



# Income-Qualified Program Innovations to Reduce Deferral Rates



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## Abstract

Energy efficiency investments in low-income homes offer myriad benefits, especially for households with high energy burdens or pre-existing health conditions. Unfortunately, current program services and capacity often fail to align with the residents' needs and community housing stock. Progress has been made to close certain gaps, but more change is needed to deliver comprehensive energy programs on the scale necessary to meet climate goals.

Retrofitting low-income housing often requires the mitigation of health and safety or structural issues before weatherization services can be provided. In fact, studies estimate up to 15% of homes across the U.S. may require health and safety mitigation before weatherization can occur. Often one single program does not have the resources to address health and safety issues related to housing, resulting in long wait times for other assistance programs or even a deferral until other resources can be secured. Deferral rates for utility energy efficiency programs and state weatherization assistance programs vary across the country but limited allowable budget uses and capacity constraints are consistent barriers. Streamlining processes and developing partnerships can increase the impacts of programs while reducing deferral rates and easing administrative burdens for the homeowner.

Through a variety of community-based stakeholder interviews and secondary research, this paper will highlight case studies in which program deferral rates are low, present innovative partnership or funding opportunities to increase impacts and address health and safety barriers and provide recommendations for implementation agencies to enhance program delivery strategies.

## Introduction

Nationally, 25.8 million low-income households<sup>1</sup> face a high energy burden, meaning they spend more than 10% of their income on energy costs (Drehobl, Ross, and Ayala 2020). Energy efficiency and weatherization can help address energy insecurities by improving building efficiency, reducing energy bills, and improving indoor air quality and comfort levels (Drehobl, Ross, and Ayala 2020). Unfortunately, the need for energy efficiency and weatherization investments in low-income homes often exceeds program capacity, resulting in waitlists comprised of eligible homeowners that may take years to get through. For example, Missouri's Northeast Community Action Corporation (NECAC) reported in a recent webinar that they weatherize about 200 homes per year, have a waitlist of 435 and receive 10-15 new applications every day.<sup>2</sup>

Moving to the top of a waitlist for an energy audit isn't the last of the hurdles many homes must overcome before obtaining weatherization services. If a home has structural issues, health and safety issues, building code violations or other large deficiencies, it can be deferred from receiving weatherization until the issues are

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<sup>1</sup> Low income as defined by <200% the federal poverty level

<sup>2</sup> <https://www.youtube.com/watch?v=7V9u3L70xQ0&t=170s>

remediated. Waitlists arise when an agency lacks capacity to process additional applications, conduct energy audits or complete weatherization work due to a shortage of materials, labor, contractors or other resources; a household and/or home is eligible for weatherization, but cannot yet be served. Deferrals, however, stem from problems at the premise discovered during the energy audit that prevent completion of weatherization work. Deferrals hurt implementer budgets because they incur sunk costs from sending field staff out to evaluate a home that cannot ultimately be weatherized because the Program is unable to address the repairs of the building (DOE 2022).

Weatherization Assistance Program (WAP) agencies reported in 2018 that the top three most common reasons for deferrals were structural issues, mold and moisture or standing water (NASCS 2019). Many low-income residents can't afford to pay for structural repairs, so deferred homes often remain deferred unless or until new funds, programs and/or partners can be found or developed to remediate the problem. Long wait times to coordinate assistance mean residents with the highest energy burdens must continue living in substandard housing longest. The US Department of Energy (DOE)'s 2022 WAP funding allocation with \$15 million in new Weatherization Readiness Funds could help, but long-term future funding for this program is not certain. For now, states must build programs to leverage other sources of funding to help pay for pre-weatherization work.

Deferral rates for federally funded weatherization and/or utility energy efficiency programs vary across the country, depending on the rules in place for each funding stream. "Deferrals occur in WAP for two key reasons: regulatory (10 CFR 440) limitations and/or management decisions at the state and local level," explains a DOE program notice on the Weatherization Readiness Funds (DOE 2022). Agencies with access to flexible supplemental funds have fewer deferrals; advocating for effective state and local partnerships can drastically increase the impacts of programs. Recent National Community Action Partnership (NCAP) webinars have featured successful partnerships in Indiana, Missouri and Michigan that have increased flexible allowable uses of funding through collaboration with advocates, nonprofits, WAP grantees and subgrantees and utilities.<sup>3, 4</sup>

The web of funding sources, implementation agencies, utilities, state agencies and other partners to support weatherization programs is complex and varies from state to state. Federal Weatherization Assistance Program Funds from the U.S. Department of Energy go to 57 state and tribal grantees. Grantees tailor aspects of the program to their needs through the state planning process, considering funding levels and regional demographic data. For example, DOE allows states to set the income eligibility threshold up to 200% of the federal poverty level (FPL); many states cap eligibility at this maximum but some use lower figures, such as 150% FPL or 60% Area Median Income (AMI).

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<sup>3</sup> <https://youtu.be/IZ2MOvShBr0>

<sup>4</sup> <https://www.youtube.com/watch?v=a35aKSY2bBk&t=1076s>

However, some states put well-intentioned but detrimental constraints on allowable uses of funding, leading to restrictions on the types of services that can be offered to homes. These constraints limit the number of households able to be served each year and make it difficult for deferral homes to receive remediation assistance. This paper seeks to document the barriers and opportunities to reducing deferral rates while featuring a few case studies of programs that have successfully designed deferral programs. Case studies will highlight innovative partnership or funding opportunities to increase impacts and address deferrals and offer models for states to enhance program delivery strategies.

## Background

Low-income households have historically had less equitable access to energy efficiency services than wealthier households, with low-income residences being underserved by utility-funded programs. Beyond underfunded energy efficiency programs, historical practices like redlining, discriminatory lending and disinvestment have contributed to racially segregated neighborhoods consisting of substandard housing leading to wasted energy. These historical disparities have led to Black, Hispanic and Native American households experiencing disproportionately higher energy burdens nationally (Drehobl, Ross and Ayala 2020).

Energy efficiency and weatherization programs can correct historical under-investments in these homes, reducing residents' energy burden while increasing comfort and safety. However, the variety of available programs, with different eligibility criteria and covered services, can be confusing for prospective program participants. Moreover, both government and private sector programs have historically struggled to serve multifamily buildings, meaning many renters do not receive energy efficiency services as often as single-family homeowners.

State and local agencies often harness multiple funding streams to weatherize low-income households. Federal, state and/or local government program dollars may be paired with funds from utilities, foundations and/or other entities. For example, Wayne Metro Community Action in Detroit, MI combines DOE WAP funds, DTE Energy funds and City of Detroit dollars to repair roofs to make homes weatherization ready.<sup>5</sup> Nationwide, the WAP depends on leveraging to supplement the Department of Energy funding allocations and prevent deferrals (NASCS 2021). As you'll see in Figure 1, the scale of states' non-federal leveraging varies greatly, with some states leveraging over \$50 million dollars and others leveraging none. Any decrease in state or utility energy efficiency investments will not only reduce total resources available to combat high energy burdens in historically underinvested housing - but it will also cause this fragile patchwork quilt to unravel, compounding the net loss.

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<sup>5</sup> <https://www.youtube.com/watch?v=uqsCpeKhqZ4>

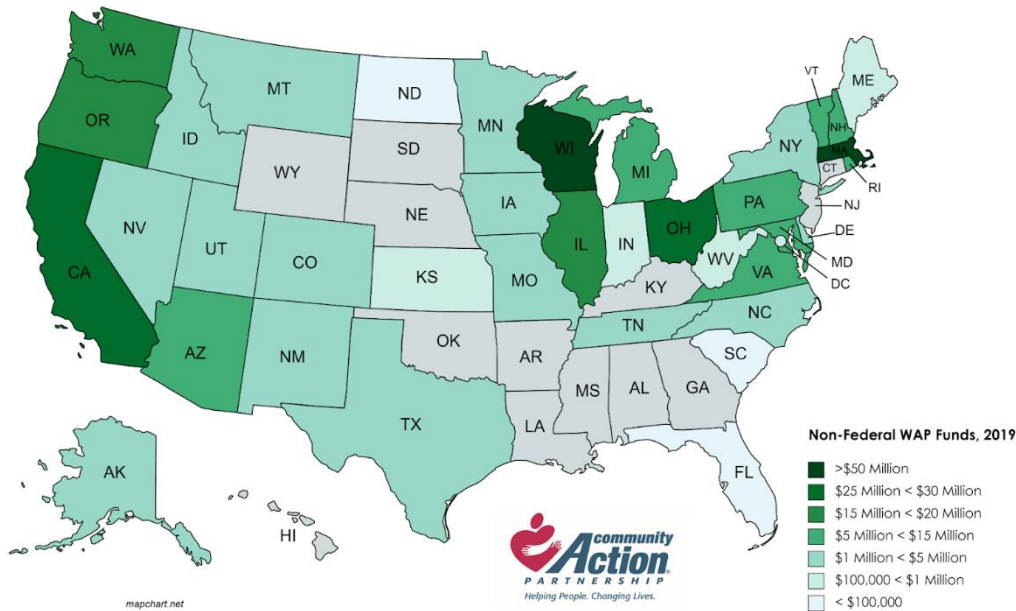


Figure 1: 2019 State Non-Federal Leveraging<sup>6</sup>

## DOE Funding

The US Department of Energy provides WAP funding to 57 grantees (50 states, District of Columbia and the territories of Guam, US Virgin Islands, American Samoa, Puerto Rico and Northern Mariana Islands) through the combination of a fixed allocation and a formula allocation based on the needs and demographics of each region. The 57 grantees then work with subgrantees to implement the weatherization work, creating a large network of organizations providing services to low-income households.

DOE WAP funding includes two key spending limits which influence the program's impact: the Average Cost Per Unit (ACPU) and the Savings to Investment Ratio (SIR). For the 2022 program year, DOE expects grantee spending not to exceed an average cost of \$8,009 per weatherization project. State and local ACPU procedures vary, but most agencies can spend more than that on some jobs, provided they also spend less on other jobs to achieve an acceptable total average. Meanwhile, the program requires that all measures installed in a home yield bill savings for the resident greater than or equal to the program's investment.

Sophisticated modeling software is used to calculate future bill savings based on energy use reduction for each measure and energy rates for each fuel type. The funds allowed to be spent on health and safety measures (outside of the allowable energy-saving measures) is limited, but the total expenditure limit can be determined by the state and expressed as a percentage of the ACPU. DOE cites 15% of Program Operations being a typical health and safety budget; however, states may go over 15% with an additional requirement of a second level of DOE review on the state's annual Health & Safety Plan (DOE 2021a).

<sup>6</sup> NCAP design based on NASCSP data available at <https://nascsp.org/wp-content/uploads/2021/01/Funding-Survey-Appendix-2019.xlsx>

## LIHEAP Funding

The US Department of Health and Human Services (HHS) administers the Low-Income Home Energy Assistance Program (LIHEAP), which provides comprehensive energy assistance funding to states. While LIHEAP primarily provides utility bill payment assistance, states can also allocate up to 15% of LIHEAP block grant funding to supplement WAP services—or up to 25% with an approved Good Cause waiver. The LIHEAP funding allows states more flexibility in administering programs and balancing bill payment assistance with energy efficiency investments. Unfortunately, some states have passed policies mandating that the use of LIHEAP weatherization funds follow the same funding restrictions as DOE, making the leveraged funds less flexible and placing more importance on leveraging non-federal dollars to fill gaps (A. Gendusa-English, project director, National Community Action Partnership, pers. comm., February 2022).

## State & Utility Funding

Funding from states, local governments and utilities supplement federal investments in weatherizing low-income housing. In fact, 37% of the funding used to support WAP in 2019 was from non-federal sources (NASCS 2021). Figure 2 demonstrates the proportion of non-federal funding that was leveraged in 2019 to deliver weatherization services. Unfortunately, only 27 states have an energy efficiency resource standard (EERS) setting long-term electric or natural gas savings targets for utilities and creating a pathway for deep utility investments in programs that deliver energy savings (ACEEE 2019). Across the country, leveraging utility dollars to fund WAP still has untapped potential. Of the states that do have utility-funded programs, there is a need to balance high participation rates with deep energy savings, recognizing it can be challenging to serve many households while achieving large energy reductions in each one.

State and utility funds are typically more flexible in their allowable uses, making them vital components to braided WAP programs where federal funds are more restrictive. However, utility energy efficiency programs are still held to cost-effectiveness criteria based on the energy savings they generate, and utilities may be required to meet cost-effectiveness goals at the program or the portfolio level. Eliminating cost-effectiveness criteria for low-income programs can help free up funds to be spent on pre-weatherization issues to prevent a deferral, but there are still limits to allowable uses of funding and spending caps per home. Even in states where utility energy efficiency budgets are significant, costly repairs like a roof replacement or asbestos remediation can still be beyond spending caps per home.

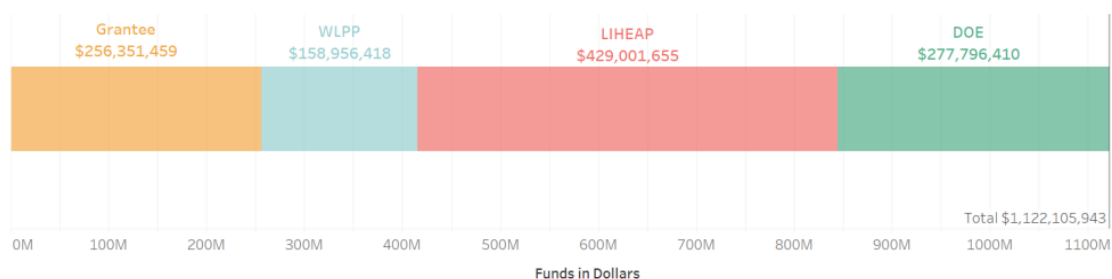


Figure 2: 2019 WAP Funding by Source (NASCS 2021)

## The Problem

As previously stated, the need for weatherization investments far exceeds allocated program resources, leading to capacity limitations for programs and waitlists for homes. Program budgets are limited, and their allowable uses of funding are often too restrictive. Currently, 36 million households are eligible for WAP, yet the program can only serve about 100,000 homes per year on average, through DOE and other leveraged funds (Bullen 2018). Since 1976, WAP has only served 7 million homes (DOE 2021c). At the current rate of 100,000 homes per year, it would take 360 years to weatherize all eligible homes, assuming no more households became WAP eligible in the meantime (Drehobl, Ross and Ayala 2020).

As demonstrated by the sheer volume of households needing assistance, it is time intensive for a home to move from the WAP application process through the waitlist to receive an audit. If a deferral is issued because of a health and safety or structural issue, it can be a devastating blow to the homeowner who now must find additional resources to mitigate the reason for deferral and then be added back onto a waitlist. DOE does not track deferral rates nationally for the WAP but will begin tracking them in 2023. Not all WAP grantees track their own deferral rates (NASCS 2018), making it difficult to ascertain the full impact of WAP deferrals. Deferral rates vary from subgrantee to subgrantee, as a number of deferrals are dependent on the condition of the local housing stock and the availability of flexible leveraged funds to fill gaps in DOE's allowable uses of funding. Some individual subgrantees have reported deferral rates up to 60% according to a NASCS case study from Wisconsin.

Programs typically have health and safety (H&S) budgets to remediate issues that would cause a deferral from weatherization services, but the needs are high, H&S budgets are comparatively small and the allowable uses of funds are limited. The presence of asbestos, structural issues, mold and moisture, fire hazards, roof deficiencies and code violations are all common examples of conditions triggering a deferral; without mitigation, the homes often sit unrepaired and inefficient. Low-income households lack the discretionary funds to remediate issues, driving them to seek out other sources of assistance and sit on other waitlists before returning to the weatherization assistance program. Other assistance programs may have different eligibility criteria or application requirements than WAP, which can be frustrating and burdensome on homeowners trying to navigate a complex network of funding sources. WAP implementation agencies need access to more flexible sources of funding to fill gaps in H&S budgets and allow households to continue moving through the weatherization process, without delays or disruptions.

However, even with newly increased federal funding allocations, additional sources of non-federal funding need to be leveraged across all 56 WAP grantees to provide more flexible and sustainable sources of funding. Past increases in federal funding, most notably through the American Recovery and Reinvestment Act (ARRA) of 2009, have helped more homes receive weatherization, but the short-term influx of funding can be

overwhelming to subgrantees who need to staff up in order to increase volume then subsequently reduce staff when the money runs out (Chan, Harrington, Berger 2021). The short-term positions created with short-term funding can hurt hiring efforts in the future when jobseekers know the employment will end when the money ends. Moreover, Weatherization Program Managers must consider complex and sometimes contradictory federal, state and organizational factors when deciding what contractors, staff and materials to work with, how much to spend and even sometimes how to spend combined funds. Anecdotal evidence suggests that variations in access to leveraging funds, energy audit modeling software, and payroll programs mean some subgrantees can braid funds more effectively than others.

The hurdles for low-income renters in multifamily buildings are even higher than for single-family homeowners, increased by factors like landlords who don't have an incentive to retrofit buildings, complex building-level WAP eligibility criteria and costly upgrades to achieve energy savings. Fortunately, low-income renters have been recognized as an underserved and hard-to-reach population, with coalitions like Energy Efficiency for All advocating for more inclusive programming and developing best practices for utility and state agency programs to implement. In 2021, DOE expanded categorical client eligibility for WAP, streamlining the process to serve multifamily properties assisted by the US Department of Housing and Urban Development (HUD). This new program guidance allows WAP grantees and subgrantees to easily determine eligibility for a building and reduces the administrative burden on residents, removing the need to submit the same documentation to various federal assistance programs (DOE 2021b).

When states pass regressive energy efficiency policies that limit or eliminate utility program investment, reaching high-need low-income households through state WAP implementation becomes even harder. States like Ohio, Indiana and Iowa have all seen huge reductions in energy efficiency investment and societal economic benefits from the adoption of regressive policies in the last few years. Those three Midwest states, respectively, have been found to be missing \$962 million, \$73 million and \$120 million in lost net energy efficiency benefits (Takahashi et al. 2021). Other states are in the midst of battles to keep funding for their energy efficiency programs, with New Hampshire most recently in the news for rescuing its NHsaves program from demise after a PUC order in November 2021 would have slashed funding levels (Hoplamazian, Allee, NHPR Staff 2022). Notably, the order would have reduced the funding cap for low-income utility energy efficiency investments from \$20,000 to \$8,000 per home. The PUC order was opposed by utility companies, environmental groups, and the Office of the Consumer Advocate and a motion was filed with the state's Supreme Court to challenge the order, although a settlement was reached before a Supreme Court hearing was held.

In 2022, the problems facing the WAP and utility programs have been compounded by the effects of economic turmoil, including increased costs for labor and materials, workforce shortages and supply chain delays. While potential solutions for mitigating all these problems are outside the focus of this paper, it is worth noting that reducing deferral rates is one of many interconnected challenges program managers face today requiring comprehensive and multidisciplinary solutions. Developing a solution to



ease one problem may inadvertently exacerbate another if a holistic and collaborative approach is not taken.

## The Opportunity

The opportunities to reduce deferral rates and increase the number of households served with weatherization are numerous. Some are already being implemented in a select number of states today, while others are still in the early stages of obtaining broad level support. The steps required to achieve increased weatherization services are similar across states and can be summarized into three major categories: process changes, policy changes and increased partnerships. Some changes may be easy to fix, while others may take a more drawn-out and coordinated approach across a coalition of stakeholders.

DOE has already announced short-term increased WAP funding opportunities for states to address weatherization barriers, which will help ensure more low-income households have access to pre-weatherization assistance to mitigate health and safety issues. In addition to expanded allocations, the proposed Weatherization Assistance Program Improvements Act introduced by Congress in 2022 with bipartisan support would provide \$65 million annually to conduct pre-weatherization services over a five-year period. The bill would also increase the funding cap per home to keep pace with current labor and material costs, which have risen during current economic turbulence. It's uncertain if the WAP Improvements Act will pass through Congress, as it has currently only been introduced and hasn't progressed as of June 2022.

States are pursuing other revenue-generating sources to supplement federal sources, utility funding and any additional sources of private funding. Minnesota introduced a House Bill in 2022 to provide \$60 million in WAP funding over the next three years, with flexible allowable uses of funding specifically to conduct pre-weatherization work (Jossi 2022). Some states already have existing revenue sources to fund weatherization and pre-weatherization, including Vermont's fuel tax and Wisconsin's Public Benefit Fund.

States are increasingly looking to non-traditional sources of funding to leverage for weatherization services, especially from the healthcare industry and other federal agencies. A 2020 ACEEE report on braiding energy and health funding for streamlined programs outlined several potential funding sources including Medicaid through Health and Human Services; Children's Health Insurance Program Health Services Initiative through Health and Human Services; Preventative Health & Health Services Block Grant through Health and Human Services; Social Impact Partnerships to Pay for Results Act through the Department of Treasury; Lead Hazard Controls Grant through HUD; and National Asthma Control Program through Health and Human Services (Hayes and Gerbode 2020). All the aforementioned federal programs have various allowable uses for funding which can directly help fill gaps in weatherization health and safety budgets to address deferrals. A few states have already piloted braided weatherization plus health programs, notably in New York, Vermont and Washington.

Finding ways to ease administrative burdens on grantees and subgrantees can help scale up programs when funding is increased. For example, braiding new funding streams with health services can require additional applications, reporting and eligibility screening to satisfy grantor requirements. Braiding programs may require aligning eligibility criteria to be consistent across all funding streams; expanding the data collection protocol for an in-home assessment; established data sharing or transfer protocols; increased communication or education with contractors, auditors or assessors, and intake coordinators; increased reporting requirements to document program spend within each grantor's allowable uses of funding; and other administrative innovations to ensure compliance with all sources of funding. States have found ways to ease administrative burdens through hiring a third party to manage data and evaluation, long-term planning and combining home assessments and referrals across multiple state programs (Chan, Harrington, Berger 2021). Working with a third party can take some of the more strategic long-term activities off program managers' plates, allowing them to focus their attention on meeting existing funding requirements.

Since each state designs and implements their own weatherization assistance program, it's imperative that additional knowledge sharing between states would be beneficial to share successes, best practices and challenges (Chan, Harrington and Berger 2021). This peer-to-peer knowledge exchange could be especially useful when states are exploring ways to reduce deferrals through new leveraged funding sources. Taking steps to develop process improvements and manage administrative burdens may require additional time in the short-term, but ultimately frees up staff time to participate in collaboratives for knowledge-sharing and long-term continuous improvement.

In Missouri, community action agencies worked with the Office of the Public Counsel to increase investor-owned utility investment in low-income weatherization and change the allowable uses of funding to be more flexible, since they previously mirrored DOE's allowable uses of funding. The partnership spurred the Office of the Public Counsel to intervene in rate cases on behalf of weatherization, which resulted in utility settlements to provide more shareholder funding to community action agencies. Community action agencies now have access to larger sources of funding with greater discretionary usage. Partnering with consumer advocate groups or public interest groups is something other community action agencies can do in their state to ensure their voice is heard during utility rate cases and other proceedings where important budget decisions are made.

In Michigan, the Public Service Commission (MPSC) created an Energy Waste Reduction Low-Income Workgroup made up of utilities, community action agencies, state agencies, municipalities, energy efficiency service providers, nonprofits, advocacy organizations and other stakeholders to collaborate on identifying barriers impacting energy efficiency efforts and coordinate solutions.<sup>7</sup> The MPSC helps with facilitation; however, the focus of the workgroup is driven by the stakeholders who participate, with over 100 organizations represented. A project subcommittee focused

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<sup>7</sup> <https://www.michigan.gov/mpsc/commission/workgroups/low-income-workgroup#:~:text=The%20Low%20Income%20Workgroup%20is,income%20energy%20consumers%20and%20communitie>s.

on health and safety issues and mitigating deferrals was formed, as that was identified as a significant issue in Michigan based on the state's less than 15% LIHEAP leverage and limited non-federal sources of funding. A subcommittee on workforce development has also been established to identify and address workforce issues in Michigan that directly impact the success of WAP subgrantees. The Low-Income Workgroup has helped break down silos within the energy efficiency industry and build more partnerships amongst organizations providing services to low-income households. Developing a workgroup that allows various parties to have a seat at the table creates space to talk through barriers and collectively work towards solutions. Michigan's Low-Income Workgroup is relatively unique but can be replicated in other states and does not have to be facilitated by a PUC; however, a recognized non-financially interested third party would be recommended to serve the facilitation role.

Vermont used a process change to address deferrals that could be easily replicated in other places. The state found that subgrantees implementing weatherization were deferring homes based on different criteria, resulting in inconsistent services across the state (Chan, Harrington and Berger 2021). As a response, the state agency developed a standardized set of deferral criteria paired with additional funding to address deferrals. Specifically, it was determined that the presence of vermiculite is found in 10-15% of weatherization-eligible homes, which can be remediated with funding from four state funding sources (Chan, Harrington and Berger 2021). Spending time to understand why homes are being deferred across all subgrantees could help other states identify potential opportunities for more standardized rules and ensure consistency across agencies.

## Case Studies

Two states with innovative approaches to solving their weatherization barriers can serve as case studies for other states to model changes to their programs. Spotlighting unique approaches is important to help states learn from each other and continue to identify new process improvements and sources for funding leverage.

### Minnesota

In 2021, the Minnesota Department of Commerce convened a working group of diverse stakeholders including legislators, low-income advocates, utilities, service providers and others to help assess current barriers in the state's existing WAP processes. The working group was established after it was determined that it would take Minnesota 291 years to weatherize all eligible low-income households (MN Department of Commerce 2021). Program funding around deferral issues was one of the central barriers investigated, but the working group also investigated programmatic equity barriers and workforce and supply chain issues. The ultimate goal for the working group was to identify ways to leverage more funding sources to increase the number of households served or increase the scope of services provided by the Weatherization Assistance Program. This approach to using a broad coalition of stakeholders to collaboratively identify programmatic improvements based on state-specific barriers is an easily replicable model that other states could undertake. Minnesota's working group is similar to the Michigan Energy Waste Reduction Low-Income Workgroup

mentioned above, although the focus of Minnesota's group is narrower and solely focused on state WAP improvements.

Some of the recommendations provided by the working group may apply to barriers other states are also encountering, while other recommendations may be unique to the state of Minnesota. Notable high-level working group recommendations related to deferral mitigation have been summarized to include:

- Increase state funding to supplement federal WAP allocations for the next 10 years and ensure state funds are allowable to address participation barriers such as structural issues not covered in part or in whole by federal sources. Minnesota recognized that any legislative action to increase funding would need to provide longer-term and flexible supplemental funds.
- Advocate for federal policy and process changes to both increase available funding and lift existing programmatic restrictions.
- Conduct further research on deferrals in Minnesota, including barriers and solutions beyond funding levels to determine additional support needed. The research will also look to other states to identify potential replicable solutions to addressing deferrals.
- Streamline processes for administering WAP and other assistance programs in order to increase access.
- Engage a stakeholder group to identify cross-cutting partnerships in health and energy efficiency.

While the working group was only recently convened and implementation of recommendations has not yet occurred, other states can look to Minnesota's stakeholder engagement process to design a similar approach. Each state will have its own barriers and creating an inclusive stakeholder feedback process can spur the creation of multi-disciplinary solutions and actions. As Minnesota dives deeper into the implementation of the working group's recommendations, it will be important to keep an eye on its early learnings and results and keep other states apprised of the developments.

## North Carolina

The state of North Carolina has stood up several programs to collectively address weatherization and health hazards in homes and build a patchwork quilt of funding sources and allowable uses of said funding—notably the Healthy Homes Initiative (HHI) funded by BlueCross BlueShield, which supplements funding already received from federal agencies. The partnership with BlueCross BlueShield offers almost full coverage across the state, with only a few counties with services not yet available. More than 300,000 households are eligible to receive up to \$2,500 in assistance through HHI, which includes a healthy home assessment and then remediation of health hazards such as carpet removal, deep cleaning, pest control, air purifiers, fall prevention measures, carbon monoxide and smoke detectors, moisture control and HVAC filter replacements. Implementation agencies appreciate this program since the allowable uses of funding are more flexible than the weatherization program. These measures help ensure a home is weatherization-ready, but they don't address all issues that could cause a deferral.

The Duke Energy Helping Home Fund (HHF) offers additional health and safety services including minor roof, plumbing and electrical repairs up to \$3,000 per home and HVAC system repair up to \$800 per home. The addition of these services fills a need in the availability of funding yet is only available to customers with an active Duke Energy Progress account, which serves less than half of the state. Since the HHI and HHF programs both offer health and safety measures, they pair well with the state Weatherization Assistance Program, which is braided with additional funding from the Duke Energy Carolinas Income-Qualified Weatherization Program.

One caveat of utility-funded programs is that home energy usage cannot increase as a result of the work completed; yet many eligible homes have non-functioning furnaces and repair would increase monthly energy use. As a result, having a functioning furnace was added in the eligibility criteria to participate in the Duke Energy Carolinas Income-Qualified Weatherization Program. This additional requirement results in low-income homes being left to find other sources of assistance to repair or replace their furnace if they don't qualify for assistance.

There is still a need to leverage additional funding sources to mitigate deferrals, which is why the state is in the midst of developing a Home Major Repairs Program to fill gaps in utility territory coverage and current allowable uses of existing funding while increasing funding amounts to address more expensive repairs which would be outside the scope of other existing programs. This Home Major Repairs Program will work with minority-owned contractors to target homes already on the state's deferral list with significant repairs cited as the reason for the deferral. The program will be able to provide roof repair and/or replacement, mold and moisture remediation, electrical and HVAC work and major plumbing. Major roof repair or complete replacement is high on the reasons for deferrals in North Carolina. Targeting homes already on the state's deferral list allows the program to have tight control over the homes recruited and ensures resources are prioritized to those most in need of assistance. The program will also include a workforce development component to increase available skilled workers to implement weatherization measures and home repairs. This will involve an apprenticeship track, in partnership with a workforce development agency, with minimum wage requirements and a potential employment pathway for returning citizens. Partnerships, funding allocations and program implementation plans are still being developed. Tying deferral mitigation to other systemic challenges, such as workforce shortages and workforce diversity, equity and inclusion goals are the types of multidisciplinary solutions that deserve a spotlight.

## Conclusion

There's no one-size-fits-all approach to delivering weatherization services to low-income households, as barriers and opportunities are unique to each state's housing stock, resident demographics, workforce and available state and utility funding. Until existing federal sources of funding are amended to include more flexibility in their allowable uses, states will have to get creative to remediate the myriad of deficiencies present in homes and multifamily buildings. Yet, the levers to pull to achieve increased

weatherization services are all very similar across states and can be summarized into three major categories: process changes, policy changes and increased partnerships. To efficiently serve all 36 million weatherization-eligible households, all three must be prioritized across all 57 grantees. Achieving that level of change in the short-term seems unlikely, but there are steps states can take today to learn from each other and replicate successful models to increase annual households served and decrease deferral rates. At the very least, one immediate action states can undertake is building a stakeholder working group, modeled off those referenced in Michigan and Minnesota above, to understand the unique issues present in their state and begin developing a roadmap for implementing solutions.

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