Erwann Michel-Kerjan, "What drives households to buy flood insurance? New evidence from Georgia," *Ecological Economics*, vol. 117 (2015): 153-161.

This study analyzed data from Georgia counties from 1978 through 2010. The authors identify characteristics associated with participation in the National Flood Insurance Program (NFIP). The characteristics include county income, lower premium prices, higher percentages of high school and college graduates, higher percentages of Black residents, and higher percentages of the population over the age of 45. The authors also found that counties with high levels of historical flood damage, and coastal counties, tend to have higher levels of flood insurance participation.

Okmyung Bin, John Bishop, and Carolyn Kousky, "Does the National Flood Insurance Program Have Redistributive Effects?" *The B.E. Journal of Economic Analysis and Policy* (2017).

This study used NFIP policy data from 2001 through 2013 to determine that Zip codes with lower median incomes paid larger shares of premiums per coverage, though Zip codes with lower median incomes also received more in claim payments per coverage. From these results, the authors concluded that the program's premiums were regressive, but the program's claim payments were progressive.

Meri Davlasheridze and Quing Miao, "Does Governmental Assistance Affect Private Decisions to Insure? An Empirical Analysis of Flood Insurance Purchases," *Land Economics*, vol. 95, no. 1 (2019): 124-145.

This study used a nationwide sample of data from 1998 through 2010 and modeled the effect of Public Assistance funding on NFIP policy purchases at the county level. The results indicated a relationship between Public Assistance receipts and a decrease in NFIP policy purchases. The study also found that Individual Assistance grant receipts had a positive relationship with insurance policy purchases.

Lloyd Dixon, Noreen Clancy, Benjamin M. Miller, Sue Hoegberg, Michael M. Lewis, Bruce Bender, Samara Ebinger, Mel Hodges, Gayle M. Syck, Caroline Nagy, Scott R. Choquette, "The Cost and

Affordability of Flood Insurance in New York City: Economic Impacts of Rising Premiums and Policy Options for One- to Four-Family Homes,” Rand Corporation (2017).

Based on a sample of New York City residents, the study found that flood insurance premiums were “burdensome” for about 25 percent of households that live in owner-occupied, one- to four-family primary residences in New York City. The study did not account for nonresponse bias. The authors found that flood insurance was most difficult for low-income households to afford, and they suggested that unaffordable flood insurance may reduce take-up rates, which in turn may reduce the resilience of households and communities to flood events.

Simone J. Domingue and Christopher T. Emrich, “Social Vulnerability and Procedural Equity: Exploring the Distribution of Disaster Aid Across Counties in the United States,” *American Review of Public Administration*, vol. 49, no. 8 (2019): 897–913.

This study examined whether the Federal Emergency Management Agency’s (FEMA) Public Assistance program is characterized by procedural inequities, or disparate outcomes, for counties with more socially vulnerable populations. The authors calculated a per capita spending variable of Public Assistance spending across 1,621 U.S. counties (52 percent of all counties) from 2012 through 2015. A multinomial logistic regression model was used to identify relationships among government spending, social vulnerability variables, and control variables. The University of South Carolina identified variables relevant to social vulnerability, defined as those social, economic, demographic, and housing characteristics that influence a community’s ability to prepare for, respond to, cope with, recover from, and adapt to environmental hazards. The models identified a range of such variables as being associated with aid distribution beyond total losses that influence funding and result in disparate levels of recovery across counties. Various socioeconomic and demographic characteristics may influence Public Assistance funding, but the study was not designed to confidently estimate their causal effects. Each model did identify that the Public Assistance program delivered less support for socially vulnerable counties when accounting for total losses. However, variables consistent with social vulnerability inequities were not consistent across all years and were manifested in dissimilar ways.

Catrin M. Edgeley and Travis B. Paveglio, "Community recovery and assistance following large wildfires: The Case of the Carlton Complex Fire," *International Journal of Disaster Risk Reduction*, vol. 25 (2017): 137-146.

In 2015, the authors conducted 65 interviews with 87 individuals who experienced the large-scale Carlton Complex Fire and professionals involved in managing recovery from the fire in Okanoga County, north-central Washington State. Although FEMA provided Public Assistance, interviewees expressed frustration at the application process and lack of Individual Assistance aid from FEMA. Among other responses, interviewees offered perspectives that FEMA had (1) a poor understanding of the rural West and of the livelihoods and landscapes regarding what was needed for recovery; and (2) the lack of clarity and specificity during the application and assessment processes, which left interviewees uncertain about whether they would qualify, as well as what conditions would qualify for aid. The interviewees also noted that the Individual Assistance program requirements were not always consistently implemented across visiting FEMA representatives and the advice they provided.

Christopher T. Emrich, Eric Tate, Sarah E. Larson, and Yao Zhou, "Measuring social equity in flood recovery funding," *Environmental Hazards*, vol. 19, no. 3 (2020): 228-250.

This study conducted multivariate regression analyses of data from the 2015 floods in South Carolina to examine the relationship at the census tract level between select demographic characteristics and the amount of funding provided by the Individual Assistance, NFIP, the Small Business Administration's (SBA) Disaster Loan program, and the Department of Housing and Urban Development's (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) programs. Overall flood recovery assistance was positively correlated with physical damage. Additional findings include that as income increased, the average funding from the Individual Assistance program also increased, and the number of SBA loans decreased. As the percentage of individuals employed within the service sector increased, the average funding from the CDBG-DR program also increased. As the percentage of Black households increased, the average number of loans from the SBA program decreased. Where losses were higher than average and the percentage of

Black households or income was higher than average, SBA support was also higher than average. Census tracts with both a higher-than-average percentage of Black households and a higher-than-average percentage who speak English as a second language, not well, or not at all, received less funding from NFIP and the CDBG-DR programs. Census tracts with higher percentage of renters received less NFIP funding. Where income and loss were higher than average, NFIP support was lower. Where the percentage of black households and loss were higher than average, NFIP support was higher.

Laura E. Grube, Rosemarie Fike, and Virgil Henry Storr, "Navigating Disaster: An Empirical Study of Federal Assistance Following Hurricane Sandy," *Eastern Economic Journal*, vol. 44, no. 4 (2018): 576-693.

This article examined FEMA Individuals and Households Program in the aftermath of Hurricane Sandy in 2012. In an analysis of a subset of Zip codes in New Jersey, Maryland, and New York using OpenFEMA data resources, archived Registration Intake, and Individuals and Households Program data, the authors found that differences in the extent of damage explain much of the variation in the size of the federal disaster assistance award. Zip codes with a higher percentage of foreign-born residents received lower damage estimates and lower amounts of Individual Assistance. The authors also found that Zip codes with a lower percentage of high school graduates had lower average damage assessments and total damage assessments, although this relationship was not consistent across all models. The study only applies to the Zip codes in the sample for 2012 and does not control for differences between the sample and the Zip codes for which data were unavailable.

Carolyn Kousky, "Disasters as Learning Experiences or Disasters as Policy Opportunities? Examining Flood Insurance Purchases after Hurricanes," *Risk Analysis*, vol. 37, no. 3 (2017).

This study conducted regression analyses of NFIP single-family residential policies and claims data aggregated at the county level for all states along the Atlantic and Gulf Coasts from 2001 through 2010. The study found a positive correlation at the county level between experience of tropical storms and hurricanes and the number of single-family NFIP policy purchases, but the effect does

not persist beyond a couple of years after the flood. Take-up rates were higher in coastal counties than in inland counties. Flood insurance purchases were more likely after a disaster declaration. The study design cannot explain whether individuals would have purchased flood insurance without the mandatory purchase requirement.

Carolyn Kousky, "Facts about FEMA Household Disaster Aid: Examining the 2008 Floods and Tornadoes in Missouri," *Weather, Climate, and Society*, vol. 5 (2013).

This study provides descriptive data, including percentages of approval, for Individual Assistance (through its Individuals and Households Program) grants for disaster survivors in Missouri in 2008, which included four disaster declarations. The study reports those who received and did not receive Individual Assistance aid for two categories: (1) housing assistance (cash payments for home repair, replacement housing, rental assistance, transient accommodations); and (2) other needs assistance (for personal property, dental, funeral, medical, moving, transportation, and other expenses, such as purchasing a NFIP policy or fuel). The percentage of approved applicants varied across disasters. In no case is the approval rate over 50 percent. Reasons for denial of housing assistance included that (1) applicants were not willing to move from the home while repairs were made so were ineligible for rental assistance; (2) applicants had home insurance; and (3) applicants had sustained insufficient damage assessments, as determined from FEMA inspections. For other needs assistance, the most frequently identified reason was that applicants were deemed ineligible due to insufficient damage, and the next most common reason of ineligibility was that applicants did not provide required documentation to substantiate their claims.

Carolyn Kousky, Erwann Michel-Kerjan, and Paul Raschky, "Does federal disaster assistance crowd out flood insurance?" *Journal of Environmental Economics and Management*, vol. 87 (2006): 150-164.

This study used FEMA Individual Assistance data from 2004 through 2011 and NFIP data from 2000 through 2011 to model the influence of Individual Assistance grants provided to households for uninsured property losses from flood events on flood insurance purchases. This analysis of 23,150 U.S. Zip codes with 100 or

more inhabitants found that postdisaster Individual Assistance grants were associated with a decrease in the average amount of flood insurance coverage the following year in each Zip code that received grants, suggesting that increases in these grants could dis-incentivize participation in NFIP. The study controls for SBA Disaster Loans and found they had almost no impact on flood insurance demand. The study found no impact on NFIP take-up rates after eliminating from the data the policies that were required as a criterion for receiving federal assistance.

Carolyn Kousky and Erwann Michel-Kerjan, "Examining Flood Insurance Claims in the United States: Six Key Findings." *The Journal of Risk and Insurance*, vol. 84, no. 3 (2017): 819-850.

This study conducted regression analyses of nationwide FEMA data from 1978 through 2012, modeling several characteristics associated with insurance claims for single-family residential homes with NFIP policies. The study found that insurance claims were lower in communities that participated in the Community Rating System, all else in the models being equal, and that the reductions in claims became greater at higher levels of participation. The article does not address private flood insurance, a small portion of the overall residential market.

Craig E. Landry and Jiangyuan Li, "Participation in the Community Rating System of NFIP: Empirical Analysis of North Carolina Counties," *Natural Hazards Review*, (2012).

This study used regression models to analyze data from counties that participated in the Community Rating System in North Carolina from 1991 through 2002. Among other findings, the study found that participation in the Community Rating System was positively correlated with prior flood-related property damage; flood experience; and geographical risk factors, such as precipitation and surface water coverage.

Jingyuan Li and Craig E. Landry, "Flood Risk, Local Hazard Mitigation, and the Community Rating System of the National Flood Insurance Program," *Land Economics*, vol. 94, no. 2 (2018): 175-198.

This study used data on North Carolina counties from 1999 through 2010. The authors estimated the effects of local hazard

mitigation efforts and physical and human capital accumulation on Community Rating System points. The results indicated that greater levels of flood hazard mitigation were found in communities with higher levels of local government tax revenue, greater budgets for emergency management, higher household income, greater population density, and a larger proportion of people aged 65 or older. Also, less flood mitigation had occurred in communities that had higher levels of crime and unemployment and lower levels of school quality. The authors interpreted these results as support for their hypothesis that competing public priorities can crowd out flood hazard mitigation projects. The study also found that the number of flood events in the preceding year had a positive effect on Community Rating System activities; however, the study did not find a relationship between Community Rating System mitigation activities and flood events after more than a year.

Ingrid E. Luffman, "Wake-up Call in East Tennessee? Correlating Flood Losses to National Flood Insurance Program Enrollment (1978-2006)," *Southeastern Geographer*, vol. 50, no. 6 (2010): 305-322.

This study used NFIP data from 1978 through 2006 to model how the amount of flood loss in three Tennessee communities (Elizabethton, Pigeon Forge, and Chattanooga) related to the number of flood insurance policies purchased in those communities. NFIP enrollment in a community can be related to past flood events, numbers of claims previously filed, and sometimes the size of those claims. For example, NFIP insurance purchases were positively correlated with the number of paid insurance claims (Chattanooga and Elizabethton) and flood losses in the current year (Elizabethton) or the previous year (Pigeon Forge).

Simon McDonnell, Pooya Ghorbani, Swati Desai, Courtney Wolf, and David M. Burgy, "Potential Challenges to Targeting Low and Moderate Income Communities in a Time of Urgent Need: The Case of CDBG-DR in New York State after Superstorm Sandy," *Housing Policy Debate*, vol. 28, no. 3 (2018): 466-487.

This study used HUD's 2015 Low- and Moderate-Income Summary data for New York State after Hurricane Sandy to explore some ways in which HUD's definition of low- and moderate-income service areas, used for the purposes of

distributing federal aid in the wake of a disaster, may be problematic in New York State. The authors took a quantitative approach to constructing hypothetical service areas and found that, even though there are low- and moderate-income populations, it was difficult to produce service areas that meet the low- and moderate-income definition outside of New York City, and the probabilities decreased as the size of the hypothetical service areas increased. The authors noted that the design examines one area, and this may be a specific case because of having a uniquely large grantee within the boundaries of another grantee.

Douglas S. Noonan, Lilliard E. Richardson, Abdul-Akeem Sadiq, and Jenna Tyler, "What Drives Community Flood Risk Management? Policy Diffusion or Free-Riding," *International Journal of Sustainable Development and Planning*, vol. 15, no. 1 (2020): 69–80.

This study conducted regression analyses using nationwide data from 1998 through 2013 to analyze whether or not a community participated in the Community Rating System in 2013. Among other findings, communities that participated in the Community Rating System were generally associated with having higher population density, aggregate housing values, and rentership rates. The authors found no evidence of neighborhood effects in their analyses.

Mary Paille, Margaret Reams, Jennifer Argote, Nina S.N. Lam, and Ryan Kirby, "Influences on Adaptive Planning to Reduce Flood Risks among Parishes in South Louisiana," *Water*, vol. 8, no. 57 (2016).

This study used a multiple regression analysis of NFIP data to examine participation in the Community Rating System for 35 Louisiana parishes in 2014. The study identified several parish characteristics associated with FEMA's incentive offered by the NFIP's Community Rating System. The findings indicate that parishes with higher median housing values were significantly associated with higher Community Rating System scores. This finding is consistent with prior research that points to the importance of socioeconomic resources. Additionally, they found that parishes with more Community Rating System participating local municipalities had significantly higher Community Rating System scores. The authors identified this as a "nested

municipalities” effect, in which hazard mitigation planning in a county both increased the level of public awareness incentivizing collective mitigation action and provided a larger base of available technical expertise to support mitigation efforts. In contrast to other studies, the authors found that higher Community Rating System scores were not statistically significant related to parish government revenue or flood exposure variables, such as the number of past flood events or the average elevation of the parish.

Jason D. Rivera, “Deciding to Apply for Federal Disaster Assistance: A Preliminary Investigation of Disaster Decision-Making using a Bounded Rationality Framework,” *Journal of Homeland Security and Emergency Management*, (2019).

Using data from phone surveys of a sample of adults living along the Texas Gulf Coast during Hurricane Harvey in 2017, the authors described characteristics of those who applied for FEMA’s Individual Assistance program, separately for those who reported home damage and those who did not report home damage. Across both samples, the author, using logistic regression, found that survey respondents who chose to apply were more likely to have had a home or automobile damaged by the storm, had been evacuated during the storm, or perceived their storm loss as severe. Those who chose to apply also were more likely to be married or widowed than single, separated, or divorced, indicated that they were of Other, Non-Hispanic ethnicity, and reported having a new or worsening mental health condition in reaction to the disaster. Applicants in the home damage sample were less likely to have a postgraduate degree, to be foreign born, to live with another person, or to have a strong support network. While the study described relevant characteristics for respondents who did and did not apply, the study did not describe the extent of survey nonresponse or assess how it might affect its estimates. As a result, it is unclear how well the results can be generalized to the entire Texas Gulf Coast population. In addition, the study was not designed to estimate the causal effects of storm-related or sociodemographic characteristics.

Rodney C. Runyan, “Small Business in the Face of Crisis: Identifying Barriers to Recovery from a Natural Disaster.” *Journal of Contingencies and Crisis Management*, vol. 14, no. 1 (2006).

This qualitative study conducted interviews within 3 months of Hurricane Katrina with small business owners and representatives of five community chambers of commerce in Mississippi and Louisiana identified as severely affected by the disaster. The authors described several challenges small businesses perceived in accessing SBA Disaster Loans after the hurricane: (1) a lack of experience for small businesses about financing operations through borrowing; (2) the unique circumstances of the scale of Hurricane Katrina, leading to uncertainty in factors influencing decision-making (such as future regulations on building codes and locations); (3) a long and intrusive application process; (4) the lengthy time between loan application and loan disbursement; and (5) because they did not have the required documentation—which interviewees said were not practical requirements—after business documents were destroyed during the storm.

Abdul-Akeem Sadiq and Douglas Noonan, “Flood disaster management policy: An analysis of the United States Community Ratings System,” *Journal of Natural Resources Policy Research* (2014).

This study used data from 1990 through 2012 of a national sample of communities to model characteristics associated with participation in the Community Ratings System and identify which of these characteristics predicted Community Ratings System scores. Among other findings, the authors reported that U.S. Census Bureau places with larger government payrolls and capital outlay on flood-related infrastructure, or higher flood risk, had higher Community Rating System scores and were more likely to participate. Rural communities were less likely to participate. However, these characteristics were not predictors of Community Ratings System scores.

Abdul-Akeem Sadiq, Jenna Tyler, and Douglas Noonan, “Participation and non-participation in FEMA’s Community Rating System (CRS) program: Insights from CRS coordinators and floodplain managers,” *International Journal of Disaster Risk Reduction*, vol. 48 (2020).

This study investigated initial, continued, and non-Community Rating System participation via interviews and questionnaires conducted from 2018 through 2019. The study used a sample of Community Ratings System coordinators in participating communities and floodplain managers from the non-participating

communities. Reasons identified for initial participation in Community Ratings System included prior flood experience, copycatting (other communities did it), education/awareness/outreach, benefits (like reduced flood insurance premiums, reduce flood losses, etc.), and others (like compliance). The reasons for continued Community Ratings System participation were very similar to those of initial participation. Perceived benefits of the Community Ratings System, particularly reduced flood insurance premiums, contained the most responses for initial and continued participation. Reasons for nonparticipation in the Community Ratings System included perceptions of a lack of resources—staff or funding or time—to participate, lack of benefits of the program, costs, administrative burden, political reasons, and others, with lack of resources containing the most responses.

Sammy Zahran, Stephan Weiler, Samuel D. Brody, Michael K. Lindell, Wesley E. Highfield, "Modeling National Flood Insurance Policy holding at the county level in Florida, 1999-2005," *Ecological Economics*, vol. 68 (2009): 2627-2636.

This study used data from Florida counties from 1999 through 2005. The study investigated the extent to which potential factors affected the number of NFIP policies purchased within the counties and whether purchases corresponded with flood mitigation activities by local governments involved in FEMA's Community Rating System. The study found that local government mitigation efforts and prior flood experience was associated with an increase in the number of insurance holders in the community. As the study noted, the causal relationship between flood insurance uptake and mitigation efforts (Community Rating System scores) may be reciprocal, and the models do not account for that possibility. The study also identified that counties with more flood insurance policies also had higher median home values and larger percentages of college-educated individuals in the county.

Appendix V: Comments from the Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528



**Homeland
Security**

November 30, 2021

Chris P. Currie
Director, Homeland Security and Justice
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Management Response to Draft Report GAO-22-104039, "DISASTER RECOVERY: Additional Actions needed to Identify and Address Potential Recovery Barriers"

Dear Mr. Currie:

Thank you for the opportunity to comment on this draft report. The U.S. Department of Homeland Security (DHS or the Department) appreciates the U.S. Government Accountability Office's (GAO) work in planning and conducting its review and issuing this report.

The Department is pleased to note GAO's recognition that the Federal Emergency Management Agency (FEMA) Public Assistance (PA), Individual Assistance (IA), and Hazard Mitigation Grant programs took actions to address potential access barriers and disparate outcomes, as well as challenges programs are facing to collect and analyze quality data to address these barriers and define successful community recovery. DHS remains committed to working with federal, state, tribal nations, individuals, and communities across the nation to provide equitable access to, and equitable outcomes from, FEMA's recovery programs for disaster survivors.

Examples of specific actions recently taken by FEMA to address potential access barriers and disparate outcomes include:

- FEMA co-led the White House Equity in Disasters Working Group subgroup, which included representatives from the U.S. Census Bureau, National Aeronautics and Space Administration, and National Oceanic and Atmospheric Administration, to identify areas lacking data to answer equity questions around disasters, including the question of who is, and is not, participating in Recovery programs.
- FEMA is in the process of finalizing an interagency Data Sharing Agreement partnership with the U.S. Census Bureau, which is anticipated to be complete by December 31, 2021. This Data Sharing Agreement will support climate resilience and equity in disaster operations by facilitating data sharing in the National Response

**Appendix V: Comments from the Department
of Homeland Security**

Coordination Center between FEMA's Recovery Technology Specialist and the Census Liaison Officer. Further, the Data Sharing Agreement will support Federal Insurance and Mitigation Administration research projects, as well as the establishment of the Mitigation Investment Data Laboratory, a FEMA-based Census Federal Research Data Center.

- FEMA's Recovery Directorate is working with the Office of Management and Budget to obtain permission for FEMA to collect demographic data at Household Registration for IA, similarly to how FEMA Recovery has included demographic questions in IA and PA customer satisfaction surveys with the purpose of allowing more granular equity research into outcomes since 2018.
- FEMA Recovery created and began administering the Long-Term Recovery study, a 24-month longitudinal study that will survey a panel of survivors who received FEMA Individuals and Households Program assistance at 6, 12, 18, and 24 months after disaster declaration.

Further, it is important to note that FEMA Recovery Reporting and Analytics Division, in collaboration with PA, conducts an equity analysis that evaluates timeliness and accuracy of PA across counties throughout the United States. It was started in fiscal year 2020 and continues to be updated to examine outcomes of eligibility, timeliness of assistance, Requests for Information, and Determination Memos across these social vulnerability indices. Lastly, FEMA will ensure actions related to equity align with the "Biden-Harris Management Agenda Vision Towards an Equitable, Effective, and Accountable Government that Delivers Results for All," as well as the Goal 1 from the *2022-2026 FEMA Strategic Plan*, once complete: "Instill equity as a foundation of emergency management."

The draft report contained six recommendations, including two for DHS with which the Department concurs. Attached find our detailed response to each recommendation. DHS previously submitted technical comments addressing several accuracy, contextual, and other issues under a separate cover for GAO's consideration.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Sincerely,

JIM H CRUMPACKER  Digitally signed by JIM H
CRUMPACKER
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JIM H. CRUMPACKER, CIA, CFE
Director
Departmental GAO-OIG Liaison Office

Attachment

**Attachment: Management Response to Recommendations
Contained in GAO-22-104039**

GAO recommended that the FEMA Administrator:

Recommendation 1: In coordination with the SBA [Small Business Administration] Associate Administrator of the Office of Disaster Assistance and the HUD [Housing and Urban Development] Assistant Secretary for Community Planning and Development, develop, with input from key recovery partners, and implement an interagency plan to help ensure the availability and use of quality information—that includes (1) information requirements, (2) data sources and methods, and (3) strategies for overcoming information challenges to support federal agencies involved in recovery in identifying access barriers or disparate outcomes.

Response: Concur. FEMA’s Recovery Reporting and Analytics Division (RAD), with support from FEMA’s Interagency Coordination Division (ICD), will work with the SBA, HUD, and other agency partners to determine: (1) quality information challenges and strategies to overcome them; (2) information availability; and (3) to establish data sharing requirements and agreements to support agencies in identifying barriers and outcomes. Estimated Completion Date (ECD): November 30, 2022.

Recommendation 2: Coordinate with the SBA Associate Administrator of the Office of Disaster Assistance and the HUD Assistant Secretary for Community Planning and Development to design and establish routine processes to be used within and across federal recovery programs to address identified access barriers and disparate outcomes on an ongoing basis.

Response: Concur. FEMA’s ICD, through its leadership of the Recovery Support Function Leadership Group, and support from RAD, will work with SBA and HUD to design and establish a routine process to identify and address access barriers and disparate outcomes on an ongoing basis. ECD: November 30, 2022.

Appendix VI: Comments from the Department of Housing and Urban Development



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-7000

PRINCIPAL DEPUTY ASSISTANT SECRETARY
FOR COMMUNITY PLANNING AND DEVELOPMENT

Mr. Chris P. Currie
Director, Homeland Security and Justice Team
Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: GAO Audit – Draft Report CPD-22-104039

Dear Mr. Currie:

On October 26, 2021, the Government Accountability Office (GAO) issued the draft report entitled “Disaster Recovery: Additional Actions Needed to Identify and Address Potential Recovery Barriers” [GAO 22-10439]. The draft report was provided to HUD to obtain advance review and agency comment. As part of a GAO review of a range of disaster recovery issues following the 2017 disaster season, the draft report addresses 1) HUD’s role in federal disaster recovery, with a focus on assisting low- and moderate-income (LMI) populations; and 2) current practices and challenges by HUD, the Federal Emergency Management Agency (FEMA) and the U.S. Small Business Administration (SBA) to establish routine interagency processes for purposes of sharing data and identifying barriers to accessing federal disaster assistance and identifying disparate recovery outcomes.

The GAO draft report includes six Recommendations, two of which are specific to HUD. The remaining four recommendations, two that are specific to FEMA and two that are specific to SBA, are identical to the HUD recommendations. This letter provides agency comment on the draft report and describes the specific actions that the Department is considering to further improve the data used in federal disaster recovery in order to identify barriers to access to assistance and disparate recovery outcomes.

GAO Recommendation 1: The HUD Assistant Secretary for Community Planning and Development should, in coordination with the FEMA Administrator and SBA, develop, with input from key recovery partners, and implement an interagency plan to help ensure the availability and use of quality information – that includes (1) information requirements, (2) data sources and methods, and (3) strategies for overcoming information challenges – to support federal agencies involved in recovery in identifying access barriers or disparate outcomes.

In the description of federal disaster recovery programs and in the summary of the research cited in the draft report, the Department recommends that the draft report give greater emphasis to key differences between the Community Development Block Grant disaster recovery (CDBG-DR) funds provided by HUD and the federal disaster assistance administered by FEMA and SBA. The report notes that CDBG-DR funds are appropriated by Congress and implemented by HUD as block grant funding within the framework of the Housing and

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**Appendix VI: Comments from the Department
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Community Development Act of 1974 (42 U.S.C. 5301 *et seq.*). As such, CDBG-DR provides grants to states, localities, and tribes, who then provide assistance to individual beneficiaries. Unlike FEMA and SBA, HUD does not provide direct assistance to disaster survivors and does not collect any data about individual beneficiaries. CDBG-DR grantees, rather than HUD, collect data on those receiving assistance and some of that data is required for HUD reporting. Grantees may have information regarding populations that are not assisted in the context of those who applied but were denied assistance. In addition, CDBG-DR continues to be implemented on an appropriation-by-appropriation basis in response to specific disaster events. The establishment of a consistent and reliable statutory framework would allow for a HUD rulemaking process that could also address the data-sharing challenges that serve as the basis for this recommendation.

This draft report on enhanced federal interagency data sharing in disaster recovery would be further informed by a fuller understanding of the current data sharing between HUD and FEMA. HUD maintains an interagency agreement with FEMA to coordinate data sharing and matching for the purpose of determining remaining unmet disaster recovery needs at the grantee level. HUD uses this data to identify CDBG-DR grantee allocation amounts, in accordance with statutory provisions in the respective allocation statutes that direct that funding be used for remaining unmet needs in the most impacted and distressed areas. This longstanding data sharing by FEMA with HUD and CDBG-DR grantees has halted at present, due to issues identified in the applicable FEMA System of Records Notices (SORN). A new SORN is underway, and FEMA has requested an expedited process from OMB. In the meantime, the current interagency agreement between HUD and FEMA has expired. The Department is negotiating a new agreement with FEMA but does not expect the agreement to be active before March 22, 2022, due to issues with the FEMA SORN. HUD is awaiting any possible work-around to the reliance on the SORN. FEMA has advised, however, that it has no alternatives to relying on the SORN and considers the completion of the SORN to be the only path forward for reviving the current level of data sharing exchange.

Pending the successful resolution of the FEMA SORN-related data-sharing issues, HUD is prepared to work with its federal recovery partners to explore the feasibility of developing and implementing a broader interagency plan that addresses the elements of this recommendation. HUD will also coordinate with SBA as part of this effort as both HUD and SBA use FEMA data.

GAO Recommendation 2: The HUD Assistant Secretary for Community Planning and Development should coordinate, with the FEMA Administrator and SBA, to design and establish routine processes to be used within and across federal recovery programs to address identified access barriers and disparate outcomes on an ongoing basis.

This recommendation would be further informed by a discussion in the report of the order of assistance established by the Stafford Act and recognition of the timing of each respective federal agency's provision of disaster recovery assistance. As a supplemental federal appropriation is typically enacted some considerable time after a disaster, CDBG-DR funds are provided to grantees and their recipients well after FEMA and SBA assistance. CDBG-DR funds are also provided for a different purpose, long-term, whole-community recovery. Further, unlike FEMA and SBA assistance, CDBG-DR assistance requires grantees to target LMI populations and take steps to affirmatively further fair housing.

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When considering this recommendation, GAO is encouraged to review HUD's recent response to GAO's draft report, "Better Data is Needed to Ensure HUD Block Grant Funds Reach Vulnerable Populations" (GA22-104452). That report recommended that HUD, FEMA, and SBA adopt and implement a shared definition of vulnerable populations. In its response, HUD noted:

HUD, however, is prepared to work with its federal recovery partners to explore the feasibility of developing a shared definition of vulnerable populations, recognizing that FEMA, in its most recent competition for Building Resilient Infrastructure and Communities, funds, adapted a version of the HUD vulnerable population criterion. Similarly, the U.S. Small Business Administration, which, unlike HUD, is established in the statutory order of federal assistance under the Stafford Act, may also be engaged in new policies to consider the needs of vulnerable populations. In the end, to effectively implement the President's Executive Order on Advancing Racial Equity and Support for Underserved Communities through the Federal Government on equity, HUD's definitions will be developed to reflect the work and input of its federal partners.

In the context of this draft report and Recommendation 2, HUD is similarly prepared to engage its federal partners, perhaps in the context of the Recovery Support Federal Leadership Group (RSFLG), in exploring the potential for an interagency process that could be used to identify access barriers and disparate outcomes.

Technical Corrections and Clarifications:

1. The report should reference Community Development Block Grant Disaster Recovery rather than "Disaster Relief" (GAO Highlights page). The federal response to disasters distinguishes immediate relief from long-term recovery.
2. The description of CDBG-DR in the "Background" section states that the duplication of benefits provision of the Stafford Act "generally applies to duplication with CDBG-DR." The duplication of benefits requirements of the Stafford Act, however, are fully applicable to CDBG-DR. This paragraph mistakenly suggests that the use of CDBG-DR as matching funds for other programs constitutes a duplication of benefits. The use of CDBG-DR funds for the non-federal cost share of other federal funds is authorized by the Housing and Community Development Act of 1974, as amended (for the main CDBG program). CDBG-DR grantees must demonstrate that this use of funds does not duplicate assistance provided by the federal agency requiring the match. Further, in the supplemental appropriation of CDBG-DR funds, Congress prohibits the use of CDBG-DR funds for costs that are otherwise reimbursable by FEMA or the U.S. Army Corps of Engineers. (p. 10).
3. In the discussion of the study of LMI areas for New York State's CDBG-DR funding for Hurricane Sandy recovery, the draft report appears to present this study as an illustration of some difficulty with the statutory definition of "low- and moderate-income" per the Housing and Community Development Act of 1974, as amended (or the regulatory definition of a "low- and moderate-income area" per the requirements of 24 CFR 570.208). The draft report should note, however, that this study was prepared by New York State in support of its request to waive the requirement that at least 50 percent of the CDBG-DR grants for Hurricane Sandy

**Appendix VI: Comments from the Department
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be used for LMI benefits. The State's study emphasizes that the areas with the greatest damage from Hurricane Sandy outside of the City of New York did not contain a significant portion of LMI areas. GAO's presentation of this study as illustrative of an issue with the statutory or regulatory definition of "low- and moderate-income" missing the point of the study – i.e., that disasters may impact areas that are simply not LMI (p. 29).

4. The draft report indicates that HUD believes "states" are better positioned to identify access barriers because of their direct relationship with beneficiaries. This would also be true of local governments that are CDBG-DR grantees, and the report should reference "CDBG-DR grantees" as the best source for identifying grantee-specific barriers to access (p. 34).

Thank you for the opportunity to comment on this draft report.

Sincerely,

**JAMES
JEMISON**

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JAMES JEMISON
Date: 2021.12.06
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James Arthur Jemison II
Principal Deputy Assistant Secretary
for Community Planning and Development

Appendix VII: Comments from the Small Business Administration



U.S. SMALL BUSINESS ADMINISTRATION
WASHINGTON, DC 20416

November 24, 2021

Mr. William B. Shear,
Director
Financial Markets and Community Investment
U.S. Government Accountability Office
Washington, D.C. 20548

Dear Mr. Shear:

Thank you for providing the U.S. Small Business Administration (SBA) with a copy of the Government Accountability Office (GAO) draft report titled, *Disaster Recovery: Additional Actions Needed to Identify and Address Potential Recovery Barriers* (GAO-22-104039).

The GAO proposed two recommendations for SBA:

- 1. The SBA Associate Administrator of the Office of Disaster Assistance should, in coordination with the FEMA Administrator and HUD Assistant Secretary for Community Planning and Development, develop, with input from key recovery partners, and implement an interagency plan to help ensure the availability and use of quality information—that includes (1) information requirements, (2) data sources and methods, and (3) strategies for overcoming information challenges—to support federal agencies involved in recovery in identifying access barriers or disparate outcomes.*

SBA supports the recommendation to establish a new interagency plan to expand data collection and sharing with partner agencies to minimize barriers. This aligns with ODA's current outreach efforts. ODA is exploring potential new metrics to measure outreach effectiveness during a response to a disaster declaration. Additionally, SBA has added collection of demographic information to the application forms in an effort to more fully understand access barriers and associated effects on outcomes.

- 2. The SBA Associate Administrator of the Office of Disaster Assistance should coordinate with the FEMA Administrator and HUD Assistant Secretary for Community Planning and Development to design and establish routine processes to be used within and across federal recovery programs to address identified access barriers and disparate outcomes on an ongoing basis.*

SBA generally agrees with this recommendation and will explore potential processes to address access barriers and disparate outcomes.

**Appendix VII: Comments from the Small
Business Administration**

Sincerely,

**BARBARA
CARSON** Digitally signed by
BARBARA CARSON
Date: 2021.11.24
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James E. Rivera
Associate Administrator
Office of Disaster Assistance

Appendix VIII: GAO Contact and Staff Acknowledgments

GAO Contact

Christopher Currie, 404-679-1875 or Curriec@gao.gov

Staff Acknowledgments

In addition to the contact named above, Kathryn Godfrey (Assistant Director), Amber Edwards (Analyst-in-Charge), Caitlin Jackson, Meredith Graves, Laura Ann Holland, Patricia Powell, Valarie Caracelli, Scott Spicer, Jack Wang, and Tracey King made key contributions to this report. Additionally, the following individuals helped with the literature review analysis and review Jieun Chang, Paul Hobart, Gary Malavenda, Danielle Curet, Kristiana Moore, Adrian Pavia, and Erin O'Brien, Jeff Tessin and Justin Fisher.

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