



Report to the Ranking Member,
Committee on Financial Services,
House of Representatives

February 2016

NATIONAL FLOOD INSURANCE PROGRAM

Options for Providing Affordability Assistance

Accessible Version

GAO Highlights

Highlights of [GAO-16-190](#), a report to the Ranking Member, Committee on Financial Services, House of Representatives

Why GAO Did This Study

As of May 30, 2015, FEMA, which administers NFIP, subsidized about 996,000 flood insurance policies. The National Flood Insurance Act of 1968 authorized these highly discounted premiums. To help strengthen NFIP's financial solvency, the Biggert-Waters Flood Insurance Reform Act of 2012 required FEMA to eliminate or phase out almost all subsidized premiums. However, affected policyholders raised concerns about the resulting rate increases. The Homeowner Flood Insurance Affordability Act of 2014 sought to address affordability concerns by repealing or altering some Biggert-Waters Act requirements.

GAO was asked to identify options for policyholders who may face affordability issues if charged full-risk rate premiums. This report describes options to target assistance to policyholders, estimates of eligible policyholders and associated costs of these options, and mechanisms for delivering assistance. GAO reviewed literature on approaches for targeting and delivering assistance, interviewed 18 organizations familiar with flood insurance and officials from FEMA and other agencies, and analyzed NFIP premium data and Census income data for 2009-2013 (most recent).

What GAO Recommends

GAO makes no recommendations in this report. GAO recommended in [GAO-13-607](#) that FEMA obtain information needed to determine full-risk rates for subsidized properties and maintains the importance of implementing the recommendation. FEMA and the Department of Housing and Urban Development provided technical comments.

View [GAO-16-190](#). For more information, contact Alicia Puente Cackley at (202) 512-8678 or cackleya@gao.gov

February 2016

NATIONAL FLOOD INSURANCE PROGRAM

Options for Providing Affordability Assistance

What GAO Found

Options for targeting assistance to subsidized policyholders of primary residences who may experience difficulty paying full-risk rates for their National Flood Insurance Program (NFIP) policies include means testing assistance based on the income level of policyholders or geographic areas, setting premium caps, and basing assistance on the cost of mitigating the risk of damage to their homes. Currently, NFIP subsidies are tied to the property. Implementing a means-tested approach would decouple the subsidy from the property and instead attach it to the policyholder or a group of policyholders on the basis of financial need. All of these options involve trade-offs, and implementing any of them would present challenges because the Federal Emergency Management Agency (FEMA) would have to collect data that it does not currently collect, such as policyholders' income and flood-risk information needed to calculate full-risk rates.

Although data are limited, they suggest that many policyholders who currently receive a subsidy would likely be eligible for assistance under certain targeting options GAO identified. For example, using Census data, under the means-tested approach based on individual policyholders' income and using an eligibility threshold of 80 percent of area median income, about 47 percent of subsidized policyholders, as of September 2013, would likely be eligible to receive assistance. If the eligibility threshold were increased to 140 percent of area median income, 74 percent would likely be eligible to receive assistance. Under this and other targeting options, however, it is not possible to estimate the cost of providing assistance with precision because FEMA lacks the information needed to calculate full-risk rates for currently subsidized properties. GAO recommended in July 2013 that FEMA collect information from all policyholders necessary to determine flood risk. FEMA agreed with the recommendation but has taken limited action to implement it, citing the considerable time and cost involved in obtaining the information. FEMA officials stated that they plan to continue to rely on subsidized policyholders to voluntarily obtain this information. Without proper flood-risk information, the cost of the existing subsidy or other assistance—which would be important for Congress in considering options to address affordability—cannot be determined accurately.

Several mechanisms are available for delivering assistance to eligible policyholders, but each involves trade-offs among four public policy goals. For NFIP, these goals are (1) charging premium rates that fully reflect risk, (2) encouraging private markets to provide flood insurance, (3) encouraging broad program participation, and (4) limiting administrative costs. NFIP currently uses discounted rates to deliver subsidies to certain policyholders but could choose from a variety of delivery mechanisms, including vouchers, tax expenditures, and grants and loans, depending on policy priorities. For example, while tax expenditures do not have the stigma that some individuals may associate with government spending programs, policyholders could face cash flow challenges because they would generally need to pay the full premium before they receive the tax benefit. Finally, alternative mechanisms could increase administrative costs because FEMA would incur additional costs associated with setting up and administering a new assistance program or tax benefit, among other reasons.

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Abbreviations

ACS	American Community Survey
AMI	area median income
FAFSA	Free Application for Federal Student Aid
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HFIAA	Homeowner Flood Insurance Affordability Act of 2014
HUD	Department of Housing and Urban Development
IRS	Internal Revenue Service
LIDAR	Light Detection and Ranging

NAS	National Academy of Sciences
NFIP	National Flood Insurance Program
SFHA	Special Flood Hazard Area
Treasury	Department of the Treasury

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February 10, 2016

The Honorable Maxine Waters
Ranking Member
Committee on Financial Services
House of Representatives

Dear Ms. Waters:

As of May 30, 2015, approximately 996,000 residential flood insurance policies—about 19 percent—covered by the National Flood Insurance Program (NFIP) continued to be sold at highly discounted rates that did not fully reflect the actual risk of flooding damage (known as subsidized rates). The National Flood Insurance Act of 1968 authorized subsidized rates to encourage participation in NFIP.¹ Generally, subsidized policies cover properties in high-risk locations known as Special Flood Hazard Areas (SFHA) that were built before Flood Insurance Rate Maps (FIRM) became available for the community and the flood risk was clearly understood; these properties otherwise would have been charged higher premiums.

Although subsidized rates promote participation in NFIP by offering affordable premiums, these premiums do not contribute sufficient revenues to cover long-term expected losses. As a result, policies receiving subsidized rates have been a financial burden on NFIP, and the program is not actuarially sound.² In recent years, claims related to major weather events, especially catastrophic weather events in 2005 and 2012, have required the Federal Emergency Management Agency (FEMA), which administers NFIP, to borrow funds from the Department of the Treasury (Treasury). As of September 30, 2015, FEMA owed Treasury \$23 billion,

¹The National Flood Insurance Act of 1968 established NFIP. Pub. L. No. 90-448, tit. XIII, § 1304, 82 Stat. 476, 574.

²Actuarial Standards of Practice note that “actuarial soundness” has different meanings in different contexts, and these practices state that if an actuary identifies a process or result as actuarially sound, the actuary should define the meaning of actuarially sound in that context. For this report, in referring to NFIP as not actuarially sound, we mean that its aggregate premiums, after providing for program expenses, are not at a sufficient level to cover actuarial estimates of the program’s long-term expected losses.

and it made a \$1 billion principal repayment at the end of December 2014—FEMA's first such payment since 2010.³ As a result of the program's importance, level of indebtedness to Treasury, and substantial financial exposure for the federal government and taxpayers, as well as FEMA's operating and management challenges, NFIP has been on our high-risk list since 2006.⁴

The Biggert-Waters Flood Insurance Reform Act of 2012 (Biggert-Waters Act) instituted provisions to help strengthen the future financial solvency and administrative efficiency of NFIP.⁵ For example, it required FEMA to eliminate or phase out almost all subsidized insurance premiums and establish a reserve fund.⁶ Specifically, as mandated by the Biggert-Waters Act, on October 1, 2013, FEMA began prohibiting subsidies from being passed to new property owners and removed subsidies if insurance coverage lapsed as a result of the policyholders' deliberate choice. Additionally, FEMA has begun phasing out subsidies on policies for business properties, residential properties that are not primary residences, and single-family properties with severe repetitive losses.⁷ The Biggert-Waters Act also mandated that FEMA contract with the National Academy of Sciences (NAS) to conduct an initial study on the affordability

³In September 2014, FEMA's largest loan from Treasury was refinanced into three smaller loans with higher interest rates, which increased the amount of FEMA's payments on its debt.

⁴Every 2 years, we provide Congress with an update on our high-risk program, which highlights major areas that are at high risk for fraud, waste, abuse, or mismanagement, or that need broad reform. See GAO, *High-Risk Series: An Update*, [GAO-15-290](#) (Washington, D.C.: Feb. 11, 2015).

⁵Pub. L. No. 112-141, tit. II, 126 Stat. 405, 916.

⁶Pub. L. No. 112-141, §§100205, 100212, 126 Stat. 405, 917, 922 (codified as amended at 42 U.S.C. § 4014(a)(2) and (g), 42 U.S.C. § 4017a). Discounted insurance premiums include both subsidized and grandfathered policies. NFIP allows other property owners to continue to pay "grandfathered" rates, which do not reflect reassessments of their properties' flood risk that occur when the properties are remapped into higher-risk flood zones but whose policies continue to be classified with other policyholders from lower-risk zones. The scope of this report excludes policies with grandfathered rates and policies with preferred risk premiums, which are also discounted.

⁷For single-family properties, severe repetitive loss properties are those that have incurred four or more claim payments exceeding \$5,000 each with a cumulative amount of such payments over \$20,000, or at least two claims with a cumulative total exceeding the value of the property. 42 U.S.C. § 4014(h)(1). For multifamily properties (those which consist of five or more residences), FEMA will define the term by regulation. 42 U.S.C. § 4014(h)(2).

of NFIP premiums.⁸ Under the Biggert-Waters Act, the NAS study is to inform a subsequent FEMA study, which is to include methods to encourage and maintain participation in NFIP and to establish an affordability framework. As implementation proceeded, however, affected policyholders raised concerns about some Biggert-Waters Act requirements, particularly the rate increases that resulted from the elimination and phase out of subsidies.

In March 2014, Congress passed and the President signed into law the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA).⁹ HFIAA sought to address affordability concerns by repealing or altering some Biggert-Waters Act requirements. For example, HFIAA repealed the prohibition on the extension of subsidized rates to new property owners and allowed subsidies to continue after a lapse in insurance coverage for certain reasons. HFIAA did not stop the phasing out of subsidies on policies for businesses, nonprimary residences, and severe repetitive loss properties. FEMA plans to continue to phase out subsidized rates for these policies by increasing premium rates by 25 percent annually until the average rate equals the full-risk rate. In our 2014 report on forgone premiums, we found that the complete phase-out of these subsidized rates could take 12 years or more.¹⁰ Under HFIAA, FEMA also generally must increase premium rates on other subsidized policies by 5 percent to 15 percent annually until full-risk rates are achieved. In our 2014 report, we found that the complete phase-out of these rates could take 25 years or more. In addition, HFIAA permitted additional funding to complete the affordability studies and extended the time for completing them, after

⁸Pub. L. No. 112-141, tit. II, § 100236(b), 126 Stat. 405, 957.

⁹Pub. L. No. 113-89, 128 Stat. 1020.

¹⁰GAO, *Flood Insurance: Forgone Premiums Cannot Be Measured and FEMA Should Validate and Monitor Data System Changes*, [GAO-15-111](#) (Washington, D.C.: Dec. 11, 2014).

which FEMA would be required to prepare and present to Congress an affordability framework.¹¹

You asked us to describe options that exist for identifying property owners experiencing difficulty with premium rate increases under the Biggert-Waters Act, as amended, and options for addressing their affordability issues. This report focuses on subsidized policies for residential properties that are primary residences located in SFHAs and describes (1) options to target assistance to NFIP subsidized policyholders who may experience difficulty paying full-risk rates, (2) the number of currently subsidized policyholders who might be eligible for assistance under certain options and the cost of implementing these options, and (3) potential delivery mechanisms for providing assistance to eligible policyholders.

To identify options for targeting assistance to policyholders who may experience difficulty paying full-risk rates and to identify potential mechanisms for delivering that assistance, we reviewed our prior related reports, conducted a literature search by searching for key words and reviewing abstracts of the literature we found to select relevant studies and reports, and analyzed relevant laws. In addition, we interviewed officials from FEMA, the Department of Housing and Urban Development (HUD), Treasury's Federal Insurance Office, and three state insurance commissioner offices and representatives from 18 organizations with flood insurance knowledge to obtain input on (1) options that could be used to target assistance for NFIP; (2) different mechanisms that other federal programs have used to deliver assistance and the extent to which they could be used to deliver assistance for NFIP; and (3) to the extent possible, any benefits and challenges of using these options and delivery mechanisms. To select the organizations to interview, we reviewed lists compiled for prior GAO reports on NFIP, identified organizations that have testified before Congress on the affordability of NFIP premiums, and obtained recommendations from those we interviewed, among other

¹¹NAS issued two separate reports to fulfill this affordability study requirement. NAS issued the first of these two reports in March 2015, which, among other things, describes policy options that might be part of an affordability strategy. See National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums – Report 1* (Washington, D.C.: March 2015). NAS issued the second report in December 2015, which proposes procedures with which FEMA might analyze those policy options. See National Academies of Sciences, Engineering, and Medicine, *Affordability of National Flood Insurance Program Premiums – Report 2* (Washington, D.C.: 2015).

approaches. For purposes of this report, we assumed that (1) only policyholders who own currently subsidized primary residences located in SFHAs would be potentially eligible for assistance; (2) the starting point for premiums, before the provision of any assistance, would be a full-risk premium; and (3) the maximum amount of the assistance provided to those policyholders deemed eligible for assistance under the premium subsidy options would be the difference between the full-risk premium and the subsidized premium charged under the current NFIP structure. Further, to obtain information on (1) benefits and challenges of obtaining tax data from the Internal Revenue Service (IRS) and (2) the implications certain delivery mechanisms may have for the tax system, we contacted representatives of Treasury's Office of Tax Policy and IRS.

To assess the number of currently subsidized policyholders who might be eligible for assistance under certain options, we analyzed the most reliable recent data available at the time of our analysis from (1) the 2009 through 2013 5-year American Community Survey (ACS)—a continuous survey of households conducted by the U.S. Census Bureau—and (2) FEMA on NFIP flood insurance policies for primary residences located in SFHAs with subsidized rates as of September 30, 2013.¹² We used the ACS data at the census tract and county levels for the 50 states, the District of Columbia, and Puerto Rico to estimate the number of subsidized policyholders who would likely receive assistance under two different approaches using three means-tested thresholds. We assessed the reliability of the NFIP policy and ACS data by analyzing available information about how the data were created and maintained and performing electronic tests of required data elements. We determined that the NFIP policy data were sufficiently reliable for the purpose of determining the number of subsidized policies and the associated

¹²The 2009 through 2013 ACS 5-year estimates, which were released on December 4, 2014, are based on multiyear period estimates for the years 2009 through 2013 and should not be interpreted as estimates for any particular year in that period. We used data on NFIP flood insurance policies for fiscal year 2013 because in December 2014 we identified a number of discrepancies in the fiscal year 2014 data and determined them to be not sufficiently reliable. We recommended that FEMA institute internal controls, such as testing a sample of policies, to validate that the data system contractor fully implemented changes and edit checks before program changes become effective (see [GAO-15-111](#)). In March 2015, FEMA addressed this recommendation by instituting the use of a new procedure manual, including a testing plan, for data system programming changes required to implement NFIP rate and rule changes. According to FEMA, the contractor conducted sample testing of the April 2015 program changes and plans to conduct a comprehensive validation. However, these data were not available at the time of our analysis.

premiums. We found that the ACS data were sufficiently reliable for the purpose of estimating the number of households that were below different income thresholds. We used these data to determine the potential effect of applying certain targeting options on the number of subsidized policyholders. We also attempted to gather data on the income of individual subsidized policyholders, but we found such data to either be unavailable or unreliable for our purposes.¹³ Further, we also attempted to illustrate the potential subsidy cost of implementing various targeting options we identified by obtaining digital elevation data from the North Carolina Floodplain Mapping Program and FEMA's National Flood Hazard Layer system to calculate the full-risk rate of subsidized properties in North Carolina. However, the North Carolina and FEMA data were not precise enough for purposes of this analysis. See appendix I for more details about our scope and methodology.

We conducted this performance audit from July 2014 to February 2016 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.

Background

NFIP Overview

In 1968, Congress created NFIP to address the increasing cost of federal disaster assistance by providing flood insurance to property owners in flood-prone areas, where such insurance was either not available or prohibitively expensive.¹⁴ The 1968 law also authorized premium subsidies to encourage community and property owner participation. To participate in the program, communities must adopt and agree to enforce floodplain management regulations to reduce future flood damage. In exchange,

¹³We were unable to obtain access to IRS tax return data, which are confidential and may not be disclosed, except as specifically authorized by law. 26 U.S.C. § 6103. We also explored obtaining income data from third-party vendors but determined that the data were not precise enough for the purposes of our analysis.

¹⁴National Flood Insurance Act of 1968. Pub. L. No. 90-448, tit. XIII, §§ 1301-1304, 82 Stat. 476, 572-574.

federally backed flood insurance is offered to residents in those communities.

NFIP was subsequently modified by various amendments to strengthen certain aspects of the program. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for properties in SFHAs that are secured by mortgages from federally regulated lenders. This requirement expanded the overall number of insured properties, including those that qualified for subsidized premiums. The National Flood Insurance Reform Act of 1994 expanded the purchase requirement for federally backed mortgages on properties located in an SFHA.

Key Factors for NFIP Premium Rates

FEMA bases NFIP premium rates on a property's flood risk and other factors. A FIRM is the official map of a community on which FEMA has delineated both the risk premium zones applicable to the participating community and SFHAs. FEMA studies and maps flood risks, assigning flood zone designations from high to low depending on the likelihood of flooding. Properties in SFHAs are at high risk, specifically a 1 percent or greater annual chance of flooding, and are designated as zones A, AE, V, or VE. FEMA also bases premium rates on property and policy characteristics. For example, FEMA bases premium rates on occupancy type (single-family or multifamily unit), number of floors, and elevation of the property—that is, the difference between the lowest elevation of the building relative to its base flood elevation—if applicable. Base flood elevation refers to the level relative to mean sea level at which there is a 1 percent or greater chance of flooding in a given year. Additionally, FEMA uses policy characteristics, such as building and content coverage amounts and policy deductible amounts, in setting premium rates.

NFIP has two basic categories of premium rates: those intended to reflect the full risk of flooding to the group of properties within a rate class (full-risk rates) and those that are not intended to reflect full risk (subsidized rates). Full-risk rate structures are mostly buildings constructed after a community's FIRM was published and are referred to as post-FIRM. These structures have been built to flood-resistant building codes or have had their flood risks mitigated and generally are at or above base flood

elevation.¹⁵ Structures with subsidized rates are mostly buildings constructed before a community joined NFIP and are generally referred to as pre-FIRM because they were built before the potential for flood damages was known and identified on the community's FIRM. Unlike full-risk rates, subsidized rates do not take elevation of the property into consideration. Property elevation can be obtained through elevation certificates.¹⁶

Status of Subsidies under the Biggert-Waters Act and HFIAA

More recent legislation—the Biggert-Waters Act and HFIAA—affected NFIP's ability to charge subsidized premium rates on certain types of properties and will likely change the number of policies that are subsidized, as well as the size of the subsidy. For example, the Biggert-Waters Act prohibited subsidies from being extended for homes sold to new owners after July 6, 2012, (date of enactment) and removed subsidies if properties lapsed in coverage as a result of the policyholders' deliberate choice.¹⁷ However, HFIAA reinstated premium subsidies for properties that were purchased after July 6, 2012, and properties not insured by NFIP as of July 6, 2012.¹⁸ Because new policyholders may join

¹⁵FEMA does not categorize policies with grandfathered rates—rates that were not changed after properties were remapped into higher-risk flood zones—as “subsidized” because they are within classes of policies that are not subsidized for the class as a whole. However, FEMA officials acknowledged that property owners who obtain grandfathered rates are cross-subsidized by other policyholders in the same flood zone. That is, other policyholders pay higher rates to cover the shortfall in premiums from grandfathered policies not being charged rates that accurately reflect the flood risk. The focus of this report is subsidized policies as defined by FEMA's categorization and thus excludes grandfathered policies.

¹⁶FEMA requires elevation certificates to determine rates for post-FIRM buildings located in high-risk areas, the A and V zones. However, an elevation certificate generally has not been required for pre-FIRM buildings that previously received subsidized rates because information about elevation was not used in setting subsidized rates. An elevation certificate may be required if the pre-FIRM building is being rated under the optional post-FIRM flood insurance rules. About half of the older pre-FIRM buildings insured by NFIP have had their compliance with new construction standards documented and policyholders pay full-risk rates.

¹⁷The Biggert-Waters Act also prohibited subsidies for properties that were not insured as of July 6, 2012, or on properties for any prospective policyholder who refuses to accept any offer for mitigation assistance by FEMA following a major disaster or in connection with a repetitive loss or severe repetitive loss property. Pub. L. No. 112-141, tit. II, § 100205(a)(1)(B), 126 Stat. 405, 917.

¹⁸In addition to these changes, HFIAA also requires FEMA to refund to policyholders premiums paid after July 2012 that exceeded the subsidized premiums permissible under HFIAA. Pub. L. No. 113-89, § 3(a)(4), 128 Stat. 1020, 1021.

NFIP and receive subsidized rates, such as owners of pre-FIRM properties that previously were not insured, the number of subsidized policies could increase over time.

However, provisions under both acts gradually phase out subsidies by requiring FEMA to increase premiums annually until full-risk rates are reached. The Biggert-Waters Act requires FEMA to increase premiums by 25 percent each year until full-risk rates are reached for certain types of properties, including business properties, residential properties that are not a primary residence, properties that have sustained substantial damage or improvement, and severe repetitive loss properties.¹⁹ HFIAA did not affect the phase-out schedule for those properties, and the act also contains provisions requiring FEMA to increase premium rates on other subsidized policies, such as those for primary residences purchased after July 6, 2012, and primary residences not insured by NFIP as of the same date, by at least 5 percent but no more than 15 percent annually.²⁰

Mitigation

FEMA supports a variety of flood mitigation activities that are designed to reduce flood risk and thus NFIP's financial exposure. These activities, which are implemented at the state and local levels, include hazard mitigation planning; the adoption and enforcement of floodplain management regulations and building codes; and the use of hazard control structures, such as levees, dams, and floodwalls or natural protective features such as wetlands and dunes. Community-level mitigation funding is available through FEMA via grant programs such as the Flood Mitigation Assistance Program. Through these programs, FEMA provides communities cost-sharing opportunities for mitigation activities. At the individual property level, mitigation options include elevating a building to or above the area's base flood elevation, relocating the building to an area with less flood risk, or purchasing and demolishing the building and turning the property into green space.

¹⁹The Biggert Waters Act defined "substantial damage" as "exceeding 50 percent of fair market value" and "substantial improvement" as "exceeding 30 percent of fair market value." Pub. L. No. 112-141, tit. II, § 100205, 126 Stat. 405, 917. HFIAA changed this latter threshold from 30 percent to 50 percent. Pub. L. No. 113-89, § 15, 128 Stat. 1020, 1026.

²⁰Pub. L. No. 113-89, § 5, 128 Stat. at 1022 (codified at 42 U.S.C. § 4015(e)).

Various Options Exist for Targeting Assistance, but Each Involves Challenges That FEMA Would Have to Overcome

Although any pre-FIRM property located in an SFHA in a participating community is currently generally eligible for a subsidy, according to some stakeholders we interviewed and our analysis of literature we reviewed, options for targeting assistance to subsidized NFIP policyholders who may experience difficulty paying full-risk rates include means testing based on the income level of policyholders or geographic areas, setting premium caps, and basing assistance on the cost of mitigating the risk of damage to a home.²¹ These options are not mutually exclusive and could be combined depending on Congress's policy priorities for NFIP. However, they all involve trade-offs, and implementing any of them would likely be challenging.²²

Means-Tested Assistance Targets Those with Financial Need but Presents Data-Related Challenges

According to some stakeholders we interviewed and our analysis of literature we reviewed, means testing to determine eligibility for NFIP assistance could help directly address affordability concerns by targeting subsidies to those in need. According to a NAS report on NFIP affordability we reviewed, a means-tested program could be designed in various ways, including targeting assistance based on individual policyholders' financial need or the financial characteristics of a local geographic area.²³ Currently, NFIP subsidies are tied to the property, not the property owner, and any pre-FIRM property located in an SFHA in a participating community is eligible for a subsidy. In contrast, a means-tested program would decouple the subsidy from the property and instead attach it to the policyholder or a group of policyholders on the basis of

²¹As previously discussed, for purposes of this report, we assumed that (1) only policyholders who own currently subsidized primary residences located in SFHAs would be potentially eligible for assistance; (2) the starting point for premiums, before the provision of any assistance, would be a full-risk premium; and (3) the maximum amount of the subsidy provided to those policyholders deemed eligible for assistance would be the difference between the full-risk premium and the subsidized premium charged under the current NFIP structure.

²²NAS has identified a number of policy issues Congress would likely need to consider in designing a program that provides assistance in making flood insurance more affordable for NFIP policyholders, including determining who will receive assistance and how much assistance will be provided. See National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums – Report 1*. In addition, an ongoing GAO review is examining the policy factors that have led to NFIP's debt to Treasury—for example, providing subsidies to certain policyholders—and how the program can be improved going forward.

²³National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums – Report 1*.

need, as determined by specified financial requirements and eligibility criteria. In our July 2013 report on subsidized properties, we found that this approach would allow the federal government to provide assistance only to those NFIP policyholders deemed eligible, with the rest paying full-risk rates.²⁴

Means-tested programs that consider individuals' financial need are not new to the federal government, and some stakeholders we interviewed suggested that a means-based assistance program for NFIP could be designed similarly to other existing programs. Over the years, Congress has established a number of programs to provide cash and noncash assistance based on the financial need of individuals and families.²⁵ For example, to be eligible for certain federal housing programs, individual households must meet specific income limits.²⁶ These limits reflect the financial characteristics of a local area because they are expressed as a percentage of the area median income (AMI) for the county or metropolitan area in which the household is located, and the limits range from 30 percent through 140 percent of AMI.²⁷ For example, to be eligible for homeowner rehabilitation and homebuyer assistance under HUD's HOME Investment Partnership Program, households must have incomes at or below 80 percent of AMI. Similarly, under the Federal Home Loan

²⁴GAO, *Flood Insurance: More Information Needed on Subsidized Properties*, [GAO-13-607](#) (Washington, D.C.: July 3, 2013).

²⁵In July 2015, we identified 82 federal programs, including several tax expenditure programs, which target low-income individuals, families, and communities to help them meet basic needs or provide other assistance. See GAO, *Federal Low-Income Programs: Multiple Programs Target Diverse Populations and Needs*, [GAO-15-516](#) (Washington, D.C.: July 30, 2015).

²⁶In addition to income limits, HUD considers family size and housing costs when determining eligibility for its rental housing programs. HUD considers households that pay more than 30 percent of their income for housing to be cost burdened; as a result, these households may have difficulty affording necessities such as food, clothing, transportation, and medical care.

²⁷Low-income families are defined as families whose incomes do not exceed 80 percent of the median family income for the area, and very low-income families are defined as families whose incomes do not exceed 50 percent of the median family income for the area. 24 C.F.R. § 5.603(b). Some HUD programs, such as the Housing Choice Voucher program, target households with lower incomes. Specifically, under the Quality Housing and Work Responsibility Act of 1998, Pub. L. No. 105-276, § 513, 112 Stat. 2461, 2544 (codified at 42 U.S.C. § 1437n(b)), at least 75 percent of new program participants must have extremely low incomes—that is, very low-income families whose incomes do not exceed the higher of 30 percent of AMI or the federal poverty threshold. The remainder of eligible households must have incomes at or below 80 percent of AMI.

Bank System's Community Investment Program, the income of a qualifying mortgage borrower may not exceed 115 percent of AMI.²⁸ Some stakeholders we interviewed suggested that similar AMI limits could be used to determine eligibility for NFIP because these measures reflect local characteristics.²⁹ An NFIP assistance program based on individuals' or households' income would require a similar threshold to be set.

In order for FEMA to implement a means-tested option that considers individual policyholders' financial need, it would need income information at the individual or household level for policyholders who receive a subsidized rate under the current NFIP structure. Because the current NFIP structure attaches the assistance to the property rather than the policyholder, FEMA does not collect income information for policyholders who receive subsidies. As a result, a system to collect this information would need to be designed and implemented. We identified two primary ways FEMA could obtain income data, but gathering such information could be challenging. According to some stakeholders we interviewed, IRS could provide FEMA with income data it collects from tax filers.³⁰ For example, some stakeholders said that a partnership between FEMA and IRS could be established, similar to the partnership IRS and the Department of Education have for the Free Application for Federal Student Aid (FAFSA) form. The Department of Education began coordinating with IRS

²⁸The Federal Home Loan Bank System is composed of 12 banks (members) and the Office of Finance, which provides funds for mortgages and community lending. The Federal Home Loan Bank System's Community Investment Program is a noncompetitive, community development lending program that provides below-market-rate advances to members. These loans enable members to extend long-term financing for housing to households with incomes up to 115 percent of AMI.

²⁹Some other federal programs, such as food and nutrition and health care programs, determine eligibility using the federal poverty guidelines based on family size, which are the same for the 48 contiguous states and Washington, D.C. These programs use a multiple of the federal poverty level, with some programs defining eligibility as high as 400 percent of the federal poverty level. For example, under the Patient Protection and Affordable Care Act, tax filers can be eligible to receive tax credits that help pay for premiums for health plans purchased through health insurance exchanges. To be eligible, tax filers must meet several criteria, including having a household income between 100 percent and 400 percent of the federal poverty level for the tax year in which they are receiving the premium tax credit. Pub. L. No. 111-148, § 1401, 124 Stat. 119, 215 (codified as amended at 26 U.S.C. § 36B).

³⁰IRS collects information on various sources of income such as wages and salaries, earnings from self-employment, interest and dividends, Social Security benefits, and alimony. As we discuss later in this report, some individuals are not required to file taxes.

in 2010 to provide an option for tax filers to prepopulate the FAFSA using an automatic data transfer from their tax returns.³¹

However, restrictions set forth in the Internal Revenue Code prohibit the disclosure of taxpayer information to other federal agencies without a statutorily specified purpose, and new processes would need to be established if taxpayer data were to be used.³² Under section 6103 of the Internal Revenue Code, federal tax information must be kept confidential and may not be disclosed, except as otherwise specifically authorized. In December 2011, we developed a guide that Congress could use for screening and assessing proposals to disclose confidential tax information to specific parties for specific purposes.³³ Specifically, the guide consists of key questions that can help in screening a proposal for basic facts and identifying policy factors to consider.³⁴ Further, according to IRS officials, certain processes would need to be developed to provide federal tax information to another agency, such as FEMA, including entering into required agreements, such as data-sharing agreements. Moreover, IRS officials told us that FEMA would need to develop a system to accept and safeguard the information, and IRS would need to make modifications to its own information technology systems in order to interface with the agency, which they described as a significant effort, and provide oversight of the assistance program. If this approach were used, information on the

³¹In October 2009, we found that while it is feasible to electronically transfer tax data directly from IRS to the FAFSA by using income data 1 year older than what was then currently required, using older tax data might result in increased aid eligibility for some applicants whose data may not reflect their current economic needs. See GAO, *Federal Student Aid: Highlights of a Study Group on Simplifying the Free Application for Federal Student Aid*, [GAO-10-29](#) (Washington, D.C.: Oct. 29, 2009).

³²Congress has granted some statutory exceptions to the provisions relating to confidentiality while balancing the expectation of taxpayer privacy with the policy goals of efficient use of federal resources, public health and welfare, and law enforcement. 26 U.S.C. § 6103.

³³GAO, *Taxpayer Privacy: A Guide for Screening and Assessing Proposals to Disclose Confidential Tax Information to Specific Parties for Specific Purposes*, [GAO-12-231SP](#) (Washington, D.C.: Dec. 14, 2011).

³⁴The guide consists of two sections of key questions for evaluating these proposals. The first section includes five threshold questions for screening proposals to address basic issues, such as whether they are adequately developed and tailored to minimize disclosure of confidential tax information. Under the framework, all of the threshold questions would need to be resolved with a “yes” answer before further consideration of the proposal. The second section includes six policy factor questions that explore the proposal’s expected benefits and costs, privacy effects and safeguards, and effects on the tax system.

cost of making these changes to FEMA's and IRS's information technology systems would need to be balanced against the costs of the existing subsidy approach.

Another way to obtain household income information would be to collect it from individual policyholders, but doing so could be complex and challenging. First, a definition of income for the program would need to be determined (e.g., what sources of income would be considered when determining eligibility), as well as whether and which exclusions and deductions would be allowed. Second, FEMA would then need to develop an infrastructure and new processes to collect the information, which would likely increase the cost of administering the program. In addition, FEMA would need to determine how it would verify the information. For example, HUD's Housing Choice Voucher (Voucher) program, which provides rental assistance to participating low-income households, is administered by almost 2,300 local public housing authorities (program administrators). These program administrators must obtain and verify comprehensive information on tenants' household composition, level and sources of income, assets, public assistance, and some types of expenses (e.g., medical and child care expenses) to determine their household adjusted gross incomes, their eligibility for income exclusions and deductions, and their rental payments.³⁵ We have previously found that complex processes for determining income can lead to compliance issues. For example, in a February 2005 report on rental subsidy improper payments in HUD's rental programs, we found that HUD's complex policies for determining rent subsidies have led to improper payments.³⁶

³⁵Under HUD's rental housing programs, including the Voucher program, a tenant's rent is based on the family's anticipated adjusted gross annual income—that is, income from all sources received by the family head, spouse, and each additional family member who is 18 years or older minus applicable exclusions and deductions. 24 C.F.R. § 5.609. We previously identified 44 statutory and regulatory exclusions and deductions from tenant income (e.g., deductions for elderly and disabled households). For more information, see GAO, *HUD Rental Assistance: Progress and Challenges in Measuring and Reducing Improper Rent Subsidies*, [GAO-05-224](#) (Washington, D.C.: Feb. 18, 2005). According to HUD officials, local public housing authorities are not responsible for all of the administrative tasks that would be necessary for an NFIP system.

³⁶[GAO-05-224](#). Also, in March 2012, we examined different options that could create administrative efficiencies and found that simplifying HUD's rent structure for the Voucher program—by, for example, using gross income without any adjustments to determine eligibility—would introduce significant administrative efficiencies into the program and could allow administrators to further reduce improper payments. GAO, *Housing Choice Vouchers: Options Exist to Increase Program Efficiencies*, [GAO-12-300](#) (Washington, D.C.: Mar. 19, 2012).

Similarly, in an August 2013 report on farm and conservation programs, we found that complex income determination and verification processes may have led to improper payments to participants whose incomes exceed statutory limits.³⁷

In addition to income, a few stakeholders we spoke with said that wealth, such as value of the insured property, could be considered when determining eligibility based on individuals' financial need. For example, one stakeholder we interviewed said that an assistance program for NFIP could be designed using a two-step process that considers income and other factors as a proxy for wealth, such as property value. Under this process, according to the stakeholder, a policyholder's eligibility would first be assessed using a means-tested approach, and then property value would be evaluated to help ensure that only those with modest income and wealth receive the assistance. However, other stakeholders we interviewed said that property values may not be an adequate measure to determine a policyholder's ability to pay the premium. For example, some stakeholders said that the value of a modest home could be high because it is located in an area with a high land value. One stakeholder we interviewed said that a low-income policyholder could have purchased a home at a modest price, but over the years the value of the home could have significantly increased. The stakeholder further suggested that if the policyholder was lower-income and did not have any other assets besides the home, it would be appropriate to exclude the value of the home when determining eligibility.

An alternative to using individuals' income to determine financial need would be to determine eligibility based on the income characteristics of a specific geographic area. For example, a NAS report on the affordability of NFIP suggested that all homeowners in a geographic area, such as a community, could be eligible for assistance if, for instance, the median

³⁷We suggested that Congress consider simplifying those limits by, for example, using total adjusted gross income to set income limits for participants' payment eligibility. GAO, *Farm Programs: Additional Steps Needed to Help Prevent Payments to Participants Whose Incomes Exceed Limits*, [GAO-13-741](#) (Washington, D.C.: Aug. 29, 2013).

income of the area was “sufficiently low.”³⁸ The federal government has established a similar approach for the provision of school lunches. For example, the Healthy, Hunger-Free Kids Act of 2010 includes a community eligibility provision that allows school districts with high poverty rates to provide free breakfast and lunch to all students, regardless of their household income.³⁹ This provision eliminates the burden of collecting household applications to determine eligibility for school meals, relying instead on information from other means-tested programs such as the Supplemental Nutrition Assistance Program. The NAS affordability report also notes that determining assistance at the community level would help to protect the vitality of an eligible community with a high concentration of currently subsidized policyholders because if the subsidies were not available, the resulting higher flood insurance premiums would likely depress the value of properties. For example, according to information from the National Association of Realtors, the Biggert-Waters Act negatively affected the housing market in certain areas where many buyers walked away from purchasing a home because of the high flood insurance premium increases. However, because this option does not consider individuals’ financial need, some policyholders who do not face an affordability issue with their flood premiums, as defined by a potential assistance program, may continue to receive assistance, while policyholders who have affordability issues but do not live in a community eligible for the assistance would no longer receive a subsidy. In addition, similar to determining eligibility using individuals’ financial need, some policyholders who could be eligible for the assistance under this approach could have high-value homes.

Under any means-tested approach, FEMA would need to know the full-risk rate for the properties of those policyholders deemed eligible in order

³⁸National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums – Report 1*. This study does not define what is sufficiently low. As previously mentioned, in order to obtain an NFIP policy the property needs to be located in a community participating in NFIP. According to a NAS study on community-based flood insurance, FEMA defines a community as a “political entity that has the authority to adopt and enforce floodplain ordinances for the area under its jurisdiction.” However, if this approach were to be implemented, a clear definition of what is considered a community would be necessary. For more information on this approach and discussion about the need for clear definitions, see National Academy of Sciences, *A Community-Based Flood Insurance Option* (Washington, D.C.: 2015).

³⁹Pub. L. No. 111-296, § 104, 124 Stat. 3183, 3193 (codified at 42 U.S.C. § 1759a(a)(1)(F)).

to determine how much assistance to provide.⁴⁰ However, FEMA does not collect data needed to calculate the full-risk rate of currently subsidized properties, such as elevation data obtained through an elevation certificate.⁴¹ As a result, these data are not currently available, which would be another challenge to implementing and determining the cost of a means-tested approach to providing NFIP assistance.

Other Options for Targeting Assistance May Be Simpler to Implement but Would Target Those with Financial Need Less Directly

Premium Caps

Other approaches to targeting assistance with NFIP premiums could be simpler to implement than means-tested approaches or might help reduce risk, but they would target those with financial need less directly. According to our analysis of a NAS report on NFIP affordability, one of these methods would be to provide assistance to those policyholders whose premium exceeds a certain percentage of the amount of coverage purchased.⁴² Under this option, policyholders could receive assistance if it were greater than a certain percentage of coverage provided by the policy, and the premium would effectively be capped at that percentage. For example, HFIAA states that FEMA should strive to minimize the number of policies with annual premiums that exceed 1 percent of the

⁴⁰For purposes of this report, we assumed that the maximum amount of the subsidy provided to those policyholders deemed eligible for assistance would be the difference between the full-risk premium and the subsidized premium charged under the current NFIP structure.

⁴¹As previously discussed, under the Biggert-Waters Act and HFIAA, the rates of all subsidized policies are to be increased annually until they reach full-risk rates. In addition, HFIAA requires that FEMA clearly communicate full flood risk determinations to individual property owners regardless of whether their premium rates are full actuarial rates. Pub. L. No. 113-89, § 28, 128 Stat. 1020, 1033 (codified at 42 U.S.C. § 4015(l)). Full-risk rates for subsidized properties are needed to implement these provisions. Later in this report we discuss a recommendation that we previously made regarding the collection of these data, FEMA's response to the recommendation, and its status.

⁴²National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums – Report 1*.

total coverage provided by the policy.⁴³ Using this option would help ensure that the premiums do not go above a certain amount—for example, 1 percent of coverage—which could help lower the premiums of eligible policyholders who live in high-risk areas.

While capping premiums could be simpler to implement than some other options, it would likely involve trade-offs. For example, capping premiums does not consider policyholders' resources and certain expenses (e.g., household income, assets, and expenditures for housing, food, medical care, or other goods and services) and therefore does not take into account their financial need. As a result, similar to the current subsidy method, this option could provide subsidies to some individuals who may not have a financial need. In addition, this option may discourage mitigation efforts because premiums would not reflect the actual flood risk of a property. As with the means-tested options, an appropriate threshold for the cap would need to be established if premium capping were implemented. Further, FEMA would need to know the full-risk premium rate of a property to determine whether it is above or below the defined cap. As previously discussed, FEMA does not collect the necessary elevation data needed to calculate the full-risk rate of properties subsidized under the current structure, and so these data are not currently available. As discussed later in this report, we have previously recommended that FEMA collect these data.

Cost of Mitigating Risk to a Property

According to some stakeholders we interviewed, our prior work, and our analysis of some of the literature we reviewed, another option to target NFIP policyholders would be to provide assistance based on the cost of mitigating flood risk, where policyholders with mitigation costs above a certain level could receive assistance to help mitigate the risk of damage to the property. This option would help policyholders finance mitigation of flood risk to their homes—whether through elevation, relocation, or demolition—which could reduce risk in ways that would likely be reflected in a lower insurance premium. In a November 2008 report on options for addressing the financial impact of subsidized premium rates, we found that mitigation efforts could be used to help reduce or eliminate the long-term risk of flood damage, especially if FEMA targeted the properties that

⁴³Pub. L. No. 113-89, § 7, 128 Stat. at 1023.

were most costly to the program.⁴⁴ We concluded that increasing mitigation efforts could have a number of advantages, including that it could

- produce savings for policyholders and for federal taxpayers through reduced flood insurance losses and federal disaster assistance,
- increase the number of property owners paying full-risk rates, and
- build on FEMA's existing mitigation programs.

However, we also identified several disadvantages associated with this option, including the following:

- Mitigating flood risk to a large number of properties could take a number of years to complete under the current mitigation process, which could require premium subsidies to also be offered.
- Increasing mitigation efforts would likely be costly and require increased funding, and even if this funding were made available, property owners could still be required to pay a portion of the mitigation expenses.
- Buyouts and relocations, two other types of mitigation, would likely be more costly in certain areas of the country, and in some cases the cost for mitigating the structures' flood risk might be prohibitive.
- Certain types of mitigation, such as relocation or demolition, might be met with resistance by communities that rely on those properties for tax revenues, such as coastal communities with significant development in areas prone to flooding.

Further, not all properties can be modified to mitigate flood risk. For example, according to a 2013 RAND report, some mitigation activities that have been used in other areas of the country would pose challenges in New York City because of the particular characteristics of the city's

⁴⁴GAO, *Flood Insurance: Options for Addressing the Financial Impact of Subsidized Premium Rates on the National Flood Insurance Program*, [GAO-09-20](#) (Washington, D.C.: Nov. 14, 2008).

building stock.⁴⁵ An initial analysis by the New York City Mayor's Office found that 39 percent of buildings (approximately 26,300) in the high-risk zones of the city's new floodplain would be difficult to elevate because they are on narrow lots or are attached or semiattached buildings. To help address this challenge, HFIAA requires that FEMA establish guidelines for alternative methods of mitigation (other than building elevation) to reduce potential flood damages to residential buildings that cannot be elevated due to their structural characteristics. As a result, in September 2015, FEMA issued guidance that describes alternative mitigation measures intended for a variety of housing types that cannot feasibly be elevated.⁴⁶ According to the report, there are a number of alternative methods of mitigation that may result in flood insurance premium reductions, such as filling a basement located below the base flood elevation to ground level, abandoning or elevating the lowest floor of certain residential buildings, and installing openings in foundation and enclosure walls located below the base flood elevation that allow automatic entry and exit of floodwaters.

Similar to the other options previously discussed, implementing mitigation as an option for targeting assistance would also require elevation data that are currently unavailable because these data would be needed to determine the cost of mitigating the risk of damage to a property. Once the mitigation cost was determined, FEMA could compare this amount to the established threshold for mitigation costs to determine eligibility.

For all of the options we have discussed, including the means-tested options, administering an assistance program could add to FEMA's existing management challenges. In our June 2011 report on the administration of NFIP, we found that FEMA faces management challenges in areas that affect NFIP, and we made 10 recommendations to, among other things, improve the effectiveness of FEMA's planning and oversight efforts for NFIP and increase the usefulness and reliability of NFIP's flood insurance policy and claims processing system—5 of

⁴⁵RAND, Center for Catastrophic Risk Management and Compensation, *Flood Insurance in New York City Following Hurricane Sandy*, a report prepared for the New York City Mayor's Office of Long-Term Planning and Sustainability (2013).

⁴⁶Federal Emergency Management Agency, *Reducing Flood Risk to Residential Buildings that Cannot Be Elevated*, FEMA P-1037 (Washington, D.C.: September 2015).

which FEMA has implemented.⁴⁷ Further, FEMA continues to work on implementing required changes under the Biggert-Waters Act, as amended by HFIAA. In a February 2015 report on the status of FEMA's implementation of the Biggert-Waters Act, as amended, we found that FEMA faces a number of challenges in implementing the new requirements, including resource issues, the complexity of the legislation, and the need to balance NFIP's financial solvency and affordability goals.⁴⁸ As a result, FEMA would likely face challenges in designing and implementing any new assistance program.

Many Policyholders Could Be Eligible for Assistance under Various Approaches, but FEMA Lacks Data to Estimate Costs

Our analysis of available data suggests that, under several of the options discussed in the previous section, many subsidized policyholders would potentially be eligible for assistance with their NFIP premiums. However, estimating the cost of providing assistance under various targeting options with precision is difficult because FEMA lacks the elevation data needed to calculate full-risk rates for currently subsidized properties. Using the limited data that are available, we estimated that the cost could vary widely, depending on various factors such as which option and threshold are used.

⁴⁷GAO, *FEMA: Action Needed to Improve Administration of the National Flood Insurance Program*, [GAO-11-297](#) (Washington, D.C.: June 9, 2011). The 5 open recommendations relate to (1) developing a comprehensive workforce plan; (2) developing protocols to encourage and monitor collaboration between FEMA's Federal Insurance and Mitigation Administration, which administers NFIP, and relevant support offices; (3) considering the costs and benefits of implementing an interim document management system for FEMA, among other things; (4) establishing timelines to complete the development and implementation of FEMA's revised acquisition process; and (5) ensuring that the FEMA Mission Support Bureau's business process improvement efforts are expeditiously completed. FEMA agreed with these recommendations and, as of November 2015, was still working on implementing them.

⁴⁸GAO, *Flood Insurance: Status of FEMA's Implementation of the Biggert-Waters Act, as Amended*, [GAO-15-178](#) (Washington, D.C.: Feb. 19, 2015).

Available Data Suggest Many Subsidized Policyholders Could Be Eligible for Assistance Using Various Targeting Options and Thresholds

Our analysis of available FEMA data suggests that many subsidized policyholders would potentially be eligible for assistance under three of the options previously discussed: (1) means testing based on individual policyholders' financial need, (2) means testing based on income characteristics of a local geographic area, and (3) capping premiums based on a percentage of coverage.⁴⁹

Estimation of Eligible Policyholders Based on Individuals' Financial Need

Our analysis of ACS data showed that, depending on the income threshold used, 47 percent to 74 percent of subsidized policyholders (approximately 285,000 to 451,000) would likely be eligible to receive assistance under a means-tested approach that considers individuals' financial need. As described previously, to implement this approach, individual or household-level income information is needed; however, these data were publicly unavailable.⁵⁰ Instead, using household homeowner data from the 2009 through 2013 5-year ACS at the county level, we estimated that roughly 47 percent of subsidized policyholders have incomes below 80 percent of AMI and, therefore, would likely be eligible to receive assistance if this approach and threshold were implemented.⁵¹ This estimate is based on the assumption that the distribution of household income levels among subsidized policyholders in a given county as of September 30, 2013, was similar to the distribution of

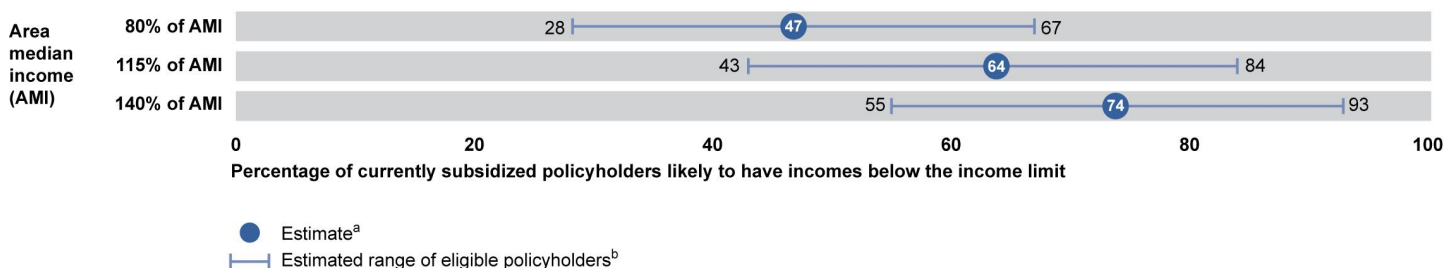
⁴⁹We focused on primary residences located in SFHAs with subsidized rates as of September 30, 2013. We could not illustrate the mitigation option because data were not available. NFIP currently does not collect data necessary to measure the effects of this option; in particular, information on elevation is needed to calculate the cost of mitigating a property. Stakeholders we spoke with said that mitigation costs could vary based on the characteristics of a particular property and by geographic location.

⁵⁰We were unable to obtain access to IRS tax return data, which, under section 6103 of the Internal Revenue Code, are confidential and may not be disclosed, except as specifically authorized by law. We also explored obtaining income data from third-party vendors but determined that the data lacked the precision for purposes of our analysis. See appendix I for more detail on our efforts to obtain individual income data.

⁵¹We used 80 percent of AMI for our analysis because, as previously mentioned, HUD defines low-income households as those with income at or below this threshold and we found it appropriate for NFIP. Also, we conducted this analysis at the county level rather than the census-tract level because the county-level data had more precise and reliable estimates of homeowner income distribution than did individual census tracts.

household income among all homeowners in the county.⁵² We recognize this is a potential limitation of the estimates, and the actual numbers of policyholders likely to receive assistance under this approach would vary depending on how similar the income distribution of subsidized policyholders is to the income distribution of homeowners overall in a county. Further, as figure 1 indicates, adjusting the threshold would affect the estimated percentage of policyholders that would likely be eligible for the assistance.⁵³ For example, if the eligibility threshold were increased to 140 percent of AMI, we estimated that the percentage of policyholders who would likely be eligible to receive assistance would increase to about 74 percent.⁵⁴

Figure 1: Estimated Percentage of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance under the Individuals' Financial Need Approach by Various Income Limits, as of September 2013



Source: GAO analysis of American Community Survey and Federal Emergency Management Agency data. | GAO-16-190

^aWe used county-level data to generate estimates of the number of subsidized policyholders residing in areas with estimated income below the Department of Housing and Urban Development's area median income thresholds. These estimates are based on the assumption that the distribution of household income level among Special Flood Hazard Area policyholders in a given county was

⁵²The distribution of income among homeowners is likely to differ from that among subsidized policyholders. Nevertheless, this simplifying assumption is useful for illustrating the potential effect on the number of subsidized policyholders of implementing a means-tested approach that considers individuals' financial need in the absence of more targeted information, such as tax data. See appendix I for more detail.

⁵³The lower and upper ends of the range we present are based on a simulated shift in the county income distribution up or down one category, and they show the estimated count of policyholders requiring subsidies if the income distribution of policyholders were somewhat higher or lower than that of homeowners in the county itself. This methodology renders our estimates relatively wide, which is appropriate in light of how little is known about policyholder income. An even wider range could result if the income distributions differ to a greater extent than our sensitivity analysis suggests. For information on our calculations, see appendix I.

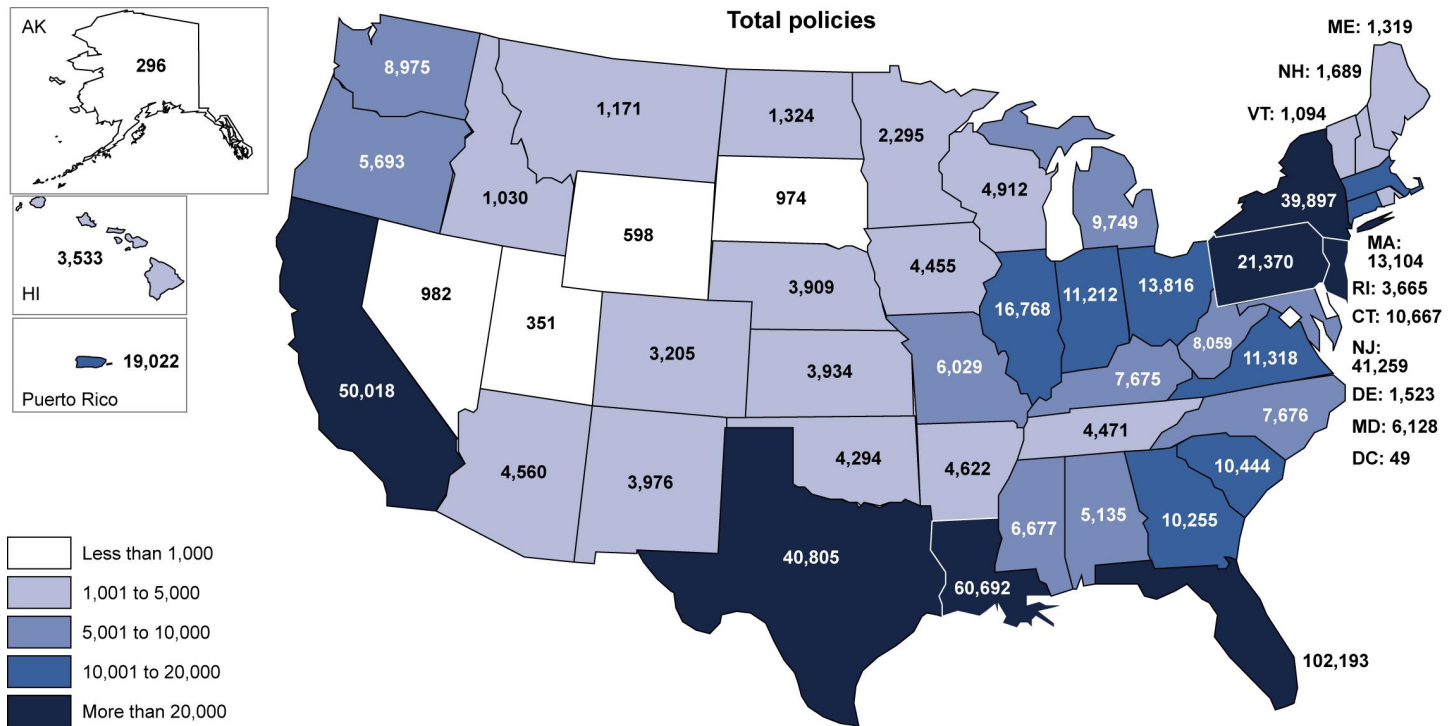
⁵⁴As previously mentioned, to be eligible for certain federal housing programs, individual households must meet specific income limits that could be as high as 140 percent of AMI.

similar to the income distribution of household income among all homeowners in the county as of September 30, 2013. The actual numbers of policyholders likely to receive assistance under this option may vary depending on how similar the income distribution of subsidized policyholders is to the income distribution of owners overall in a county.

^bThe lower and upper ends of the range we present are based on a simulated shift in the county income distribution up or down one income category, and they show the estimated count of policyholders requiring subsidies if the income distribution of policyholders were somewhat higher or lower than that of homeowners in the county itself. This renders our estimates relatively wide, which is appropriate in light of how little is known about policyholder income. An even wider range could result if the income distributions differ to a greater extent than our sensitivity analysis suggests.

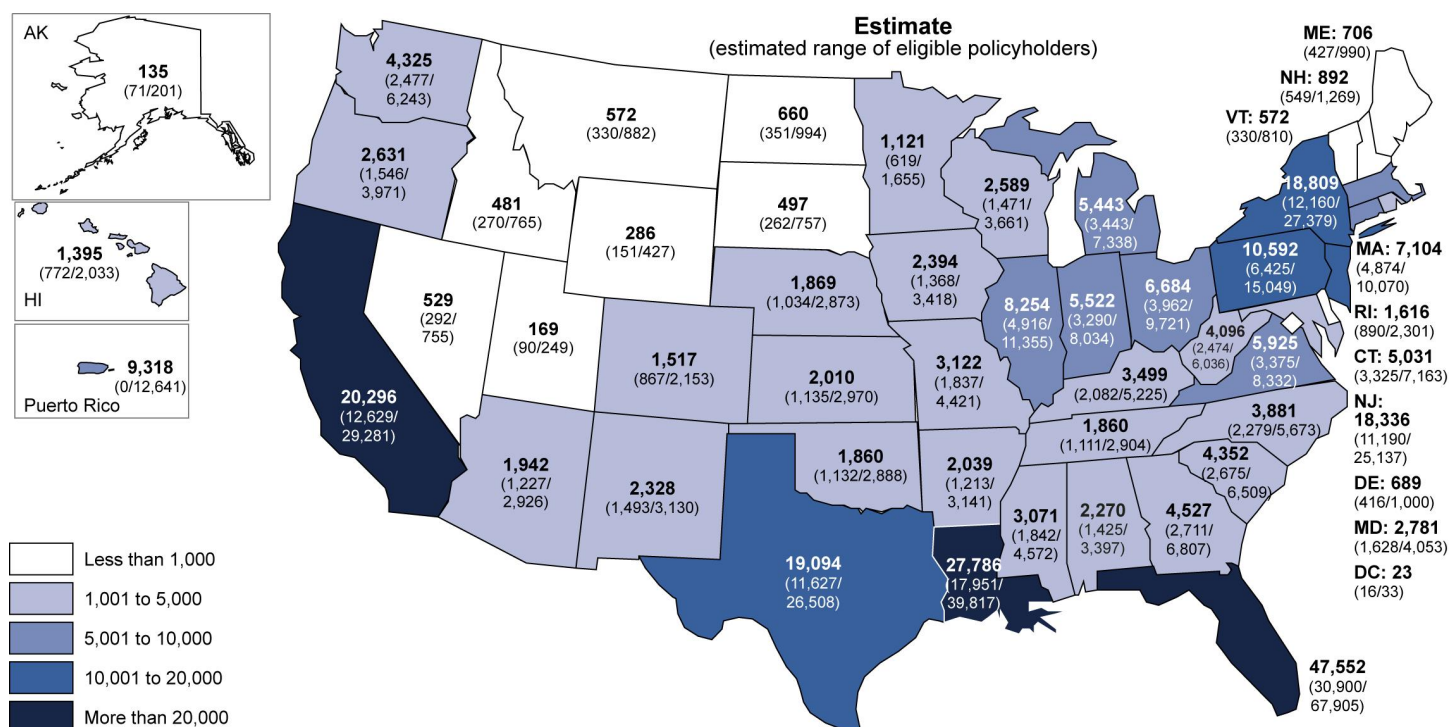
As of September 30, 2013, the actual number of subsidized policies was about 609,000. The states with the highest numbers of subsidized policies as of that date were Florida (102,193), Louisiana (60,692), California (50,018), New Jersey (41,259), and Texas (40,805) (see fig. 2).

Figure 2: Number of Estimated Subsidized Flood Insurance Policies by State, as of September 2013



Using household homeowner data from the 2009 through 2013 5-year ACS at the county level, Florida would still have the greatest number of policyholders likely to be eligible to receive assistance if the income limit for this approach were set at 80 percent of AML, with nearly 48,000 policyholders likely to be eligible, followed by Louisiana and California (see fig. 3).

Figure 3: Estimated Number of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance at 80 Percent of Area Median Income, by State, as of September 2013

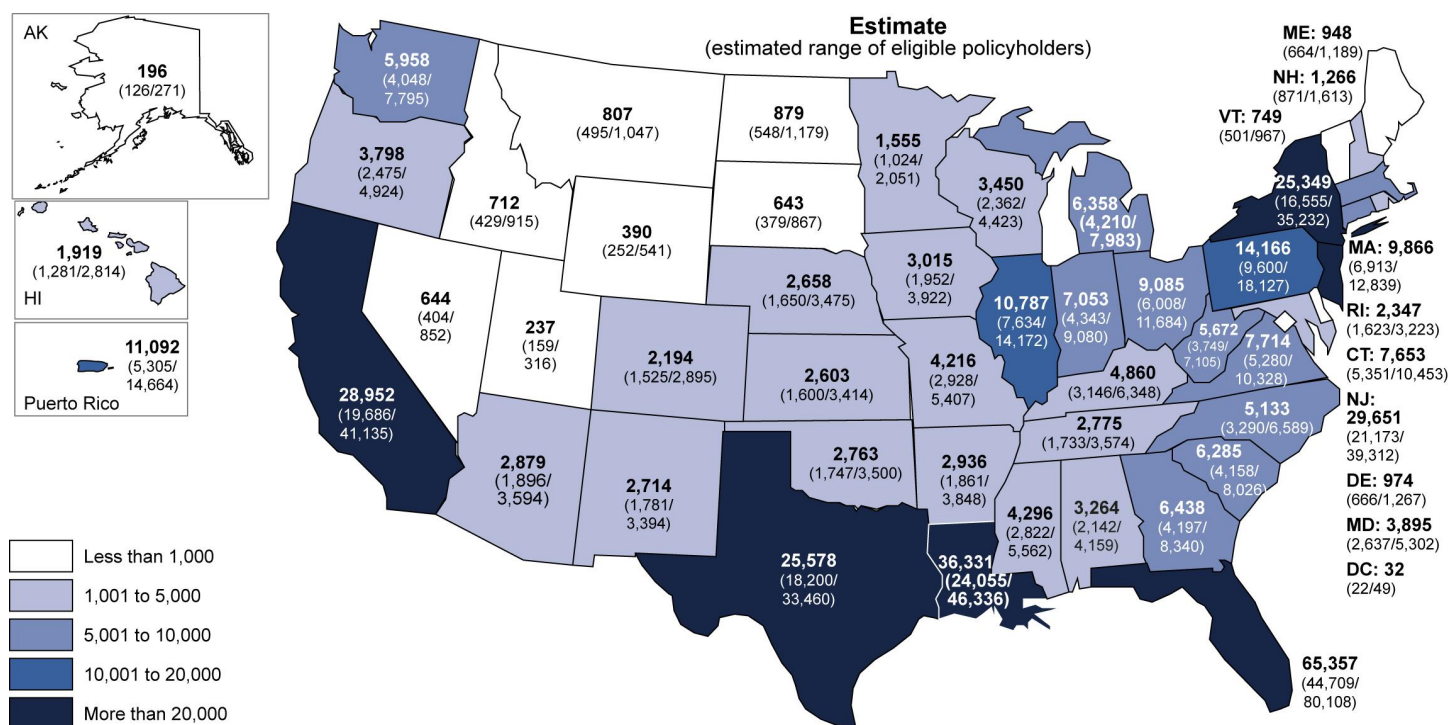


Sources: GAO analysis of American Community Survey and Federal Emergency Management Agency data. | GAO-16-190

Note: We used county-level data to generate estimates, by state, of the number of subsidized policyholders residing in areas with estimated income below the Department of Housing and Urban Development's area median income thresholds. These estimates are based on the assumption that the distribution of household income level among Special Flood Hazard Area policyholders in a given county was similar to the income distribution of household income among all homeowners in the county as of September 30, 2013. The actual numbers of policyholders likely to receive assistance under this option may vary depending on how similar the income distribution of subsidized policyholders is to the income distribution of owners overall in a county. The lower and upper ends of the range we present are based on a simulated shift in the county income distribution up or down one income category, and they show the estimated count of policyholders requiring subsidies if the income distribution of policyholders were somewhat higher or lower than that of homeowners in the county itself. This renders our estimates relatively wide, which is appropriate in light of how little is known about policyholder income. An even wider range could result if the income distributions differ to a greater extent than our sensitivity analysis suggests.

Three of the top five states with the most subsidized policies—Florida, Louisiana, and New Jersey—would also be states with the greatest number of policyholders likely to be eligible to receive assistance if the income threshold were set at 115 percent of AMI (see fig. 4).

Figure 4: Estimated Number of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance at 115 Percent of Area Median Income, by State, as of September 2013

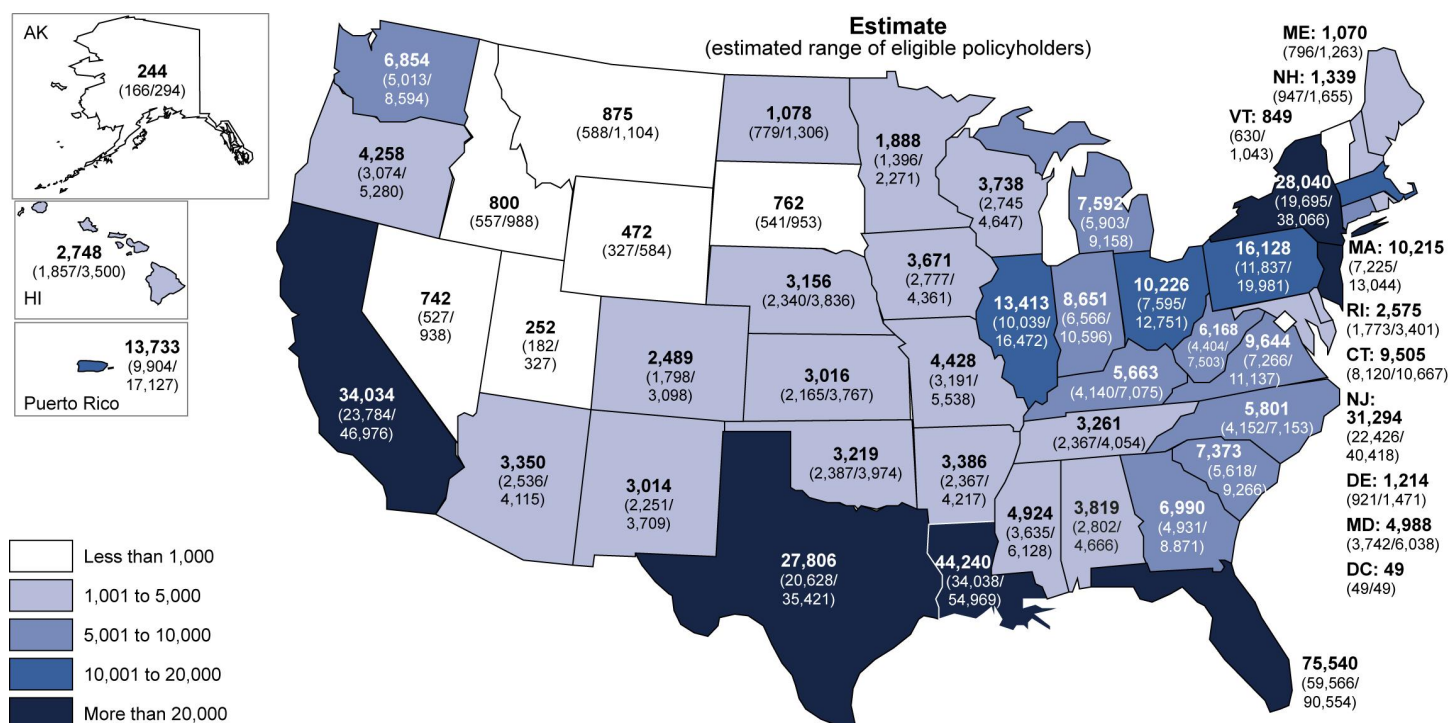


Sources: GAO analysis of American Community Survey and Federal Emergency Management Agency data. | GAO-16-190

Note: We used county-level data to generate estimates, by state, of the number of subsidized policyholders residing in areas with estimated income below the Department of Housing and Urban Development's area median income thresholds. These estimates are based on the assumption that the distribution of household income level among Special Flood Hazard Area policyholders in a given county was similar to the income distribution of household income among all homeowners in the county as of September 30, 2013. The actual numbers of policyholders likely to receive assistance under this option may vary depending on how similar the income distribution of subsidized policyholders is to the income distribution of owners overall in a county. The lower and upper ends of the range we present are based on a simulated shift in the county income distribution up or down one income category, and they show the estimated count of policyholders requiring subsidies if the income distribution of policyholders were somewhat higher or lower than that of homeowners in the county itself. This renders our estimates relatively wide, which is appropriate in light of how little is known about policyholder income. An even wider range could result if the income distributions differ to a greater extent than our sensitivity analysis suggests.

If the threshold were increased to 140 percent of AMLI, Florida, Louisiana, and California would have the greatest number of policyholders likely to be eligible to receive assistance (see fig. 5).

Figure 5: Estimated Number of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance at 140 Percent of Area Median Income, by State, as of September 2013



Sources: GAO analysis of American Community Survey and Federal Emergency Management Agency data. | GAO-16-190

Note: We used county-level data to generate estimates, by state, of the number of subsidized policyholders residing in areas with estimated income below the Department of Urban Development's area median income thresholds. These estimates are based on the assumption that the distribution of household income level among Special Flood Hazard Area policyholders in a given county was similar to the income distribution of household income among all homeowners in the county as of September 30, 2013. The actual numbers of policyholders likely to receive assistance under this option may vary depending on how similar the income distribution of subsidized policyholders is to the income distribution of owners overall in a county. The lower and upper ends of the range we present are based on a simulated shift in the county income distribution up or down one income category, and they show the estimated count of policyholders requiring subsidies if the income distribution of policyholders were somewhat higher or lower than that of homeowners in the county itself. This renders our estimates relatively wide, which is appropriate in light of how little is known about policyholder income. An even wider range could result if the income distributions differ to a greater extent than our sensitivity analysis suggests.

Estimation of Eligible Policyholders Based on the Financial Characteristics of a Local Geographic Area

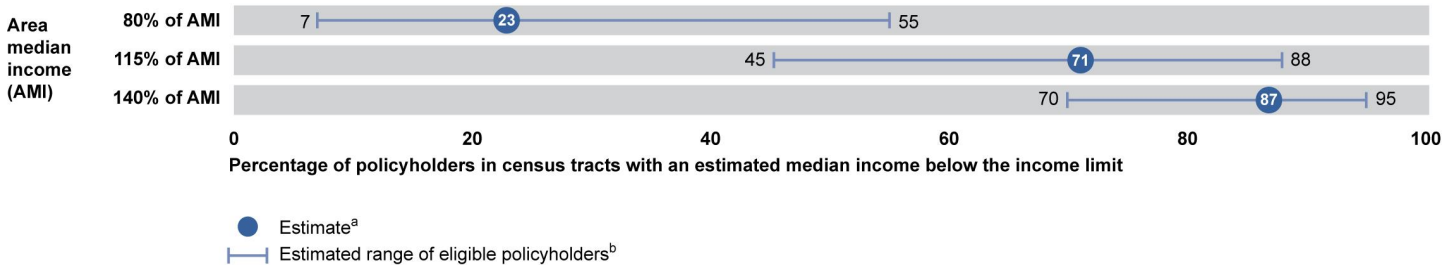
Our analysis of ACS data showed that, depending on the income threshold used, 23 percent to 87 percent of subsidized policyholders (approximately 139,000 to 527,000) would likely be eligible to receive assistance if a means-tested approach that considers the income characteristics of a local geographic area were implemented. Using ACS data at the census-tract level, we estimated that as of September 2013, about 23 percent of subsidized policyholders lived in a census tract that had an estimated median household income below 80 percent of AMI and, therefore, would likely be eligible to receive assistance under this approach.⁵⁵ Unlike the previous approach, which is based on individual or household income, this estimate is based on the median income characteristics of an entire local geographic area. As such, all policyholders in a particular local geographic area, such as a census tract, would be eligible for assistance if the median household income of the area were below a selected threshold.⁵⁶

As figure 6 indicates, similar to the other means-tested approach, adjusting the threshold would also affect the estimated percentage of policyholders who could be eligible for the assistance. For example, if the eligibility threshold were increased to 140 percent of AMI, we estimated that the percentage of policyholders who would likely be eligible to receive assistance would increase to about 87 percent.

⁵⁵A census tract is a small statistical subdivision and is generally smaller than a county, with a population between 1,200 and 8,000 people. We used the census-tract level for this analysis because it was the smallest geographic unit for which estimates of median household income were reliable for the areas in which subsidized policyholders reside.

⁵⁶For the lower and upper bounds of the estimate, we used ACS guidance to generate a 95 percent confidence interval around the median income for each geographic unit, and we tested the bounds of the confident interval against the AMI threshold.

Figure 6: Estimated Percentage of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance under a Community Eligibility Approach by Various Income Limits, as of September 2013



Source: GAO analysis of American Community Survey and Federal Emergency Management Agency data. | GAO-16-190

^aWe used census tract-level data to test the estimated median income of each census tract against the relevant Department of Housing and Urban Development’s area median income (AMI) thresholds. These estimates are based on the assumption that Special Flood Hazard Area policyholders who live in a census tract with a median household income below the AMI threshold would be eligible to receive a subsidy as of September 30, 2013.

^bFor the lower and upper ends of the range, we followed American Community Survey guidance to generate a 95 percent confidence interval around the median income for each geographic unit, and tested the bounds of the confidence interval against the AMI threshold.

Because this approach targets areas with certain geographic characteristics, it could also include policyholders with relatively high incomes or high property values. For example, in one census tract that would potentially be eligible for assistance, where subsidized policyholders comprised approximately 50 percent of the homeowners in the community, an estimated 27 percent of homeowners had an income that exceeded \$150,000.⁵⁷ In another tract that would potentially be eligible for assistance, where subsidized policyholders comprised about 36 percent of homeowners in the community, the median home value exceeded \$1 million.⁵⁸ However, we also found that some low-income

⁵⁷This estimate is based on the assumption that a means-tested approach that considers the income characteristics of a local geographic area with a 115 percent AMI threshold was implemented. To identify tracts with the potential for having a large portion of “high-income” policyholders, we selected only those tracts where an estimated 25 percent or more of homeowners have income at \$150,000 and above, the highest income category available in the ACS data.

⁵⁸At the census-tract level, the median home value estimates above \$1 million were capped at \$1 million. That is, if the actual median home value estimate for the tract was higher than \$1 million (i.e., \$5 million or \$20 million), ACS data showed the value as \$1 million.

Estimation of Eligible Policyholders under the Capped Premium Option

subsidized policyholders resided in census tracts not eligible for assistance under this approach, including census tracts in Puerto Rico.⁵⁹

We were unable to estimate the number of subsidized policyholders who would likely be eligible for assistance under the capped premium option because implementing it would require information on the full-risk premium rates of currently subsidized policies, which as previously discussed, FEMA does not calculate. However, our analysis of available data on the subsidized premiums paid on these policies, and their total coverage (building and content) amounts, as of September 30, 2013, showed that, as table 1 indicates, about 23 percent of policyholders who paid subsidized premiums as of September 30, 2013, were paying above 1 percent of their total coverage amounts.⁶⁰ Our analysis also showed that almost none of the subsidized policyholders were paying premiums that were more than 2 percent of their total coverage amounts.

Table 1: Estimated Percentage of Subsidized Policyholders’ Premium That Exceeds Coverage Amount, across Various Limits, as of September 2013

	Percent of Coverage				
	1%	2%	3%	4%	5%
Policyholders with premiums above a certain percentage of coverage ^a	22.9%	0.4%	0.1%	0%	0%
Policyholders with premiums equal to or less than a certain percentage of coverage	77.1	99.6	99.9	100	100

Source: GAO analysis of Federal Emergency Management Agency data. | GAO-16-190

^aThe Federal Emergency Management Agency does not calculate the full-risk rate for subsidized policies. As a result, we used the total premium amount based on the available subsidized rates that policyholders paid as of September 30, 2013. We calculated the combined building and content coverage of each remaining subsidized policyholder and applied the various limits (i.e., 1 to 5

⁵⁹To identify tracts with the potential for having a large portion of “low-income” policyholders, we selected only those tracts where an estimated 25 percent or more of homeowners have income below \$25,000. At this threshold, these tracts would be considered eligible for subsidy even using the lowest HUD AMI of \$16,400 (the lowest income threshold available in the ACS data is \$15,000).

⁶⁰We calculated the combined building and content coverage of each remaining subsidized policyholder and applied the various limits (i.e., 1 to 5 percent) to determine whether that percent of premium coverage is greater than the total subsidized premium amount, as of September 30, 2013. We determined that the difference between these policyholders’ annual subsidized premiums and the threshold of 1 percent of coverage ranged from \$1 to about \$26,400, with the average and median difference of about \$176 and \$79, respectively.

percent) to determine whether that percent of premium coverage is greater than the total subsidized premium amount, as of September 30, 2013.

FEMA Lacks Information Needed to Estimate the Cost of Assistance

As previously discussed, FEMA does not collect certain flood risk information that would be needed to calculate the full-risk rate for most subsidized policies; as a result, estimating the cost of providing subsidy assistance under various targeting options is difficult.⁶¹ Elevation certificates are needed to determine the full-risk rate for a property. However, because FEMA does not use this information in rating subsidized policies, it does not currently require elevation certificates for subsidized policyholders, although policyholders may obtain an elevation certificate voluntarily.⁶² As a result, FEMA cannot accurately determine the actual forgone premiums for subsidized policies—the difference between subsidized premiums paid and the premiums that would be required to cover the expected losses associated with subsidized policies.⁶³ Likewise, without full-risk rate premiums for these properties, it is difficult to estimate the actual subsidy cost of implementing various options that could be used to target assistance for NFIP. Because it is not possible to calculate the actual amount of assistance each policyholder could be eligible for, estimating the aggregate cost of providing assistance under the various targeting options is not possible with any specificity.

Although we were unable to estimate the subsidy cost of implementing these targeting options with any precision, we have previously estimated forgone premiums for subsidized policies using various statements published by FEMA that describe the size of the subsidies and expenses. In our December 2014 report on forgone premiums for subsidized policies, using available data, we estimated that the cumulative forgone premiums net of expenses ranged roughly from \$8 billion to \$17 billion

⁶¹For purposes of this report, we assumed that the maximum amount of the subsidy provided to those policyholders deemed eligible for assistance would be the difference between the full-risk premium and the subsidized premium charged under the current NFIP structure.

⁶²[GAO-13-607](#). Surveyors calculate the elevation of the first level of a structure in relation to the expected flood level, or base flood elevation.

⁶³We attempted to construct elevation difference using Light Detection and Ranging (LIDAR) data from the North Carolina Floodplain Mapping Program, but the methodology used for LIDAR data was inconsistent with NFIP's measure for lowest floor elevation. In addition, as previously discussed, these data may not be of sufficient quality to measure forgone premiums associated with subsidized policies.

over the period from 2002 through 2013.⁶⁴ In particular, we estimated that the forgone premiums net of expenses for all policies subsidized in 2013 roughly range from \$575 million to \$1.8 billion.⁶⁵ While the number of policyholders who could be eligible could vary widely depending on the selected targeting option and threshold, only a subset of all subsidized policyholders would likely be eligible to receive assistance. Using the means-tested targeting option and thresholds mentioned earlier in this report, the cost could have ranged from \$40 million to \$1.7 billion in 2013.⁶⁶ For example, the estimated cost for the approach that considers individuals' financial need could have ranged from \$161 million to \$1.7 billion in 2013, and the estimated cost for the approach that considers the income characteristics of the local geographic area could have ranged from \$40 million to \$1.7 billion. We could not calculate a potential cost under the capped premium method because, as noted earlier, determining eligibility for assistance would require information on full-risk rates for currently subsidized properties, which FEMA does not collect.

⁶⁴In our December 2014 report, we used policy data from 2002 through 2013 to determine the number and associated premiums of the subsidized policies and applied FEMA's published statements describing the size of the subsidies and expenses to estimate forgone premiums and forgone premiums net of program expenses. FEMA officials stated that their statements about the size of the subsidies should not be considered definitive or precise. However, because FEMA officials said that these statements were the only information available on the size of the subsidy, we used them in three different calculations to estimate forgone premiums, added caveats to our estimates, and noted the limitations of using them. See [GAO-15-111](#).

⁶⁵In our 2014 report, we noted several limitations to using these statements to produce our estimates. We presented three separate estimates: (1) FEMA's statement about the impact of eliminating subsidies on aggregate premiums, (2) the percentage of long-term expected losses covered by subsidized premiums, and (3) the percentage of long-term expected losses covered by subsidized premiums to estimate forgone premiums for only the policies that remained subsidized after HFIAA.

⁶⁶This estimated total subsidy cost is based on the estimated lowest and highest forgone premium, net of expenses, in 2013 across the three estimates calculated in our 2014 report, [GAO-15-111](#). We applied the range to the targeting options described earlier in this report. Specifically, we applied the cost range (\$575 million to \$1.8 billion) to the various targeting options and their ranges of percentage of eligible policyholders. This cost estimate assumes that the difference between what subsidized policyholders would pay if they were charged full-risk rates and the subsidized rates they paid in 2013 are the same for all subsidized policyholders. Also, this estimated subsidy cost does not take into account the cost associated with implementing the selected targeting option. In addition to the limitations on the eligibility estimates discussed in this report, our 2014 report discusses potential constraints on our cost estimates. Despite these limitations, the estimated cost and eligibility figures are useful for illustrating the inability to precisely determine the costs of these policies in advance without additional information.

In our July 2013 report on subsidized properties, we found that NFIP lacked the information needed to determine the full-risk rates for subsidized properties.⁶⁷ As a result, we recommended that FEMA develop and implement a plan to obtain information needed to determine full-risk rates for subsidized properties. FEMA generally agreed with the recommendation and has taken limited action to implement it. For example, FEMA noted that the agency would evaluate the appropriate approach for obtaining or requiring the submittal of this information. FEMA also said it would explore technological advancements and engage with industry to determine the availability of technology, building information data, readily available elevation data, and current flood hazard data that could be used to implement the recommendation. However, in a subsequent meeting, FEMA officials also said that the agency faced a cost challenge with respect to elevation certificates and that obtaining these certificates could take considerable time and cost several hundred million dollars.⁶⁸ They noted that requiring policyholders to incur the cost of obtaining elevation certificates would not be consistent with NFIP's policy objective to promote affordability. The officials added that the agency encourages subsidized policyholders who seek to ensure the appropriateness of their NFIP rates to voluntarily submit elevation documentation. We acknowledge the difficulty and expense involved in obtaining precise information about flood risk, but we maintain that implementing this recommendation is important. Information about flood risk is needed to correctly charge full-risk rates for an increasing number of policies as FEMA phases out subsidies.⁶⁹ Further, such information could help FEMA inform policyholders about their flood risk, as required by HFIAA.

⁶⁷[GAO-13-607](#).

⁶⁸According to FEMA officials, the cost of obtaining elevation certificates can vary greatly. With approximately 1 million subsidized policies, assuming a cost of \$300 to \$500 per elevation certificate, the cost for obtaining elevation certificates could total several hundred million dollars. However, it is unclear what effect increased demand for elevation certificates could have on the price.

⁶⁹[GAO-15-111](#).

Several Mechanisms Could Be Used to Deliver NFIP Assistance, but Each Involves Public Policy Trade-offs

Based on our analysis of studies, interviews with stakeholders, and prior GAO reviews, FEMA could potentially use a variety of mechanisms to deliver assistance to NFIP policyholders who could be deemed eligible based on the various targeting options previously discussed.⁷⁰ These mechanisms include:

- **discounted rates**, through which the government charges recipients less than the full cost of the service received;
- **vouchers**, through which the government would disburse funds that allow recipients to pay for a restricted set of goods or services;
- **tax expenditures**, through which the government would reduce recipients' tax liability based on eligible expenses;⁷¹ and
- **grants and loans for mitigation**, through which the government would disburse funds to recipients under a contract.

Each mechanism involves trade-offs among affordability and four policy goals for federal involvement in natural catastrophe insurance. We identified these four policy goals, which have not changed, in our 2007 report on the federal role in natural catastrophe insurance: (1) charging premium rates that fully reflect actual risks; (2) encouraging private markets to provide natural catastrophe insurance; (3) encouraging broad participation in natural catastrophe insurance programs; and (4) limiting costs to taxpayers before and after a disaster.⁷² For the fourth goal, we

⁷⁰We selected delivery mechanisms based on prior GAO reports, literature review results, and interviews with industry stakeholders. This list is not comprehensive but rather represents the delivery mechanisms mentioned most often in our review.



⁷¹Tax expenditures are reductions in a taxpayer's tax liability that are the result of special exemptions and exclusions from taxation, deductions, credits, deferrals of tax liability, or preferential tax rates. Tax expenditures result in revenue losses for the federal government, which forgoes some of the tax revenues that it would have otherwise collected. To deliver NFIP assistance, FEMA could include tax credits, which reduce tax liability dollar-for-dollar for eligible expenses; tax deductions, which reduce gross income by subtracting expenses taxpayers incur for eligible expenses; and tax-preferred savings vehicles, which allow tax filers to save pretax up to a specified limit or make tax-free withdrawals for eligible expenses and income. Because of Treasury's role in tax policy analysis, if FEMA were to pursue tax expenditures as an NFIP assistance delivery mechanism, FEMA could work in consultation with Treasury on any tax proposals.

⁷²GAO, *Natural Disasters: Public Policy Options for Changing the Federal Role in Natural Catastrophe Insurance*, [GAO-08-7](#) (Washington, D.C.: Nov. 26, 2007).

focused only on administrative costs because total program costs would be affected by undetermined factors such as eligibility criteria and caps on assistance.⁷³ As summarized in figure 8, we determined that each mechanism fully supports at least two of the four natural catastrophe insurance policy goals, but none of the mechanisms fully support all four of these policy goals.

Figure 7: Comparison of Selected Delivery Mechanisms to GAO-Identified Policy Goals for Natural Catastrophe Insurance

	Goal 1: Premium rates reflect actual risks	Goal 2: Encourage private market to provide insurance	Goal 3: Encourage broad participation	Goal 4: Limit administrative costs to taxpayers ^a
Discounted rates			Likely to fully meet policy goal	Likely to fully meet policy goal
Vouchers	Likely to fully meet policy goal	Likely to fully meet policy goal	Likely to partially meet policy goal	
Tax expenditures	Likely to fully meet policy goal	Likely to fully meet policy goal	Likely to partially meet policy goal	Likely to partially meet policy goal
Grants and loans for mitigation	Likely to fully meet policy goal	Likely to fully meet policy goal	Likely to partially meet policy goal	

 Likely to partially meet policy goal^b
 Likely to fully meet policy goal

Source: GAO analysis. | GAO-16-190

^aCosts related to federal assistance programs generally include administrative costs (costs associated with administering a program) and subsidy costs (costs associated with the amount of assistance provided to recipients). For the purpose of this figure, we consider the potential administrative costs of delivery mechanisms. We exclude subsidy costs because they would be affected by undetermined factors such as eligibility criteria and caps on assistance.

^bWe categorized a delivery mechanism as “likely to partially meet policy goal” if the delivery mechanism had some characteristics that would likely help it meet the policy goal but others that likely would not.

All Mechanisms Except Discounted Rates Could Reflect Actual Risk and Encourage Private Market Participation

FEMA’s current discounted rate mechanism does not help FEMA charge premiums that reflect actual risks or encourage the private market to provide flood insurance. The other delivery mechanisms we identified—vouchers, tax expenditures, and grants and loans for mitigation—would likely help support these goals.

⁷³Costs related to federal assistance programs generally include administrative costs (costs associated with administering a program) and subsidy costs (costs associated with the amount of assistance provided to recipients). For the purpose of this report section, we consider the potential administrative costs of delivery mechanisms. We generally do not consider subsidy costs because they would be affected by undetermined factors such as eligibility criteria and caps on assistance, as previously discussed. However, we do note instances where our previous work has had findings relevant to ways in which a delivery mechanism may communicate subsidy costs.

Discounted Rates

NFIP's current discounted rate mechanism does not support the policy goal of charging premiums that reflect actual risk, according to our prior reports, a study we reviewed, and most stakeholders we interviewed.⁷⁴ As we have previously found, NFIP's discounted rates do not fully reflect actual risks because the premiums are not intended to contribute sufficient revenues to cover potential losses.⁷⁵ In addition, the discounted rate mechanism hides actual risk because it builds a subsidy within the rate structure, meaning that policyholders who have discounted rates do not know their full-risk rate or the amount of subsidy they receive. We have previously found that discounted rates for NFIP, as well as for the federal crop insurance program, do not provide all policyholders with accurate price signals about their chances of incurring losses.⁷⁶ As a result, some policyholders may perceive their risk of loss to be lower than it really is and may have less financial incentive to mitigate risk of damage to a property or to decide not to purchase a property at higher risk of flooding.

In addition, building a subsidy into the rate structure means that the discounted rate mechanism makes it difficult to measure nonadministrative program costs (i.e., subsidy costs). We and the Congressional Budget Office have previously found that FEMA's

⁷⁴As previously discussed in this report, NFIP is not currently able to set rates that reflect the full risk of loss. In 2008 and 2013 reports, we noted the importance of charging premium rates that reflect the full risk of loss and made three recommendations regarding rate-setting with which FEMA generally agreed. FEMA has taken a number of steps in response to these recommendations, but it has not fully addressed them. Also, we have ongoing work in this area. See GAO, *Flood Insurance: FEMA's Rate-Setting Process Warrants Attention*, [GAO-09-12](#) (Washington, D.C.: Oct. 31, 2008) and [GAO-13-607](#). Carolyn Kousky and Howard Kunreuther, "Addressing Affordability in the National Flood Insurance Program" (working paper 2013-12, The Wharton School, Risk Management and Decision Processes Center, University of Pennsylvania, Philadelphia, PA, 2013).

⁷⁵[GAO-13-607](#).

⁷⁶[GAO-15-111](#), GAO, *Flood Insurance: Strategies for Increasing Private Sector Involvement*, [GAO-14-127](#) (Washington, D.C.: Jan. 22, 2014), and *Climate Change: Better Management of Exposure to Potential Future Losses Is Needed for Federal Flood and Crop Insurance*, [GAO-15-28](#) (Washington, D.C.: Oct. 29, 2014). The federal crop insurance program, administered by the Risk Management Agency within the U.S. Department of Agriculture, provides subsidized crop insurance that protects farmers against financial losses caused by drought, floods, and other natural disasters, among other things.

discounted rate mechanism disguises actual NFIP costs because the costs were evident only in FEMA's need to borrow from Treasury.⁷⁷

Further, because the discounted rate mechanism builds assistance into the rate structure, it does not encourage the private sector to provide insurance, according to our prior work and a stakeholder we interviewed. We have previously found that discounted rates discourage private participation in the flood insurance market because private insurers cannot compete with NFIP's highly discounted (subsidized) rates in some geographic areas.⁷⁸ For example, one state insurance regulator we interviewed during this review indicated that HFIAA's reinstatement of discounted rates eliminated by the Biggert-Waters Act inhibited the participation of private insurers who had begun to take a more active role in the state.

However, a discounted rate mechanism used to deliver assistance to policyholders who are deemed eligible could be modified to better address these limitations. Specifically, a full-risk rate could first be determined, and then the discount could be applied outside of the rate structure. Such an approach would better communicate the actual cost of the risk to policyholders and would make subsidy costs more transparent. For example, one stakeholder we interviewed said that billing statements could be modified to show policyholders both their full-risk rate and the assistance they receive. Further, the amount of the subsidy could be explicitly funded through an appropriation.

Vouchers, Tax Expenditures,
and Grants and Loans

The other potential NFIP assistance delivery mechanisms we identified—vouchers, tax expenditures, and grants and loans for mitigation—would likely help promote premiums that reflect the actual risk of losses because they first require determination of a full-risk premium and then provide assistance outside of the rate structure.⁷⁹ On the basis of our literature

⁷⁷GAO-14-127 and Donald B. Marron, Acting Director, Congressional Budget Office, *The Budgetary Treatment of Subsidies in the National Flood Insurance Program*, testimony before the Senate Committee on Banking, Housing, and Urban Affairs, 109th Cong., 2nd session, January 25, 2006.

⁷⁸GAO, *Flood Insurance: Public Policy Goals Provide a Framework for Reform*, GAO-11-670T (Washington, D.C.: June 23, 2011) and GAO-14-127.

⁷⁹Our discussion of the benefits of using the other delivery mechanisms assumes that NFIP could determine full-risk rates and that these rates would be used as a starting point before applying any assistance. As previously discussed, this is something that NFIP cannot currently do.

review and interviews with stakeholders, these other mechanisms would deliver assistance in the following ways:

- With vouchers, policyholders would be charged a full-risk rate premium but would receive a subsidy through a voucher to cover the difference between what they are deemed able to pay and the full-risk rate premium.
- With tax expenditures, policyholders would be charged a full-risk rate premium before having their tax liability reduced when they file their taxes.
- With grants and loans, policyholders would receive grants or loans to help mitigate their homes, and then they would be charged a premium rate that reflects their lower risk.

These other potential NFIP assistance delivery mechanisms could help make existing NFIP subsidy costs more transparent because they separate assistance from premiums. We and the Congressional Budget Office have found that separating assistance from premiums could help the government and taxpayers understand actual program costs, in part because doing so would make NFIP subsidy costs explicit by requiring Congress to appropriate funds for them.⁸⁰ Vouchers and grants and loans for mitigation meet these goals. However, the costs associated with tax expenditures may be somewhat less clear than costs associated with vouchers and grants and loans for mitigation. Tax expenditures would help make subsidy costs somewhat more transparent because they separate assistance from premiums, similar to vouchers and grants and loans for mitigation, but we and the Congressional Budget Office have previously found that tax expenditures can mask subsidy costs because they are not readily identifiable in the budget and are generally not

⁸⁰GAO-14-127 and Donald B. Marron, Acting Director, Congressional Budget Office, *The Budgetary Treatment of Subsidies in the National Flood Insurance Program*, testimony before the Senate Committee on Banking, Housing, and Urban Affairs, 109th Cong., 2nd session, January 25, 2006.

subject to systematic performance measurement, similar to discounted rates.⁸¹

In addition, vouchers, tax expenditures, and grants and loans for mitigation could help encourage the private sector to provide flood insurance, based on our analysis of prior GAO reports, studies we reviewed, and a stakeholder we interviewed. This is generally because these mechanisms would provide assistance outside the rate structure, enabling NFIP to charge rates that more fully reflect risk and are much closer to the rates private insurers would need to charge, which we have previously reported is a key private sector concern.⁸² In addition, vouchers and tax expenditures could potentially be designed in a way that would incentivize homeowners to consider private insurance: vouchers could be used with either NFIP or private insurance, and tax expenditures could be based on either NFIP or private insurance expenses. Further, grants and loans for mitigation could increase the number of homes at lower risk of flood damage and create a larger, more diverse risk pool, which would help private insurers be better able to manage their risk exposure—another issue we have previously identified as a key private sector concern about offering flood insurance.⁸³

⁸¹GAO, *Tax Expenditures: Background and Evaluation Criteria and Questions*, [GAO-13-167SP](#) (Washington, D.C.: Nov. 29, 2012) and *Government Performance and Accountability: Tax Expenditures Represent a Substantial Federal Commitment and Need to Be Reexamined*, [GAO-05-690](#) (Washington, D.C.: Sept. 23, 2005). Since 1994, we have recommended greater scrutiny of tax expenditures, but the executive branch has made little progress in developing a framework for systematically evaluating tax expenditures. Congressional Budget Office, *Refundable Tax Credits*, Pub. No. 4152 (Washington, D.C.: January 2013).

⁸²[GAO-14-127](#). In January 2014 we found that insurers cited three main conditions that needed to be present to increase private sector involvement in the sale of flood insurance. In addition to being able to charge premium rates that reflect the full estimated risk of potential flood losses while still allowing the companies to make a profit, insurers said that they need to be able to accurately assess risk to determine premium rates and need a sufficient level of consumer participation for insurers to properly manage and diversify their risk.

⁸³GAO, *National Flood Insurance Program: Additional Guidance on Building Requirements to Mitigate Agricultural Structures' Damage in High-Risk Areas Is Needed*, [GAO-14-583](#) (Washington, D.C.: June 30, 2014) and [GAO-14-127](#).

Mechanisms Vary in Whether They Encourage Broad Participation and Limit Administrative Costs

Discounted Rates

FEMA's current discounted rate mechanism helps encourage broad NFIP participation and limits administrative costs. The extent to which the other delivery mechanisms we identified—vouchers, tax expenditures, and grants and loans for mitigation—could encourage broad participation is unclear. In addition, their effect on administrative costs varies.⁸⁴

The discounted rate mechanism encourages broad participation. As we have previously reported, discounted rates have helped NFIP achieve a program goal of broad participation by providing assistance that lowers the cost of insurance.⁸⁵ Further, discounted rates may encourage more participation than other potential delivery mechanisms, such as tax expenditures, because FEMA applies discounted rates that reduce premiums immediately and policyholders do not have to wait to receive their assistance.

In addition, continuing to use the discounted rate mechanism would likely help NFIP limit up-front administrative costs because the discounted rate mechanism is already in place and used to issue subsidies, which means that NFIP can avoid some costs that would be associated with creating a new delivery mechanism.⁸⁶ Also, some stakeholders we interviewed said that discounted rates may be the most efficient delivery mechanism option for ongoing program administration, citing reasons such as

⁸⁴In a number of previous reports, we have stated that there is no federal definition of what constitutes an administrative cost because programs have different missions, priorities, services, and clients, resulting in a variety of definitions. However, in general, administrative costs of federal programs generally refer to the costs that support programs' mission activities. See, for example, GAO, *Federal Emergency Management Agency: Opportunities Exist to Strengthen Oversight of Administrative Costs for Major Disasters*, [GAO-15-65](#) (Washington, D.C.: Dec. 17, 2014) and *Human Service Programs: Demonstration Projects Could Identify Ways to Simplify Policies and Facilitate Technology Enhancements to Reduce Administrative Costs*, [GAO-06-942](#) (Washington, D.C.: Sept. 19, 2006). While some costs, such as developing information technology systems, may only be incurred upon implementation of a program or project, other costs, such as issuing benefits, are ongoing and are incurred throughout the duration of the program or project.

⁸⁵[GAO-15-111](#).

⁸⁶While NFIP has an existing system in place to administer discounted rates, it should be noted that implementing some of the eligibility options we previously discussed would increase administrative costs because FEMA would have to collect data that it is not currently required to collect. For example, as with all potential delivery mechanisms, providing means-tested assistance would require FEMA or another agency to develop an infrastructure to collect information on household income and assets and make eligibility determinations.

FEMA's ability to implement the mechanism without coordinating with other federal agencies.

Vouchers

Vouchers may have some characteristics that support the policy goal of broad NFIP participation and others that do not, according to examples cited in our previous work, studies we reviewed, and stakeholders we interviewed. For example, vouchers could help encourage broad participation in NFIP because they would immediately reduce premium costs and are unrelated to recipients' tax-filing status. However, some stakeholders we interviewed noted other voucher characteristics that may discourage participation in NFIP. For example, FEMA officials we interviewed said that policyholders may perceive vouchers to have associated stigma, and another stakeholder expressed concern that a potentially burdensome application process could discourage eligible policyholders from applying.

In addition, vouchers would likely increase NFIP's administrative costs to a certain extent, according to examples cited in our previous work, studies we reviewed, and stakeholders we interviewed. Because FEMA does not currently have an NFIP voucher program, it would need to dedicate additional resources to its creation and to its ongoing administration. For example, HUD is one agency with such a voucher program and a 2015 HUD study of costs incurred by the local public housing authorities that administer HUD's Voucher program found that efficient public housing authorities spent an average of \$70 per month to administer a voucher, with costs related to frontline labor representing the largest costs.⁸⁷ To help FEMA limit such administrative costs, two studies we reviewed said that flood insurance vouchers could be administered through an existing voucher program, such as the HUD Voucher program.⁸⁸ However, according to the 2015 HUD study and HUD officials we interviewed, the local public housing authorities that administer the HUD Voucher program do not receive adequate funding to efficiently and

⁸⁷ Abt Associates in partnership with RSG and Phineas Consulting, *Housing Choice Voucher Administrative Fee Study*, a report prepared at the request of the Department of Housing and Urban Development, Office of Policy Development and Research, April 2015. The aggregate costs to apply the study's recommendations across the entire program were estimated at over \$1.8 billion. Frontline labor includes employees who conduct activities such as eligibility determinations and annual recertifications.

⁸⁸ National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums: Report 1*.

effectively administer the existing program.⁸⁹ HUD officials we interviewed also said that there would be additional costs, which could be significant, associated with implementing a new program. As a result, establishing an assistance program for NFIP under HUD's, or another program's, infrastructure would likely require additional resources for agencies responsible for implementing the program. Any additional costs would have to be weighed against the costs of the existing program. According to HUD officials, other concerns in addition to costs—such as housing authorities' lack of familiarity with FEMA and flood insurance—would also have to be addressed before determining the suitability of using an existing HUD program to deliver NFIP assistance.

Tax Expenditures

Tax expenditures may have some characteristics that support the policy goal of broad NFIP participation and others that do not, according to examples cited in our prior reports, many studies we reviewed, and some stakeholders we interviewed. For example, well-designed tax expenditures can be targeted to reach certain populations and provide incentives for taxpayers to engage in particular activities; do not have the stigma that some individuals may associate with government spending programs; and may be less burdensome than applying for assistance through other spending programs in some ways. However, our prior reports, many studies we reviewed, and some stakeholders we interviewed found that other characteristics of tax expenditures may not encourage broad participation because eligible policyholders

- may not be aware of the tax expenditure or their eligibility;
- would face the burden of navigating the complex tax system, which may result in limited take-up or pressure to hire professionals to help to navigate the system;

⁸⁹ Abt Associates in partnership with RSG and Phineas Consulting, *Housing Choice Voucher Administrative Fee Study*.

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- would generally need to pay the full premium before they receive the tax expenditure, which could result in cash flow challenges;⁹⁰ and
 - may have lower incomes or may not be required to pay taxes, which means they may not receive as great of a benefit from nonrefundable tax credits, tax deductions, and tax-preferred savings vehicles.

Similarly, tax expenditures may have some characteristics that help NFIP limit administrative costs and others that do not, according to examples cited in our prior reports, many studies we reviewed, and some stakeholders we interviewed. We and others have previously stated that, in concept, using tax expenditures could help limit administrative costs to taxpayers for certain activities because much of the administrative infrastructure already exists for the government to collect and remit money to tax filers via the tax system, as compared to setting up separate spending programs. Additionally, one study we reviewed said that, in general, direct IRS access to policyholder income information would help limit administrative costs for the federal government. However, implementing a new tax expenditure would still create some additional burden for IRS in a time of tight budgetary resources. We previously found that IRS has scaled back activities and staff in response to declining appropriations, which could potentially reduce program effectiveness or increase risk to IRS and the federal government.⁹¹ We also previously found that administering complex tax rules can strain IRS's ability to serve taxpayers because of the resources needed to modify related documents and procedures, develop guidance, clarify instructions, and address noncompliance.⁹² Further, there may be some administrative

⁹⁰Some studies we reviewed and a stakeholder we interviewed suggested that advance tax credits—which aim to help recipients meet their daily expenses by increasing their take-home pay or reducing the costs they are responsible for—could help address cash flow challenges associated with tax expenditures, but other studies and stakeholders pointed out associated trade-offs. For example, IRS and Treasury Office of Tax Policy officials said that—based on their experience with other advance tax credits, such as the Patient Protection and Affordable Care Act advance premium tax credit—advance tax credits can increase administrative and compliance costs for IRS and other participating agencies, complicate eligibility determinations due to possible income fluctuations, and cause taxpayer confusion.

⁹¹GAO, *IRS 2016 Budget: IRS Is Scaling Back Activities and Using Budget Flexibilities to Absorb Funding Cuts*, [GAO-15-624](#) (Washington, D.C.: June 24, 2015).

⁹²GAO, *Tax Policy: Differences in Definitions and Rules in the Tax Code*, [GAO-14-652R](#) (Washington, D.C.: July 18, 2014).

costs and inefficiencies associated with interagency collaboration between FEMA and IRS, according to two stakeholders we interviewed. For example, regarding potential NFIP tax expenditures, Treasury Office of Tax Policy officials said that IRS would have to dedicate resources to administering the program and coordinating with FEMA to set up a data-sharing agreement and verify nonincome-related information submitted by policyholders, such as premiums paid.⁹³ We have previously found that the complex nature of some tax expenditures, such as the mortgage interest and other real estate deductions, may result in high error rates that create costs for taxpayers due to forgone revenues and IRS resources spent to enforce compliance.⁹⁴

We have produced a guide for evaluating tax expenditure performance that could be used if Congress were to decide that tax expenditures are the most appropriate way to deliver assistance to eligible NFIP policyholders.⁹⁵ The guide discusses various tax expenditure design issues that should be considered before implementing a tax expenditure, including the tax expenditure's purpose, how the tax expenditure would relate to other federal programs, consequences for the federal budget, and how the tax expenditure would be evaluated.

Grants and Loans

Grants and loans for mitigation may have some characteristics that support the policy goal of broad NFIP participation and others that may not, according to examples cited in prior GAO reports, a few studies we reviewed, and two stakeholders we interviewed. As mentioned previously, grants and loans could encourage policyholders to mitigate flood risk to their properties by helping them afford the significant up-front costs of

⁹³If NFIP assistance were provided through tax expenditures determined in part based on premiums paid, IRS would need to verify that the amounts of premiums taxpayers claimed on tax forms correspond to information about premium payments. FEMA currently has premium payment data that would be useful to IRS in verifying premiums paid. To the extent that flood insurance is also delivered through private insurers and private insurance premiums are included in tax expenditure calculations, IRS would also need information about premiums paid to insurers.

⁹⁴GAO, *Home Mortgage Interest Deduction: Despite Challenges Presented by Complex Tax Rules, IRS Could Enhance Enforcement and Guidance*, [GAO-09-769](#) (Washington, D.C.: July 29, 2009) and *Real Estate Tax Deduction: Taxpayers Face Challenges in Determining What Qualifies; Better Information Could Improve Compliance*, [GAO-09-521](#) (Washington, D.C.: May 13, 2009).

⁹⁵[GAO-13-167SP](#).

mitigation, which may otherwise be a barrier.⁹⁶ Because mitigation would likely result in significantly lower premiums, which homeowners could be more willing and able to pay, homeowners might be more likely to participate in NFIP. However, some characteristics of grants and loans may discourage broad participation. For example, potentially complex application processes could discourage eligible policyholders from applying; eligible policyholders may not be aware of their eligibility or of the programs; some potentially eligible policyholders may not be able to meet loan qualification criteria related to repayment, a challenge GAO has previously reported for Small Business Administration disaster assistance loans; and loans may not be appealing to some policyholders if rates are too high or policyholders are debt-averse.⁹⁷

Regarding the policy goal of limiting administrative costs, mitigation grants and loans would likely pose some additional administrative costs for NFIP. Similar to vouchers, FEMA would need to dedicate resources to setting up and administering a new grant or loan program or expanding an existing program to provide the assistance to eligible policyholders.⁹⁸ Also, loans pose some other administrative costs, such as servicing outstanding loans and collecting on defaulted loans, among others.

Finally, it is important to remember that the delivery options discussed in this report are not mutually exclusive and could potentially be used in combination to address Congress's priorities for NFIP. For example, according to two studies we reviewed, NFIP could offer assistance to policyholders experiencing affordability issues through a combination of

⁹⁶Grants may encourage broad participation more effectively than loans because grants do not need to be repaid.

⁹⁷GAO, *Small Business Administration: Additional Steps Needed to Help Ensure More Timely Disaster Assistance*, [GAO-14-760](#) (Washington, D.C.: Sept. 29, 2014).

⁹⁸Instead of starting a new grant program, one study we reviewed said that NFIP should modify existing disaster relief grant programs—including the FEMA Pre-Disaster Mitigation Program, the FEMA Flood Mitigation Assistance Program, the FEMA Hazard Mitigation Program, and the HUD Community Development Block Grant Program—to administer assistance to eligible homeowners. However, the study also noted that FEMA or HUD would need to modify these programs to reflect changed eligibility and purpose because the programs may be oversubscribed, require nonroutine funding processes, experience challenges providing timely assistance, or not address affordability issues. See National Research Council of the National Academies, *Affordability of National Flood Insurance Program Premiums: Report 1*.

mitigation loans and vouchers.⁹⁹ The loans would help policyholders afford mitigation efforts, reducing premiums in the long term. The vouchers would help policyholders cover the costs of repaying the loans, and they could also be used to cover part of the remaining premium costs if they were still unaffordable.

If Congress were to consider an assistance program to address affordability issues experienced by NFIP policyholders, a number of policy decisions would be involved, each of which involves trade-offs and potentially difficult choices. In particular, decisions would need to be made to determine which policyholders would be eligible to receive the assistance, as well as other factors to consider when determining eligibility—for example, whether the assistance would only be provided to pre-FIRM principal residences located in high-risk areas. Also, the amount of assistance would have to be determined. For example, the assistance could be less than, equal to, or more than the difference between the subsidized premium rate eligible policyholders would pay under the current NFIP structure and the full-risk premium rate of the property. In addition, a decision would need to be made on the type of assistance (i.e., premium subsidy, mitigation assistance, or both). Further, decisions would have to be made on which delivery mechanism is most appropriate for NFIP, how the assistance would be paid for, and by whom.

Agency Comments

We provided a draft of this report to FEMA within the Department of Homeland Security for its review and comment. We also provided a draft of this report to HUD and Treasury for technical comment. FEMA and HUD provided technical comments, which we incorporated as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to the

⁹⁹Carolyn Kousky and Howard Kunreuther, “Addressing Affordability in the National Flood Insurance Program” (working paper 2013-12, The Wharton School, Risk Management and Decision Processes Center, University of Pennsylvania, Philadelphia, PA, 2013) and Wendy Zhao, Howard Kunreuther, and Jeffrey Czajkowski, “Affordability of the National Flood Insurance Program: A Case Study of Charleston, South Carolina” (working paper 2015-03, The Wharton School, Risk Management and Decision Processes Center, University of Pennsylvania, Philadelphia, PA, 2015).

appropriate congressional committees and the Secretaries of Homeland Security, Housing and Urban Development, and the Treasury. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact Alicia Puente Cackley at (202) 512-8678 or cackleya@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last part of this report. GAO staff who made major contributions to this report are listed in appendix II.

Sincerely yours,



Alicia Puente Cackley
Director, Financial Markets and [Community Investment](#)

Appendix I: Objectives, Scope, and Methodology

Our objectives in this report were to describe (1) options to target assistance to National Flood Insurance Program (NFIP) subsidized policyholders who may experience difficulty paying full-risk rates, (2) the number of currently subsidized policyholders who might be eligible for assistance under certain options and the cost of implementing these options, and (3) potential delivery mechanisms for providing assistance to eligible policyholders. For purposes of this report, we made the following assumptions:

- Only current NFIP policyholders who pay subsidized premium rates established by the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA) for their primary residences located in high-risk locations known as Special Flood Hazard Areas (SFHA) would be potentially eligible for assistance.¹
- The starting point for premiums, before the provision of any assistance, would be a full-risk premium.²
- The maximum amount of the subsidy provided to those policyholders deemed eligible for assistance under the identified eligibility options would be the difference between the full-risk premium and the subsidized premium charged under the current NFIP structure.

¹The Biggert-Waters Flood Insurance Reform Act of 2012 (Biggert-Waters Act), enacted in July 2012, required the Federal Emergency Management Agency (FEMA) to eliminate or phase out almost all subsidized insurance premiums. As mandated by the Biggert-Waters Act, on October 1, 2013, FEMA began prohibiting subsidies from being passed to new property owners and removed subsidies if insurance coverage lapsed as a result of the policyholders' deliberate choice. Pub. L. No. 112-141, tit. II, § 100205(a)(1)(B), 126 Stat. 405, 917. However, HFIAA, enacted in March 2014, reinstated subsidies to these types of policies, which are for primary residences. Pub. L. No. 113-89, § 3(a)(1), 128 Stat. 1020, 1021. In addition, the Biggert-Waters Act and HFIAA require that subsidies for these types of policies be phased out at a slower rate than other subsidized properties. As a result, we focused on NFIP policyholders who own currently subsidized primary residences because they would likely experience the largest rate increases as the subsidies are phased out. Also, we focused on subsidized properties that are located in SFHAs because they are generally required to purchase flood insurance.

²Our assumptions are consistent with prior recommendations that NFIP rates accurately reflect flood risk. See GAO, *Flood Insurance: FEMA's Rate-Setting Process Warrants Attention*, [GAO-09-12](#) (Washington, D.C.: Oct. 31, 2008).

Identifying Targeting Options and Delivery Mechanisms

To identify options for targeting assistance to policyholders who may experience difficulty paying full-risk rates and to identify potential mechanisms for delivering that assistance, we reviewed our prior related reports and analyzed relevant laws. We also conducted a literature review using the Proquest database and Internet searches using search terms such as “flood insurance,” “means test,” “ability to pay,” and “eligibility” for identifying reports that discuss options for targeting federal assistance. We reviewed 53 reports and determined 11 to be relevant by reviewing abstracts of the literature we found. Similarly, we conducted a literature review using the Proquest database using search terms such as “delivery,” “assistance,” “loan,” “voucher,” “grant,” and “discount” for identifying reports that discuss mechanisms used to deliver assistance. We reviewed 70 reports and identified 23 to be relevant by reviewing abstracts of the literature we found. In addition, we interviewed officials from the Federal Emergency Management Agency (FEMA), Department of Housing and Urban Development (HUD), the Department of the Treasury’s (Treasury) Federal Insurance Office (FIO), Florida Office of Insurance Regulation, Louisiana Department of Insurance, and New Jersey Department of Banking and Insurance and representatives from 18 organizations with flood insurance knowledge to obtain input on (1) options that could be used to target assistance for NFIP; (2) different mechanisms that other federal programs have used to deliver assistance and the extent to which they could be used to deliver assistance in NFIP; and (3) to the extent possible, any benefits and challenges of using these options and delivery mechanisms.³ To select the organizations to interview, we reviewed lists compiled for prior GAO reports on NFIP, identified organizations that have testified before Congress on the affordability of NFIP premiums, identified organizations through our literature review, and obtained recommendations from those we interviewed. We interviewed officials at the following 18 organizations:

- Allstate Insurance Company
- American Academy of Actuaries
- Association of State Floodplain Managers, Inc.

³We selected these three insurance state regulators because (1) they represented the states with the most subsidized policies as of September 30, 2013; (2) the states were represented in the Congressional Home Protection Caucus formed in May 2013, which was tasked with making flood insurance affordable; and (3) the National Association of Insurance Commissioners identified them as those with the most relevant experience with NFIP.

- Center for Economic Justice
- Consumer Federation of America
- Independent Insurance Agents and Brokers of America
- Insurance Information Institute
- Joint Center for Housing Studies of Harvard University
- National Academy of Sciences
- National Association of Insurance Commissioners
- National Association of Mutual Insurance Companies
- National Association of Realtors
- Property Casualty Insurers Association of America
- RAND Corporation
- SmartSafer.org
- USAA General Indemnity Company
- Risk Management and Decision Processes Center at the Wharton School of the University of Pennsylvania
- Wright National Flood Insurance Company

On the basis of our literature review and interviews, we identified three general options that could potentially be used to target assistance to NFIP policyholders who may experience difficulty paying full-risk rates: means testing based on the income level of policyholders or local geographic areas, setting premium caps based on a percentage of total insurance coverage, and basing assistance on the cost of mitigating the risk of damage to a home. We also identified four types of mechanisms that could potentially be used to deliver assistance: discounted rates, vouchers, tax expenditures, and loans and grants for flood risk mitigation.

A generally recognized definition of affordability does not currently exist for flood insurance; as a result, we interviewed representatives from HUD, FIO, the Florida Office of Insurance Regulation, Louisiana Department of Insurance, New Jersey Department of Banking and Insurance, Independent Community Bankers of America, and the Mortgage Bankers Association to determine potential ways affordability could be defined as it relates to flood insurance.⁴ Further, to obtain information on benefits and challenges of obtaining tax data from the Internal Revenue Service (IRS) and the implications certain delivery mechanisms may have for the tax

⁴We selected HUD because it has done extensive work related to housing affordability, which could inform how affordability could be defined as it relates to flood insurance. Similarly, we interviewed the Independent Community Bankers of America and Mortgage Bankers Association to learn how lenders determined affordability as it relates to home buying.

system, we contacted representatives of Treasury's Office of Tax Policy and IRS.

Illustration of the Effects of Certain Targeting Options

To address our second objective, we used NFIP's policy data to identify policies for primary residences that would continue to receive subsidized premium rates as set by HFIAA. We analyzed data from NFIP's policy database as of September 30, 2013. We applied the same algorithm that FEMA used to determine which policies were subsidized before enactment of the Biggert-Waters Flood Insurance Reform Act of 2012 (Biggert-Waters Act), and we applied FEMA's interpretation of the provision in the Biggert-Waters Act that eliminated subsidies and the provisions in HFIAA that restored subsidies. We further narrowed our analysis to subsidized policyholders located in SFHAs because the purchase of flood insurance is mandatory for properties in these areas that are secured by mortgages from federally regulated lenders. We assessed the reliability of the policy data by gathering and analyzing available information about how the data were created and maintained, and we performed electronic tests of required data elements. We determined that the data were sufficiently reliable for the purpose of determining the number of subsidized policies and the associated premiums. We did not use more recent data because in December 2014 we identified a number of discrepancies in NFIP's fiscal year 2014 data and determined them to be not sufficiently reliable.⁵ We had begun our analysis before FEMA addressed those discrepancies. To determine the overall number of policyholders and how many of those are subsidized, we used data as of May 2015, which we deemed sufficiently reliable for our purposes based on gathering and analyzing available information about how the data were created and maintained, and we performed electronic tests of required data elements.

⁵See GAO, *Flood Insurance: Forgone Premiums Cannot Be Measured and FEMA Should Validate and Monitor Data System Change*, [GAO-15-111](#) (Washington, D.C.: Dec. 11, 2014). We recommended that FEMA institute internal controls, such as testing a sample of policies, to validate that the data system contractor fully implemented changes and edit checks before program changes become effective. In March 2015, FEMA addressed this recommendation by instituting the use of a new procedure manual, including a testing plan, for data system programming changes required to implement NFIP rate and rule changes. According to FEMA, the contractor conducted sample testing of the April 2015 program changes and plans to conduct a comprehensive validation.

To estimate the number of currently subsidized policyholders that might be eligible for assistance under certain means-tested options, we attempted to obtain income information for these policyholders. Because FEMA does not collect income information for its NFIP policyholders, we attempted to obtain income data from IRS for subsidized policyholders as of September 30, 2013. We were unable to obtain access to IRS tax return data, which under section 6103 of the Internal Revenue Code, must be kept confidential and may not be disclosed, except as specifically authorized by law. We also attempted to obtain household income and other related data from a third-party vendor, including wealth, household size, and home value. To do this, we used prior GAO work on information resellers to identify and conduct market research with selected companies.⁶ We spoke with officials at three information resellers and gathered documentation on data modeling, coverage, match rate, and other relevant information to assess the accuracy and reliability of their data. We determined the data lacked sufficient precision and therefore found these data not to be reliable for purposes of estimating income and other homeowner and property characteristics of NFIP subsidized policies.

Because we were unable to obtain income information at the individual policyholder level, we used income data from the American Community Survey (ACS), a continuous survey of households conducted by the U.S. Census Bureau. Specifically, we used 5-year data from the 2009 through 2013 ACS for the 50 states, the District of Columbia, and Puerto Rico to estimate the number of subsidized policyholders who would likely receive assistance under the means-tested options we identified.⁷ We analyzed income levels of households and owner-occupied households (tables B19013 for household median income and table B25118 for owner-occupied household income distribution) obtained from ACS to provide a rough estimate of the income for subsidized policyholders in SFHAs.⁸ To examine the reliability of

⁶See GAO, *Information Resellers: Consumer Privacy Framework Needs to Reflect Changes in Technology and the Marketplace*, [GAO-13-663](#) (Washington, D.C.: Sept. 25, 2013).

⁷The 2009 through 2013 ACS 5-year estimates are based on multiyear period estimates for the years 2009 through 2013 and should not be interpreted as estimates for any particular year in that period.

⁸We used the distribution of homeowner income rather than mortgage-holder income because approximately 10 percent of policyholders reside in tracts with few to no mortgages. Additionally, we found that the estimates for the distribution of homeowner income at the county level were more precise (less variable) than those for mortgage holders.

Estimation of Eligible Policyholders Based on Individuals' Financial Need

ACS data, we reviewed testing and documentation for a prior GAO report using much of the same data, including information from interviews with Census Bureau officials and experts.⁹ We also examined ACS technical documentation and conducted electronic testing and logic checks. As a result of our testing and reviews of related documentation, we determined the data were sufficiently reliable for our analyses.

To develop possible thresholds for estimating the number of policyholders who might be eligible for assistance under the means-tested approaches, we reviewed documentation on the income limits used for various federal housing programs. These thresholds are expressed as a percentage of the area median income (AMI) for the county or metropolitan area in which an individual lives, and they range from 30 percent through 140 percent of AMI. Because HUD defines low-income households as those with income at or below 80 percent, we used this percentage as the lowest threshold when we conducted our analysis on the effect of implementing the means-tested approaches. We also illustrated the potential effect of using 115 percent and 140 percent of AMI, which are used in other government programs, as thresholds.

We used ACS data on the distribution of homeowner income at the county level to generate estimates of how many policyholders might be eligible for subsidies using different thresholds of the HUD AMI.¹⁰ Our estimation of eligible policyholders based on individuals' financial need is based on the assumption that the distribution of household income among SFHA policyholders is similar to that of the distribution of household income among all homeowners in each county.¹¹ To conduct the analysis, we used county-level data to generate estimates of the number of subsidized

⁹In our 2013 report, we analyzed 2007 through 2011 ACS 5-year data as an indicator of income levels of owners of remaining subsidized properties. GAO, *Flood Insurance: More Information Needed on Subsidized Properties*, [GAO-13-607](#) (Washington, D.C.: July 3, 2013).

¹⁰Although we recognize that the income distribution of policyholders and owners might be more similar at the tract than the county level, we conducted this analysis at the county level rather than the tract level because initial data reliability estimates suggested that the categorical distribution of income was less reliable at the tract level than the county level.

¹¹The distribution of income among homeowners is likely to differ from that among subsidized policyholders. Nevertheless, this simplifying assumption is useful for illustrating the potential effect on the number of subsidized policyholders of implementing a means-tested approach that considers individuals' financial need in the absence of more targeted information such as tax data.

policyholders residing in areas with estimated income below the HUD AMI thresholds.¹² Specifically, based on household income distribution, we estimated the proportion of homeowners with incomes above or below cut points based on the income distribution categories in the ACS data. We then applied the estimated proportion above and below the HUD AMI thresholds to the number of policyholders in our data to generate an estimate of the proportion that would be subsidized using a test of individuals' financial need.¹³

We used two different approaches to illustrate the sensitivity of our estimates. We first followed ACS technical guidance to generate 95 percent confidence intervals around the proportions of residents in each income category, and we tested these bounds against the HUD AMI or threshold. This method produced relatively narrow confidence bounds that depended heavily on the assumption that the distribution of policyholder and homeowner income was similar at the county level. Given that we do not have information on the accuracy of this

¹²AMI is based on the metropolitan area, metropolitan subareas, or nonmetropolitan county. Because of the way in which AMI is defined in New England, there could conceivably be more than one HUD AMI per county. Accordingly in New England, we have selected the highest HUD AMI in the county as the county value, as a conservative approach to ensuring that the greatest number of individuals falls under the HUD AMI in our estimate. Also, we excluded from our analysis 171 policyholders with addresses that could not be geocoded, or mapped to a tract or county for ACS data.

¹³We first dichotomized the income distribution to calculate the estimated proportion of homeowners with household incomes below and above the ACS category cut points (e.g., above and below \$25,000; above and below \$35,000; above and below \$50,000; etc.). We then calculated the estimated proportion of homeowners living in households with incomes below the HUD threshold. For example, if the HUD threshold was \$50,000, we took the proportion of homeowners in the county with income below \$50,000 and applied that proportion to the number of SFHA policyholders to estimate the number of SFHA policyholders in that county with incomes below the threshold. If the HUD threshold fell in the middle of a dichotomous category, we took all within the category (that is, if the closest original category was \$25,000 to \$35,000, and the HUD threshold was \$30,000, we took the estimated proportion of homeowners with income below \$35,000 to generate our estimate of the count of SFHA policyholders "likely" needing subsidies). Assuming the actual income distribution of policyholders matched that of homeowners in the county, treating the full population in an income category as if it were below the AMI threshold, even when the AMI falls in the middle of the threshold, would have the potential to overstate the number of policyholders eligible for subsidies at a given threshold. Our sensitivity tests examining the effect of shifts in the income distribution address this potential error by using the next closest, lower income category to estimate the lower range of the number eligible. Shifting the income distribution down one category is consistent with assuming that everyone in the original category earned above the HUD threshold.

assumption, we instead present the results from an alternative sensitivity test that allows for less correspondence between the homeowner and policyholder income distributions. This second sensitivity test illustrates the effect of shifting the income distribution within each county up or down a category, and provides a better, if still imperfect, sense of the uncertainty inherent in our estimates given that we lack information on individual policyholders' incomes. Despite these tests, we cannot be sure that there are not systematic differences in the income distribution of policyholders compared to homeowners in general at the county level that would not be captured by such testing.¹⁴

Estimation of Eligible Policyholders Based on the Financial Characteristics of a Local Geographic Area

To estimate the number of eligible policyholders based on financial characteristics of a local geographic area, we used the same HUD AMI thresholds as in our estimates based on individuals' financial need. However, unlike the analysis for the means-tested approach that considers individuals' financial need, the estimation of eligible policyholders based on the financial characteristics of a local geographic area is based on the median household income of an entire local geographic area, the census tract. As such, it estimates the number of subsidized policyholders likely eligible for assistance using a "community" threshold test, in which the census tract median household income is compared to the HUD AMI. To conduct the analysis, we used tract-level data to test the estimated median income of each census tract against the relevant HUD AMI threshold, and we assumed that all policyholders living in tracts with estimated median incomes below the threshold would receive subsidies. To illustrate uncertainty in our estimates, we also tested the upper and lower bounds of the 95 percent confidence interval for the tract-level estimate of median homeowner income against the HUD AMI or threshold.

To illustrate potential consequences of using a community threshold test, we identified tracts where policyholders comprised a relatively large proportion of the estimated number of homeowners in the tract and that would be subsidized using the HUD AMI as the threshold. We use the threshold of 115 percent of HUD AMI to identify tracts eligible for subsidy

¹⁴We also approximated 95 percent confidence intervals around the estimate of median income for each geographic unit using the variance and estimation procedures described in the ACS guidance. See U.S. Census Bureau, "A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know," October 2008.

under the local geographic area approach, as it is the middle of the three thresholds we test in our main analysis. We limited our analysis to tracts with 50 or more policies and with fairly precise estimates of homeowner income.¹⁵ We then identified those tracts where either the estimated home value was relatively high, or the estimate of the proportion of homeowners with high incomes was relatively large.¹⁶ From the tracts we identified, we selected examples that represented extreme values; while these tracts are not typical of tracts that would be subsidized under a community approach, they demonstrate that as a targeting mechanism, the community approach could have unintended consequences.

Estimation of Eligible Policyholders under the Capped Premium Option

We were unable to estimate the number of subsidized policyholders who would likely be eligible for assistance under the capped premium option because implementing it would require information on the full-risk premium rates of currently subsidized policies, which FEMA does not calculate. Instead, we estimated the number of subsidized policyholders that paid less than various thresholds, as of September 30, 2013. To identify a range of thresholds that could be used to develop estimates under the premium capped option, we used 1 percent as the lower threshold because HFIAA states that FEMA should strive to minimize the number of policies with annual premiums that exceed 1 percent of the total coverage. We also assessed the effect of increasing the threshold by 1 percent increments up to 5 percent. We compiled information on the amount of insurance coverage (both building and content coverage) and the premium cost associated with subsidized policies from the NFIP policy database. Specifically, we compared a range of percentages, from 1 percent to 5 percent, of total insurance coverage to the total subsidized premium and determined how many subsidized policyholders paid above and below each percentage limit.

Estimation of Eligible Policyholders Based on the Cost of Mitigation

We were unable to illustrate the effect of targeting assistance based on the cost of mitigating the primary residence of subsidized policyholders because data to determine this cost were not available. To determine the

¹⁵We included only those tracts with a coefficient of variation, a measure that compares the size of the estimate to its standard error, of 25 percent or less.

¹⁶We based our definitions of “high income” on the highest income category available in the data (i.e., above \$150,000). We base our definition of “low income” on the lowest income category (i.e., below \$25,000) for which tracts would be considered eligible for a subsidy using the lowest HUD AMI of \$16,400. We based our definition of high property value on the loan limit for conforming loans.

Estimating the Cost of Assistance

cost of mitigating the risk of damage to a property, information on its elevation—that is, the difference between the lowest elevation of the property relative to its base flood elevation—is needed, but FEMA does not currently collect this information for properties that pay subsidized rates.

To estimate the potential cost of implementing these options, we attempted to estimate the full-risk rate of subsidized properties by constructing information about flood risk that is not available in NFIP’s database. We attempted to calculate some flood risk information (i.e., elevation information) for subsidized properties located in North Carolina by obtaining two key elements: lowest floor elevation and base flood elevation—that is, the flood level relative to mean sea level at which there is a 1 percent or greater chance of flooding in a given year. We selected North Carolina because it is one of the only states that have collected elevation data in high-risk flood zones, which is necessary to determine the full-risk premium rates. Specifically, we obtained Light Detection and Ranging (LIDAR) data from the North Carolina Floodplain Mapping Program to determine if we could estimate the lowest floor elevation level of subsidized properties in the state. We also analyzed data from FEMA’s National Flood Hazard Layer database to determine if we could estimate the base flood elevation of these subsidized properties. However, both sources lacked the precision needed for purposes of our analysis.

- **LIDAR.** While NFIP defines elevation difference as the difference between lowest occupied floor elevation and base flood elevation, North Carolina’s LIDAR data measures first floor elevation, which is inconsistent with NFIP’s measure for lowest floor elevation. According to North Carolina officials, its LIDAR does not measure the lowest floor elevation because it is measured from the outside of the structure to the bottom of the front door. Without measuring from the inside of the structure, North Carolina’s LIDAR data do not take into account a precise measurement of the lowest floor. For example, the bottom of the front door may be higher than the bottom of the lowest occupied floor, such as a furnished basement.
- **FEMA’s National Flood Hazard Layer.** FEMA’s National Flood Hazard Layer data lack precision to correctly align the data to a property.¹⁷ The data are a geospatial file that shows the base flood elevations

¹⁷The National Flood Hazard Layer is a digital database that contains flood hazard mapping data from NFIP.

of areas, among other things. However, it simply shows them as lines on a map, which cannot be used to determine the base flood elevation for a particular building unless the building is intersected by the line. For all other buildings, base flood elevation would have to be estimated using the closest elevation lines. For example, if a building were located halfway between a 100 foot line and a 110 foot line, a base flood elevation of 105 feet could be estimated for the building. However, this estimate is not precise enough for purposes of our analysis.

Due to the unavailability of accurate estimates for lowest floor elevation and base flood elevation to calculate full-risk rate, we were unable to estimate with any precision the potential cost of implementing certain options we identified for targeting assistance to policyholders who may experience difficulty paying full-risk rates. However, we developed a rough estimate of the cost by multiplying the estimated percentage of subsidized policyholders likely to be eligible for assistance under the various options and thresholds and estimates on forgone premium net of expenses we had previously developed. Specifically, in our December 2014 report on forgone premiums for subsidized policies, we noted several limitations to using these statements to produce our estimates.¹⁸ We presented three separate estimates: (1) FEMA's statement about the impact of eliminating subsidies on aggregate premiums, (2) the percentage of long-term expected losses covered by subsidized premiums, and (3) the percentage of long-term expected losses covered by subsidized premiums to estimate forgone premiums for only the policies that remained subsidized after HFIAA. The estimated total subsidy cost of implementing certain targeting options is based on the estimated lowest and highest forgone premium net of expenses in 2013 across the three estimates calculated in our 2014 report. We applied the range to the targeting options described earlier in this report. Specifically, we applied the cost range (\$575 million to \$1.8 billion) to the various targeting options and their ranges of percentage of eligible policyholders. This cost estimate assumes that the difference between what subsidized policyholders would pay if they were charged full-risk rates and the subsidized rates they paid in 2013 are the same for all subsidized policyholders. Also, this estimated subsidy cost does not take into account the cost associated with implementing the selected targeting option. In addition to the limitations on the eligibility estimates discussed

¹⁸[GAO-15-111](#).

in this report, our 2014 report discusses potential constraints on our cost estimates.¹⁹

We conducted this performance audit from July 2014 to February 2016 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.

¹⁹In our December 2014 report, we used policy data from 2002 through 2013 to determine the number and associated premiums of the subsidized policies and applied FEMA's published statements describing the size of the subsidies and expenses to estimate forgone premiums and forgone premiums net of program expenses. FEMA officials stated that their statements about the size of the subsidies should not be considered definitive or precise. However, because FEMA officials said that these statements were the only information available on the size of the subsidy, we used them in three different calculations to estimate forgone premiums, added caveats to our estimates, and noted the limitations of using them. See [GAO-15-111](#).

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact above, Patrick A. Ward (Assistant Director), Josephine Perez (Analyst-in-Charge), Bethany Benitez, Chloe Brown, Pamela Davidson, Chir-Jen Huang, May Lee, John Mingus, Marc Molino, Anna Maria Ortiz, Jennifer Schwartz, and Jack Wang made key contributions to this report.

Appendix III: Accessible Data

Data Tables

Data Table for Figure 2: Number of Estimated Subsidized Flood Insurance Policies by State, as of September 2013

State name	Total policies
Alabama	5135
Alaska	296
Arizona	4560
Arkansas	4622
California	50018
Colorado	3205
Connecticut	10667
Delaware	1523
District of Columbia	49
Florida	102193
Georgia	10255
Hawaii	3533
Idaho	1030
Illinois	16768
Indiana	11212
Iowa	4455
Kansas	3934
Kentucky	7675
Louisiana	60692
Maine	1319
Maryland	6128
Massachusetts	13104
Michigan	9749
Minnesota	2295
Mississippi	6677
Missouri	6029
Montana	1171
Nebraska	3909
Nevada	982
New Hampshire	1689
New Jersey	41259
New Mexico	3976
New York	39897
North Carolina	7676
North Dakota	1324

State name	Total policies
Ohio	13816
Oklahoma	4294
Oregon	5693
Pennsylvania	21370
Puerto Rico	19022
Rhode Island	3665
South Carolina	10444
South Dakota	974
Tennessee	4471
Texas	40805
Utah	351
Vermont	1094
Virginia	11318
Washington	8975
West Virginia	8059
Wisconsin	4912
Wyoming	598

Data Table for Figure 3: Estimated Number of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance at 80 Percent of Area Median Income, by State, as of September 2013

state name	senslo_minbelowHUD 80	dist_estbelowHUD 80	senshi_maxbelowHUD 80
Alabama	1425	2270	3397
Alaska	71	135	201
Arizona	1227	1942	2926
Arkansas	1213	2039	3141
California	12629	20296	29281
Colorado	867	1517	2153
Connecticut	3325	5031	7163
Delaware	416	689	1000
District of Columbia	16	23	33
Florida	30900	47552	67905
Georgia	2711	4527	6807
Hawaii	772	1395	2033
Idaho	270	481	765

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state name	senslo_minbelowHUD 80	dist_estbelowHUD 80	senshi_maxbelowHUD 80
Illinois	4916	8254	11355
Indiana	3290	5522	8034
Iowa	1368	2394	3418
Kansas	1135	2010	2970
Kentucky	2082	3499	5225
Louisiana	17951	27786	39817
Maine	427	706	990
Maryland	1628	2781	4053
Massachusetts	4874	7104	10070
Michigan	3443	5443	7338
Minnesota	619	1121	1655
Mississippi	1842	3071	4572
Missouri	1837	3122	4421
Montana	330	572	882
Nebraska	1034	1869	2873
Nevada	292	529	755
New Hampshire	549	892	1269
New Jersey	11190	18336	25137
New Mexico	1493	2328	3130
New York	12160	18809	27379
North Carolina	2279	3881	5673
North Dakota	351	660	994
Ohio	3962	6684	9721
Oklahoma	1132	1860	2888
Oregon	1546	2631	3971
Pennsylvania	6425	10592	15049
Puerto Rico	0	9318	12641
Rhode Island	890	1616	2301
South Carolina	2675	4352	6509
South Dakota	262	497	757
Tennessee	1111	1860	2904
Texas	11627	19094	26508
Utah	90	169	249
Vermont	330	572	810

state name	senslo_minbelowHUD 80	dist_estbelowHUD 80	senshi_maxbelowHUD 80
Virginia	3375	5925	8332
Washington	2477	4325	6243
West Virginia	2474	4096	6036
Wisconsin	1471	2589	3661
Wyoming	151	286	427

Data Table for Figure 4: Estimated Number of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance at 115 Percent of Area Median Income, by State, as of September 2013

state name	senslo_minbelowHUD 115	dist_estbelowHUD1 15	senshi_maxbelowHUD 115
Alabama	2142	3264	4159
Alaska	126	196	271
Arizona	1896	2879	3594
Arkansas	1861	2936	3848
California	19686	28952	41135
Colorado	1525	2194	2895
Connecticut	5351	7653	10453
Delaware	666	974	1267
District of Columbia	22	32	49
Florida	44709	65357	80108
Georgia	4197	6438	8340
Hawaii	1281	1919	2814
Idaho	429	712	915
Illinois	7634	10787	14172
Indiana	4343	7053	9080
Iowa	1952	3015	3922
Kansas	1600	2603	3414
Kentucky	3146	4860	6348
Louisiana	24055	36331	46336
Maine	664	948	1189
Maryland	2637	3895	5302
Massachuset ts	6913	9866	12839
Michigan	4210	6358	7983

Appendix III: Accessible Data

state name	senslo_minbelowHUD 115	dist_estbelowHUD1 15	senshi_maxbelowHUD 115
Minnesota	1024	1555	2051
Mississippi	2822	4296	5562
Missouri	2928	4216	5407
Montana	495	807	1047
Nebraska	1650	2658	3475
Nevada	404	644	852
New Hampshire	871	1266	1613
New Jersey	21173	29651	39312
New Mexico	1781	2714	3394
New York	16555	25349	35232
North Carolina	3290	5133	6589
North Dakota	548	879	1179
Ohio	6008	9085	11684
Oklahoma	1747	2763	3500
Oregon	2475	3798	4924
Pennsylvania	9600	14166	18127
Puerto Rico	5305	11092	14664
Rhode Island	1623	2347	3223
South Carolina	4158	6285	8026
South Dakota	379	643	867
Tennessee	1733	2775	3574
Texas	18200	25578	33460
Utah	159	237	316
Vermont	501	749	967
Virginia	5280	7714	10328
Washington	4048	5958	7795
West Virginia	3749	5672	7105
Wisconsin	2362	3450	4423
Wyoming	252	390	541

Data Table for Figure 5: Estimated Number of Subsidized Flood Insurance Policies That Would Likely Be Eligible for Assistance at 140 Percent of Area Median Income, by State, as of September 2013

state name	senslo_minbelowHUD 140	dist_estbelowHUD1 40	senshi_maxbelowHUD 140
Alabama	2802	3819	4666
Alaska	166	244	294
Arizona	2536	3350	4115
Arkansas	2367	3386	4217
California	23784	34034	46976
Colorado	1798	2489	3098
Connecticut	8120	9505	10667
Delaware	921	1214	1471
District of Columbia	49	49	49
Florida	59566	75540	90554
Georgia	4931	6990	8871
Hawaii	1857	2748	3500
Idaho	557	800	988
Illinois	10039	13413	16472
Indiana	6566	8651	10596
Iowa	2777	3671	4361
Kansas	2165	3016	3767
Kentucky	4140	5663	7075
Louisiana	34038	44240	54969
Maine	796	1070	1263
Maryland	3742	4988	6038
Massachusetts	7225	10215	13044
Michigan	5903	7592	9158
Minnesota	1396	1888	2271
Mississippi	3635	4924	6128
Missouri	3191	4428	5538
Montana	588	875	1104
Nebraska	2340	3156	3836
Nevada	527	742	938
New Hampshire	947	1339	1655
New Jersey	22426	31294	40418

Appendix III: Accessible Data

state name	senslo_minbelowHUD 140	dist_estbelowHUD1 40	senshi_maxbelowHUD 140
New Mexico	2251	3014	3709
New York	19695	28040	38066
North Carolina	4152	5801	7153
North Dakota	779	1078	1306
Ohio	7595	10226	12751
Oklahoma	2387	3219	3974
Oregon	3074	4258	5280
Pennsylvania	11837	16128	19981
Puerto Rico	9904	13733	17127
Rhode Island	1773	2575	3401
South Carolina	5618	7373	9266
South Dakota	541	762	953
Tennessee	2367	3261	4054
Texas	20628	27806	35421
Utah	182	252	327
Vermont	630	849	1043
Virginia	7266	9644	11137
Washington	5013	6854	8594
West Virginia	4404	6168	7503
Wisconsin	2745	3738	4647
Wyoming	327	472	584

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