

Coordinating and Enhancing Access to Low-Income Energy Efficiency Programs Expert Insight Workshop

Pennsylvania State University—University Park (Virtual)

Date: 18 May 2022

Time: 1:00-3:00 PM

Individuals representing utility agencies, community organizations, and governmental entities that provide energy efficiency and health services to low-income residents in Pennsylvania participated in a workshop, “Coordinating and Enhancing Access to Low-Income Energy Efficiency Programs in Pennsylvania.” The 2-hour workshop was held virtually in May 2022. The aim of the expert workshop was to identify and address research questions in this topic area and to ultimately address these questions, exploring potential solutions within this space. This expert workshop was held as part of a broader community-engaged research project led by the Penn State Center for Energy Law and Policy (“CELP”), “Residential Energy Efficiency and Health: Coordinating Government Programs to Amplify Benefits” (hereinafter “the Project”). This Project is also being conducted in partnership with the Hamer Center for Community Design, Global Building Network, and the Colleges of Arts and Architecture; Earth and Mineral Sciences; Engineering; Health and Human Development; Penn State Law; and School of Public Affairs.

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I. Executive Summary

On May 18, 2022, the Penn State Center for Energy Law and Policy and its research collaborators convened a group of expert advisors to provide input on *Coordinating and Enhancing Access to*

Low-Income Energy Efficiency Programs in Pennsylvania. The objective of this workshop was to obtain expert knowledge to refine and enrich the following three research questions:

- What are the energy efficiency factors that provide both energy efficiency and health benefits, and what programs are available to help people achieve benefits in these areas?
- What are coordination challenges associated with energy efficiency-health programs that operate within a geographically- or politically-defined area, such as a county or region of Pennsylvania?
- What are access-based challenges associated with programs in this space?

The relationship between energy efficiency/weatherization programs and resident physical and mental health was acknowledged during the workshop and several examples identified. However, there is a risk of a “piecemeal approach” to improvements in these areas since program goals and processes are program-specific and may not simultaneously address weatherization improvements and necessary repairs (i.e., leaking roof or mold problems). Follow-up research is needed to determine specific relationships between program providers and recipients of services, relationships among providers, and programs addressing improved energy efficiency and occupant health.

The workshop reinforced that there are both coordination challenges and access challenges associated with enhancing access to low-income energy efficiency programs in Pennsylvania and beyond.

Identification of Coordination Challenges: Experts indicated a **lack of coordination across local community-based organizations and regulatory bodies** and entities that address different aspects of energy efficiency improvements (weatherization, appliance replacement, health & safety, bill assistance). Timing of work for residential improvement projects must be coordinated. Moreover, **a lack of shared requirements, targets, goals, and compliance measures** was identified. Programs have different priorities/focus for target audience and improvements. Different programs are administered by different organizations, which need different types of data/paperwork. Eligibility guidelines are different for different organizations. State law may also have compliance targets and standards for controlling expenditures that must be met; this can hinder organizations’ efforts to harmonize eligibility requirements.

Energy efficiency and health programs’ lack of access to resources was another coordination challenge identified. Lack of coordination among energy efficiency providers can lead to **challenges with budget**. In addition to challenges associated with different program priorities, there is potential for increases in pricing and travel costs if work is not coordinated. Current supply chain issues also lead to increased costs. Some experts identified **labor shortages or a lack of skilled and qualified workers** as a challenge to enhancing access to low-income energy efficiency programs. This may be due to limitations in trained workforce and job training or availability of alternative lucrative jobs. Access to information was another resource identified. Weatherization and programs for energy efficiency may only be available within certain geographical boundaries; participants identified a need for better communication of this information. **Sharing of data**, such

as customer preferences, by county offices or other organizations (adult services, health department, etc.) is desirable but has challenges including privacy issues.

A secondary challenge identified during discussion was **identifying all the ‘players,’** including those who pay or can offer incentives, those who perform the work, and those who connect with the homeowners.

Two additional coordination challenges related to **obtaining landlord agreement** to energy efficiency improvements and **varying homeowner needs**. These challenges were also raised during discussions addressing program access.

Access-based challenges: Access-based challenges associated with programs in the energy-efficiency and health space focused on **lack of customer trust**. Issues identified included overall distrust of programs and were linked to distrust of energy efficiency providers (utilities, government), especially among qualifying households and particularly for programs with income requirements. Customers might not agree to participate in programs because of negative views of weatherization as disruption of household privacy. Relatedly, potential participants might not trust contractors to go into their homes. Programs, especially those available to low-income participants, may be viewed as too good to be true (a scam)—and scams are indeed common in this area, thus producing confusion. **Lack of awareness** of programs and lack of knowledge of program details and eligibility criteria were other cited access challenges. Additional marketing could help to address these challenges, but there is a limit to funding and capacity to handle the work required. **Customer confusion** about varying program offerings and getting participants to respond to outreach were other challenges to program access. Moreover, those potential participants with very low incomes are often addressing multiple crises that require short-term solutions; energy efficiency solutions, perceived as a longer-term solution, are therefore not a priority.

Administrative challenges raised during discussion of access centered mostly on the **application process**. There are multiple applications for different programs, even those programs intended to solve intertwined problems. Applications are lengthy, cumbersome and difficult to understand. Many are online-only, posing access challenges for those without internet services, especially those in rural areas. Disabilities or language barriers may also keep people from applying for programs. Applications may ask for significant and sensitive information (i.e., W2 forms) that potential participants are unwilling to share. Other access challenges related to data sharing include bills and financial information in another person’s name, such as a child of an elderly homeowner paying the homeowner’s bills. Additionally, participants may be reluctant to ask for assistance out of shame or embarrassment.

Rental housing has unique and difficult challenges due to a split in incentives for landlords and tenants.

- II. Participants identified communication and coordination, sharing of resources and marketing across organizations and between agencies as a solution to many of the challenges posed. Issues with trust could be addressed by connecting with trusted community members (such as home health providers and housing non-profits) and documenting testimonials to provide information about program availability and benefits. Finally, workforce development training was identified as a solution to find qualified workers. PSE&G training program that includes childcare and job placement services was raised as an example.**

Background

CELP sponsors interdisciplinary research on modern energy opportunities and challenges relevant to policymakers, nonprofit organizations, industrial actors, and members of the general public. The overall goal of the Project is to examine the layering of programs in three areas: (1) building rehabilitation, (2) home health, and (3) energy efficiency programs. To conduct this work, CELP has convened an interdisciplinary team of scholars and students to identify overall policy and program design challenges that impede coordination; conduct case studies in two counties or municipalities and, building from stakeholder input, analyze challenges and opportunities associated with program coordination; suggest best practices for the aggregation and coordination of programs; and examine the potential co-benefits of enhanced coordination among programs. The Project research team is led by Professors Seth Blumsack and Hannah Wiseman, Co-directors of CELP, and is supported by a group of practitioners active in the energy efficiency and building policy spaces as an external advisory group.

Below is a list of participating individuals and their associated Penn State University Colleges/Schools:

Project Research Team

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Advisory Board

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Assistant Professor in Bangladesh University of Engineering and Technology

Logan Vonada, second-year law student, Penn State Law

Chris Wright, third-year law student, Penn State Law

Project Phases

To achieve the overall goals, this Project consists of varying phases – each designed to inform subsequent ones. The initial phase consists of identifying and refining relevant research questions in the topic areas in collaboration with energy efficiency experts. The discussion and observations

emerging from these efforts are the primary focus of this report and will be integral for the work to be conducted in the second phase – developing and publishing a white paper on core topics pertaining to energy efficiency coordination, access, and policies. The white paper will also identify the methods that have been used to develop and refine research questions and suggest important focus areas for research moving forward. In future phases of the project, recipients and potential recipients of energy efficiency and health services will be engaged to improve understanding of the challenges faced by communities that may struggle in accessing these essential services.

III. Phase 1 Activity: Expert Workshop

The overall aim of the Expert Workshop was to gather information from energy efficiency experts on the challenges and opportunities associated with low-income energy efficiency programs in Pennsylvania that also benefit health, and to identify and refine the most relevant research questions in the following key areas:

- Improved understanding of the low-income energy efficiency services that are linked to health outcomes, and programs that deliver these energy efficiency services
- Challenges associated with coordinating energy efficiency programs, particularly within geographically or politically defined boundaries, such as counties or regions
- Challenges associated with ensuring that eligible recipients of energy efficiency programs have access to these programs and receive services offered by these programs.

More specifically, the objective of the workshop was to apply expert knowledge to refine the following three research questions:¹

1. What energy efficiency factors provide both energy efficiency and health benefits, and what programs operate within this space?
2. What coordination challenges are associated with energy efficiency-health programs that operate within a geographically- or politically-defined area, such as a county or region of Pennsylvania?
3. What access-based challenges are associated with programs in this space?

Phase 1 Expert Workshop Participants

Individuals with substantive expertise in the topics of interest were first identified by Project research team members. These individuals then received an invitation (and a reminder) to register for the workshop via email (Appendices 1 and 2). A snowball technique was also used to identify additional expert participants per recommendations by experts in this initial group. Through this

¹ Research questions 2 and 3 address energy efficiency-health programs and home repairs/renovations that are prerequisites to such programs.

exercise, 38 individuals or organizations were identified and invited to participate in the workshop.²

In total, 16 energy efficiency experts participated in the workshop, including:

- Pam Adams, Sustainability Planner, Centre Region Council of Governments
- Christina Bowen, Senior Program Manager, CLEAResult
- Kristen Carmean, Program Manager, Residential Programs, Philadelphia Energy Authority
- Regina Carter, Policy Analyst, Pennsylvania Utility Commission Bureau of Consumer Services
- Deborah Davis, Manager, Universal Services at Columbia Gas of PA and MD
- David Defide, Senior Manager, Customer Programs at Duquesne Light
- Andrew Dieck, Director, Existing Building Programs, Performance Systems Development
- Mandy Fox, Chief, Weatherization, SEDA-Council of Governments
- Stephanie Fost, Executive Director, Habitat for Humanity of Greater Centre County
- Rich Kisner, Executive Director, Community Strategies Group
- Elizabeth Marx, Executive Director, Pennsylvania Utility Law Project
- Nnganie Ndimbie, Western Region Coordinator, Office of Environmental Justice, Pennsylvania Department of Environmental Protection
- Nicole Pollock, Senior Planner, Centre Region Council of Governments
- Sean Pressman, Manager, Low Income and Demand Response Program, PPL Electric
- Denise Remillard, Special Assistant, Executive Office, Pennsylvania Department of Community & Economic Development
- Kathryn Rulli, Chief, Pennsylvania Department of Community and Economic Development

Workshop Procedures and Agenda

To maximize and efficiently use participants' time, workshop organizers adopted various protocols and strategies, including the following:

Virtual format. To ensure that individuals from agencies/organizations throughout Pennsylvania could participate, the expert workshop was conducted virtually via Zoom.

Chatham House rules. No personal observation, finding, or opinion was attributed to any specific individual participating in the workshop.

Recording of workshop. Access to the workshop recording remained available to the Project research team to refresh memories pertaining to both large group and breakout discussions and workshop conclusions.

Large group exercise. All expert workshop participants collectively discussed research question 1. A "Fishbowl" exercise was conducted to help minimize the challenges of

² Of the 38 contacts we made, one contact was made via voicemail to a nonprofit organization office because we did not have the name of specific experts from that nonprofit to contact.

orchestrating a large discussion via Zoom. Because there are fewer people conversing at one time, such an exercise could help reduce Zoom fatigue. This technique works well for large and small groups, for a variety of discussion scenarios, and across all disciplines. It also mitigates the problem of participants directing all comments to the facilitator. For example, when the facilitator's video disappears, participants could talk with those who are visible.

Breakout rooms with small group exercise. Participants were grouped in alphabetical order of surnames to join smaller Zoom breakout rooms to discuss research question 2 and were regrouped for research question 3 to attempt to place participants with other participants they had not yet engaged with in group discussion. The “Take 5” technique was used to assist breakout room participants brainstorm and organize their responses to prompts individually, which were then shared with the rest of the breakout group. The technique works by first “setting the scene” in which participants respond to a particular prompt. They then take “5” minutes to jot down “5” responses to that prompt. At the end of 5 minutes, participants share their responses. Because they don’t just list their responses, participants build off what had been previously shared to add richer context. The Project research team selected this technique as a way to also reach saturation about emerging issues/concerns. Breakout room discussions were facilitated by a member of the Project research team.

Report-outs. Breakout groups pre-identified a notetaker who was responsible for transcribing discussion and they, or another representative from the discussion group, provided a summary of this discussion to the entire group following the breakout discussions.

Workshop Agenda

1:00-1:10	Welcome and Workshop Overview (<i>Hannah Wiseman, Facilitator</i>)
1:10-1:30	Participant introductions: Organization, scale/region in which you work, what you hope to take away from the workshop, and in what specific ways you would like to see your interests integrated throughout the discussion (<i>Seth Blumsack, Facilitator</i>)
1:30-2:00	Group discussion, Research Area 1: What energy efficiency factors provide both energy efficiency and health benefits, and what programs operate within this space? (<i>Selena Ortiz, Facilitator</i>)
2:00-2:20	Breakout room discussion, Research Area 2: What are the coordination challenges associated with programs in the energy efficiency and health space—particularly programs that operate within a geographically- or politically-defined area, such as a county or region of Pennsylvania? (<i>Seth Blumsack, Lisa Iulo, and Selena Ortiz, Facilitators</i>)
2:20-2:40	Breakout room discussion, Research Area 3: What are the access-based challenges associated with programs in the energy efficiency and health space? (<i>Facilitated by Seth Blumsack, Lisa Iulo, and Selena Ortiz</i>)
2:40-2:50	Report Outs from Breakout rooms (<i>Full group discussion</i>)
2:50-3:00	Discussion of next steps; meeting adjournment (<i>Full group discussion</i>)

Workshop Results: Large Group Exercise

Participants were divided into the following two groups (by alphabetical order of surnames) for the Fishbowl exercise in the main Zoom meeting.

Table 1. Fishbowl Participants³

Group 1	Group 2
Pam Adams	Rich Kisner
Christina Bowen	Heidi Kunsch
Kristen Carmean	Gladys Malone
Gina Carter	Elizabeth Marx
Deb Davis	Ngani Ndimbie
Dave Defide	Nicole Pollock
Andrew Dieck	Sean Pressman
Mandy Fox	Denise Remillard
Stephanie Fost	Kathy Rulli

The discussion was recapped with all participants, with the bulk of the discussion focusing on participants' reflections posted on the Jamboard (Figure 1). Several actions, such as, upgrading furnaces, ventilation systems, heating, cooling, and plumbing systems; replacing roofs and refrigerators; replacing bulbs with LED lights; addressing issues such as, gas leakage, moisture control, accessibility and fire safety, etc., can be helpful to improve both the building efficiency and the physical and mental health of the people inside. The importance of replacing large old homes with smaller-sized homes and multi-unit structures for older adults and younger single people and the need for better building envelopes with better functioning windows and heating systems were highlighted. Service programs availability, coordination issues and importance of energy education were also discussed. An interesting conclusion from the discussion was: if the energy burden on the people can be reduced by energy efficiency, the mental and physical health of the people can be improved since residents can spend more money on food, medicines, rents, healthcare, etc.

³ **Please note:** Group 1 served as the discussants in the fishbowl and kept their cameras on for 10 minutes (1:30-1:40). Group 2 turned off their cameras to hide themselves, and served as listeners, posting their reflections in the Jamboard. Afterwards, Group 2 served as the discussants for 10 minutes (1:40-1:50). Group 1 (then the listening group) turned cameras off to hide themselves and also posted their reflections in the Jamboard.

Findings from group discussion "fishbowl" exercise addressing Research Question 1: What energy efficiency factors provide both energy efficiency and health benefits, and what programs operate within this space?



Figure 1. Participant reflections from Fishbowl exercise

Workshop Results: Breakout Room Discussions

Each workshop participant was randomly assigned to one of three breakout rooms, with assignments made in an effort to place many participants with other participants not previously in the same breakout room.

Table 2. Breakout Room Assignments⁴


Room 1	Room 2	Room 3
Lisa Iulo (<i>Facilitator</i>)	Selena Ortiz (<i>Facilitator</i>)	Seth Blumsack (<i>Facilitator</i>)
Tasneem Tariq (<i>Notetaker</i>)	Farzad Hashemi and Soumita Mukherjee (<i>Notetakers</i>)	Logan Vonada (<i>Notetaker</i>)
Pam Adams	Christina Bowen	Will Bryan
Dave Defide	Regina Carter	Kristen Carmean
Andrew Dieck	Mandy Fox	Deb Davis
Ngani Ndimbie	Sarah Klinetob Lowe	Stephanie Fost
Rich Kisner	Elizabeth Marx	Michael Helbing
Sean Pressman	Kathryn Rulli	Nicole Pollock

⁴ Some members of the Project research team and Advisory Board listened in on these discussions. Chris Wright and Erica Cooper also helped to coordinate this exercise.


The first “Take 5” discussion exercise aimed to solicit responses to the following question (Research Area 2): “What are the coordination challenges associated with programs in the energy efficiency-health space—particularly programs that operate within a geographically- or politically-defined area, such as a county or region of Pennsylvania?” Specifically, participants were asked to consider 3 coordination challenges and 2 possible solutions to address these coordination challenges (Figure 2). Separate notes were taken for each breakout room and organized in a shared Google drive document.

Tables 3 and 4 below include examples of the types of *coordinating* challenges raised throughout the small group discussions, as well as the possible solutions to address those challenges per breakout room. Please see Appendix 1 for a detailed documentation of each point made among de-identified participants for Research Area 2.

Table 3. Challenges for Research Area 2 per Breakout Room




WE WILL START THE
TIMER FOR 5 MINUTES



SKETCH A RESPONSE TO
EACH QUESTION

Take “5” 🖐️



ONCE TIME IS UP, WE WILL GO
AROUND AND SHARE OUR 5
RESPONSES

👉 What are 3 coordination challenges associated with energy efficiency programs—particularly energy efficiency programs that operate within a geographically defined area— or a politically-defined area, such as a county or region of Pennsylvania?

👉 What are 2 possible solutions to address these coordination challenges?

Figure 2. Take “5” exercise for research question 2

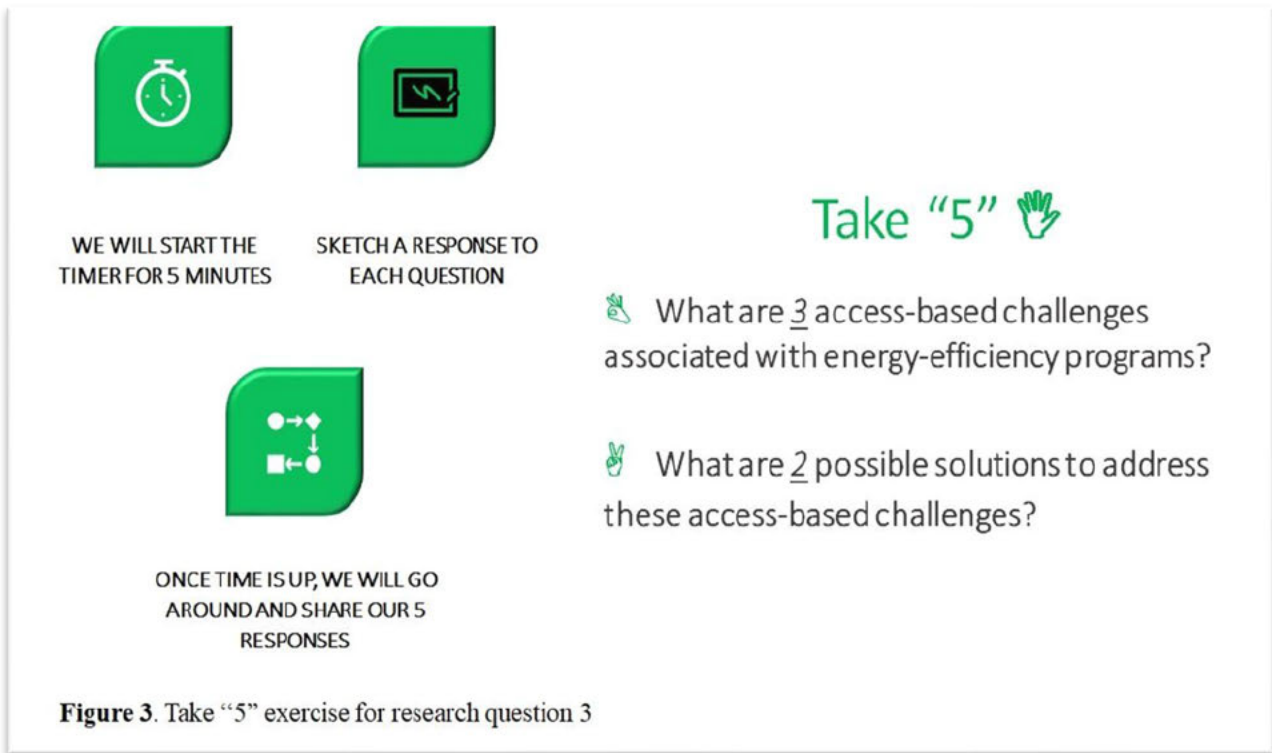
Research Area 2	Room 1	Room 2	Room 3
Challenge 1	Missing coordination among different organizations, lack of shared goals, and differences in perspectives	Competing priorities	Increasing landlord participation and program buy-in)

Research Area 2	Room 1	Room 2	Room 3
Challenge 2	Labor shortage with expertise, staffing issues, certification, market rate	Competing goals	
Challenge 3	Addressing supply chain issues, compliance issues, cannot partner with lots of agencies	Competing for financial resources (i.e., constrained budgets) within utility agencies	

Table 4. Solutions to Challenges for Research Area 2 per Breakout Room

Research Area 2	Room 1	Room 2	Room 3
Solution 1	Begin the conversation to come up with a solution	Increase the energy efficiency and weatherization workforce by creating career paths	Have a single application / single software for database sharing
Solution 2	Provide training in workforce development	Integrate lessons related to energy efficiency and weatherization within vocational and trade school curricula; confer associate degrees in these areas	Develop stronger regulatory language on coordination efforts (e.g., align how audits are being conducted and how measures are prioritized)

The second “Take 5” discussion exercise aimed to solicit responses to the following question (Research Area 3): “What are the access-based challenges associated with programs in the energy efficiency-health space?” As in the prior exercise, participants were asked to consider 3 access challenges and 2 possible solutions to address these access challenges (Figure 3). Once again, separate notes were taken and organized in a shared Google drive document.



Tables 5 and 6 below include examples of the types of challenges raised throughout the discussion regarding *access* challenges, as well as possible solutions to address those challenges per breakout room. Please see Appendix 2 for a detailed documentation of each point made among de-identified participants for Research Area 3.

Table 5. Challenges for Research Area 3 per Breakout Room

Research Area 3	Room 1	Room 2	Room 3
Challenge 1	Lack of knowledge	Knowledge base of customers' hesitancy that "this is too good to be true" and having trust in people to come to their home (there are low-income customers that have been scammed)	Don't have enough resources in terms of staffing (trained people) to do the work. Funds are not the constraint, people are the constraint. Difficulty finding people to work nights/weekends
Challenge 2	Trust issues	Timing issues, the programs run during the week/day (people who work during the day and don't have a lot of flexibility and energy at the end of the day)	Getting customers to agree - they have some negative views of weatherization as disruptive.
Challenge 3	Administrative challenges	Very low-income people are dealing with crisis after crisis after crisis (short-term solutions), so energy efficiency solution may	Getting agencies to be willing to refer people to the program, plus adjusting their process

Research Area 3	Room 1	Room 2	Room 3
		seem like longer-term solution (e.g., “It’s like talking to someone that got a gaping wound about how they could really improve their health if they walked more”).	to train their employees to explain it and do the participant release form

Table 6. Solutions to Challenges for Research Area 3 per Breakout Room

Research Area 3	Room 1	Room 2	Room 3
Solution 1	Coordinated joint marketing strategies	Use stronger marketing strategies to help communities understand the benefit; that is not a scam, there’s no catch, we’re really here to help them.	Getting info directly from other programs where possible instead of through the homeowner to reduce the burden
Solution 2	Sharing resources about what is available and creating awareness about trusted resources	Getting people (clients) to buy in that they do qualify and program benefits are actually free to them (because of their usage or income guidelines).	Getting things onsite instead of over phone/email, building a personal relationship at their home

IV. Report Outs & Summary of Findings

At the conclusion of the breakout rooms, all participants returned to the Zoom lobby. A review of breakout room discussions was presented by a representative from each room to the full group. Below is an organized summary of the shared areas of concern that were raised among the breakout groups for research questions 2 and 3.

Research Question 2. *What are the coordination challenges associated with programs in the energy efficiency-health space—particularly programs that operate within a geographically- or politically-defined area, such as a county or region of Pennsylvania?*

The following issues were discussed among all three groups:

1. LACK OF COORDINATION

- Lack of coordination among local community-based organizations and regulatory bodies that address multiple aspects of energy efficiency that take place across different entities (weatherization, appliance replacement, health & safety, bill assistance).
- Eligibility guidelines are different for different organizations. For example, there is a wide range of eligibility for each of these programs, where a slight change of

eligibility affects the ability to coordinate jobs. Therefore, coordination is needed across eligibility and customer lists.

- Quality assurance processes are program-specific and not as well coordinated across programs as front-end services.
- To coordinate the timing correctly with which programs are available at the same time and which homes qualify for which programs.
- Agencies do not adequately communicate about the programs they administer or about the possibility of coordinating resources to enhance work capacity.

2. LACK OF SHARED REQUIREMENTS/TARGETS/GOALS/COMPLIANCE

- Different prioritization and goals in programs. Differences in perspectives create differing priorities.
- Different programs are administered by different organizations, which need different types of data/paperwork.
- Each program has a different focus on the people it is looking for and prioritizing. In some cases, state law establishes compliance targets or standards, which can be used to determine expenditures. These standards and expenditures are not always coordinated between programs that have related end goals. For example, weatherization programs have their goals; utilities have their own goals and requirements, etc.

3. CHALLENGES WITH BUDGET

- Lack of coordination can increase the pricing and travel cost.
- Challenging to decide which funding source covers what part of the work and under which scenarios.
- Supply chain issues and related cost increases.

These issues were discussed by at least two groups:

4. LABOR SHORTAGES OR LACK OF SKILLED WORKERS

- Lack of enough trained workers and job training.
- Due to qualifications/perceptions of qualifications, there are not enough people to take on the level of work (audits).
- There are scopes of lucrative alternative jobs. Finding workers/people with expertise/ certification to do work is challenging.

5. LACK OF ACCESS TO RESOURCES

- There is a recognized lack of access to resources.
- Work is not always coordinated where it may be possible to do so. For example, measurements may be taken multiple times under different programs instead of

having a single contractor take measurements and share them to support work done under other programs.

- Sometimes, many programs are only available within certain geographical boundaries. People need to know this information.
- Connecting with trusted resources, particularly for those who need the improvements.

6. CHALLENGES TO SHARING DATA

- Customer's preferences about information sharing are challenging.
- Sharing people's data is difficult, even though data sharing could make providing services easier.
- Lack of available information in county offices or other available organizations (e.g., Adult Services, Health Department, etc.) that serve as a central resource.

The remaining issues were discussed in any single groups:

7. GETTING LANDLORD AGREEMENTS

It is highly challenging to obtain landlord buy-in and participation for the program.

8. VARYING HOMEOWNER NEEDS

Need for customizations due to varying needs of language, disabilities, etc.

9. IDENTIFYING ALL STAKEHOLDERS

There are diverse interests and priorities among stakeholders (e.g., those who pay or have incentives, those who do the work, and those who connect with the homeowner) and it is challenging to identify and address them accordingly.

Research Question 3. What are the access-based challenges associated with programs in the energy efficiency-health space?

These challenges were discussed among all three groups:

1. LACK OF CUSTOMER TRUST

- There is distrust of energy efficiency providers (i.e., utility companies, government, etc.) among qualifying households, particularly for programs with income requirements.
- Overall distrust compromises service delivery (e.g., allowing contractors into customer's home).
- Need to increase customer buy-in and improve efforts to minimize negative perceptions (e.g., weatherization services are disruptive).
- Need to connect with trusted resources, particularly among those who need improvements to their home.
- Need to identify and work with trusted intermediaries to increase participation.

2. LACK OF AWARENESS ABOUT THE PROGRAM

- Lack of customers' general awareness of the program. People do not know the types of programs available (e.g., the crisis program) as well as program details.
- People are unsure which programs they may be eligible for or may even be already participating in.
- Lack of knowledge of these programs results from ineffective outreach to communities.
- Targeted marketing of the availability of the programs is needed, however limited funds and understaffing minimize the capacity to conduct required outreach.

3. CUSTOMERS' CONFUSION

- Customers are confused by varying program offerings.
- People think some programs (such as the low-income programs) are "too good to be true." For example, if there is no out-of-pocket cost to the customer then maybe the program is not trustworthy.
- Homeowners do not always respond to initial outreach.
- Very low-income people are dealing with crisis after crisis, which requires them to expend resources and energy looking for short-term solutions to those crises. As a result, they often do not have the time or resources to meaningfully address energy efficiency solutions, which may seem like a longer-term solution.

Finally, the remaining issues were discussed in any one of the groups:

4. ADMINISTRATIVE CHALLENGES

- There is a fragmented approach to addressing critical needs. For example, weatherization can improve specific concerns, but is unable to address a leaking roof or mold problem.
- There is a lack of willingness among agencies to refer people to energy efficiency programs, which may stem from their resource and workplace constraints (e.g., adjusting processes and training employees to explain programs and complete required paperwork).

5. APPLICATION PROCESS

- Requires multiple applications to access different programs to help solve complex problems; there is no all-inclusive application.
- Applications are lengthy, cumbersome, or difficult to understand; significant information is required (e.g., multiple W2 forms, etc.).
- Applications are only available online. Therefore, people without email or internet service, especially for those in rural areas, find it difficult to complete and submit the necessary paperwork.

- Sometimes people are not able to apply due to disabilities and/or limited English proficiency.

6. AGREEMENT OF THE OWNER

- Renters are required to obtain property owners' agreement to weatherize rental units.
- There are misaligned incentives between landlords and renters. For example, the party paying the energy costs would have an incentive to improve weatherization to bring down heating or cooling costs. But generally, both the landlord and tenant will be involved in decisions regarding discretionary improvements done on the property during the lease term. If the tenant is paying energy bills, the landlord may not be incentivized to authorize work, especially if the landlord would be required to pay for any work up front. Alternatively, if the landlord is paying energy bills, the tenant may not be inclined to tolerate the inconvenience of having work done on the unit during her lease term, and the tenant almost certainly would not be incentivized to seek out programs that would reduce energy consumption.

7. CHALLENGES IN DATA SHARING

- People may be reluctant to share personal information.
- They may feel shame and/or embarrassment about needing the help or about certain situations (for example, if utility bills are paid by other individuals). Or they may be reluctant to ask.

V. Next Steps & Meeting Adjournment

At the conclusion of the recap, participants were thanked for their invaluable contributions. Participants commented that they would like to continue the dialogue to more fully understand the breadth and extent of the issue at hand. Participants were informed that summarized findings and outcomes of the workshop would be provided to them to ensure that their reflections have been included. The results from this summary would then be used for the development of a white paper, which would be made accessible to all interested stakeholders.

The meeting was adjourned at 3:00 PM.

Appendices begin on the following page.

APPENDICES

Appendix 1. Coordination Challenges

Detailed documentation of each point made among de-identified participants for Research Area 2.

<i>What are the coordination challenges associated with programs in the energy efficiency-health space—particularly programs that operate within a geographically - or politically-defined area, such as a county or region of Pennsylvania?</i>		
Breakout Room 1	Breakout Room 2	Breakout Room 3
Facilitator: Lisa Iulo Discussants: Pam Adams, Dave Defide, Andrew Dieck, Rich Kisner, Ngani Ndimbie, and Sean Pressman	Facilitator: Selena Ortiz Discussants: Regina Carter, Mandy Fox, Liz Marx, and Kathryn Rulli	Facilitator: Seth Blumsack Discussants: Kristen Carmean, Deb Davis, Stephanie Fost, Nicole Pollock
<p><i>Participant 1</i></p> <ul style="list-style-type: none"> • Access based challenges • Lack of coordination, pricing and travel cost • Labor shortage and staffing issue due to market rate • Job training is needed <p><i>Participant 2</i></p> <ul style="list-style-type: none"> • Lack of coordination • Difference in perspectives • Many employers can't hire people due to lack of labor • Competition over folks • Cannot partner with a lot of agencies due to compliance issues • Not only coordination issue. The opening conversation is needed to reduce the misunderstanding • Necessity if sharing resources with all 	<p><i>Participant 4</i></p> <ul style="list-style-type: none"> • Patchwork administration here in PA, where different programs are administered by lots of different organizations: <ul style="list-style-type: none"> ○ Two possible solutions: a common application and a common software • Varied eligibility; there is a wide range of eligibility for each of these programs (changing eligibility just a little bit affects the ability to coordinate jobs!) <ul style="list-style-type: none"> ○ The best solution; centralized program administration (in case of varying eligibility, it is possible to serve whoever came through with whatever funds that can be streamlined.) • Different prioritization in programs (each program has kind of a different focus on who they're looking for and who they're prioritizing. 	<p><i>Participant 8</i></p> <ul style="list-style-type: none"> • Duplication of data/paperwork to meet each program's individual requirements • Figuring out what work needs to get done and which funding source covers what part of the work under which scenarios • Varying homeowner needs (language, disabilities, etc.) that require customizations <p><i>Participant 9</i></p> <ul style="list-style-type: none"> • Lack of knowledge of resources • Programs no longer in existence • Referrals to organizations that do not provide those resources • Availability of programs within certain geographical boundaries • Funding to support such programming • Access to resources

What are the coordination challenges associated with programs in the energy efficiency-health space—particularly programs that operate within a geographically - or politically-defined area, such as a county or region of Pennsylvania?

Participant 3

- Issue of certifications
- Scope of lucrative alternative jobs

Additional Challenges

- Coordination with local community-based organizations
- Partnership with State Weatherization Programs
- Quality assurance processes are program-specific and not as well coordinated across programs as front-end services
- Connecting with trusted resources - for those who need the improvements
- Differing priorities
- Identifying who all the 'players' are (those who pay or have incentives, those who do the work, and those who connect with the homeowner)
- Connect utility and money with people
- Lack of shared requirements/targets/goals/compliance (limitation for partnership/coordination)
 - State law compliance targets/standards controlling expenditures
 - Weatherization programs have their goals, utilities have goals and requirements, etc.
- Labor shortages or lack of skilled workers
 - Finding workers people with expertise/certification to do work
 - Qualifications/perceptions of qualifications
 - Enough people to take on the level of work (audits)

- Solution: creating additional basis points to skip the line when there's a coordinated job (within building programs)

- Lack of regulatory requirements
 - Solution: need a stronger language requiring coordination (coordinate your job, we are seeing that in New Jersey somehow)

Participant 5

- Timing issue: being able to coordinate the timing correctly with which programs are available at the same time and which home you are trying to work on! These lead to another issue: the coordination of eligibility factors
 - Solution: coordinating the efforts a little bit more that requires something at the federal level; the money is federal, and the rules are federally enforced as well
- Lack of enough workers (trained workers) between utilities and agencies, also between agencies and state agencies (everybody is trying to get those same trained workers to do the job)
 - Solution 1: having a single application (getting one agency to be able to coordinate or know enough about all the programs that are out there to lead people that need the services to the right place). Community action agencies are a start!

Participant 10

- Addressing health/safety hazards that may bar otherwise eligible households from accessing energy efficiency assistance
- Coordinating programs that address multiple aspects of energy efficiency and take place across different entities (weatherization, appliance replacement, health & safety, bill assistance)
- Valuing energy efficiency for more than energy savings at a regulatory level

Participant 11

- Eligibility guidelines are different, so priorities may be different
- Coordination across eligibility and customer lists
- Customer preferences about information sharing

Solutions

Participant 8

- Information provided to county offices or other broadly available organizations (Adult Services, Health Department, etc.) to serve as a central resource

Participant 9

- Central/shared process and systems with program partners
- Incremental requests for simplifications
- Deferrals from some programs get into other programs, and those deferrals are a potential solution if they can be aggregated.

What are the coordination challenges associated with programs in the energy efficiency-health space—particularly programs that operate within a geographically - or politically-defined area, such as a county or region of Pennsylvania?

- Supply chain issues and related cost increases

Coordination Solutions

- Conversation for sharing resources between agencies. Opening doors to conversations (understanding each agency's programs) to share the capacity to get work done.
- Common requirements/targets/goals/compliance standards
- Cost of coordination

Workforce Solutions

- Workforce development training (i.e. PSE&G training + child care and job placement)

- Solution 2: coordinating the work requirement

- Sharing data is so difficult! Sharing people's data without permission (It should be easier to share the data to be able to help people)

Participant 6

- Mirror what has already been said; a general application! Many efforts are needed to coordinate works and workers that are able to do the measures and perform the work for qualified clients.
- Trying to work together with different agencies that have different requirements. How do those finding agencies work together to get into the house all at the same time? It is inconvenient for the client to have several people (like five contractors) in their homes at different times.

Participant 7

- The lack of a common application between programs (having one to align)
- The eligibility requirement (lack of communication and education)
- Programs can have a slightly different end goal but have to still align with rules of regulations federally or within the state
 - Solutions: having a central administrator or a central administrator program, trying to streamline the application process, encouraging having stronger language, encouraging the coordination between the

Participant 10

- Loosen guidelines on eligibility to improve coordination
- Confidentiality means that the most you can do sometimes is make a referral, then the customer needs to take action

What are the coordination challenges associated with programs in the energy efficiency-health space—particularly programs that operate within a geographically - or politically-defined area, such as a county or region of Pennsylvania?

programs, having communication (maybe setting up meetings within the service territory to try to set up some type of process)

- Having cost-sharing metrics (cost savings to be calculated and shared between programs in a standardized way) could cut down the feeling of competition between the programs
- Instead of having different (like five contractors), one contractor could come and do all the measures for programs and then share!

Participant discussion

- First come, first serve programs (timing issues) with agencies that have state funding, it puts clients on a long waiting list (for months, and they may even run out of funding for clients on the list)
 - Solution: bring utility overlap and territory those more in line with each other.
- Competing priorities, goals, and budgets in programs (processed saving for the same works are completely different between different programs)
- Landlord agreement and getting them to sign off the agreement is incredibly challenging (connecting with landlords is challenging), electric-related modifications like replacing light bulbs don't need the landlord agreement, but gas-related works like air sealing and attic insulation needs

Appendix 2. Access-Based Challenges

Detailed documentation of each point made among de-identified participants for Research Area 3.

<i>What are the access-based challenges associated with programs in the energy efficiency-health space?</i>		
Breakout Room 1	Breakout Room 2	Breakout Room 3
Facilitator: Lisa Iulo Discussants: Pam Adams, Dave Defide, Andrew Dieck, Rich Kisner, Ngani Ndimbie, and Sean Pressman	Facilitator: Selena Ortiz Discussants: Regina Carter, Mandy Fox, Liz Marx, and Kathryn Rulli	Facilitator: Seth Blumsack Discussants: Kristen Carmean, Deb Davis, Stephanie Fost, Nicole Pollock
<p><i>Challenges</i></p> <ul style="list-style-type: none"> Trust Connecting with trusted resources - for those who need the improvements Customer awareness of the program Customer confusion with varying program offerings Piecemeal approach to fixes needed - weatherization can do certain projects, but maybe can't address a leaking roof, mold problem) <p><i>Solutions</i></p> <ul style="list-style-type: none"> Coordinated and joint marketing within the service territory Comprehensive outreach with clear messaging Connecting with trusted resources (home health, housing non-profits) to learn about program availability and benefits 	<p><i>Challenges and Solutions (coupled)</i></p> <ul style="list-style-type: none"> Challenge: Programs (such as the low-income programs) are too good to be true, people think! There is no out-of-pocket cost to the customer then; there is no a catch to it! <ul style="list-style-type: none"> Solution: figure out better marketing ways to help them understand the benefit; that is not a scam, there's no a catch, we're really here to help them Challenge: Customer trust! Letting contractors go into their house, trusting the program overall. Accepting that program is going to help not do something, for example, making their usage go up to benefit from the money (it is not a scam). <ul style="list-style-type: none"> Solution: All the solutions like advertising, testimonies, and public meetings within the area to hear other people's success stories Challenge: The educatedness of people and what's out there for them! They don't 	<p><i>Challenges</i></p> <ul style="list-style-type: none"> Renters - require property owners to agree to weatherization Don't have enough resources in terms of staffing (trained people) to do the work. Funds are not the constraint, people are the constraint. Difficulty finding people to work nights/weekends Getting customers to agree - they have some negative views of weatherization as disruptive Getting agencies to be willing to refer people to the program, plus adjusting their process to train their employees to explain it and do the participant release form Homeowners not always responding to our initial outreach Home-bound homeowners or those with other disabilities People without email or internet to complete various applications Language barriers Feeling of shame/embarrassment about needing the help, reluctance to ask

What are the access-based challenges associated with programs in the energy efficiency-health space?

know the programs are available (such as the crisis program, details of the program too)

- Solution: The first step to promoting the contracts, promoting the services. Getting people (clients) to buy in that they do qualify and actually program is free to them (because of their usage or income guidelines). This is difficult, of course, because of the income guideline barrier, like your assistance is 150% of the poverty, whereas the state weatherization is 200% of the poverty. Trying to explain this to the clients who are unfamiliar with our line is difficult.
- Challenge: marketing of the availability of the programs (but marketing can overdo this as well because there is a limited fund and capacity to handle all of the work).
 - Solution: We have enough agencies to do the weatherization here in PA, but we need more workers to work within agencies, to get the work done better to say!

- People who aren't sure what programs they are eligible for or participating in
- Not wanting to share info, perhaps having bills in family members' names, etc.
- Programs that are available but not in the consumer's area
- Applications (lengthy, cumbersome, or difficult to understand, online-only, significant information required i.e. multiple W2 forms required)
- Language barriers
- Qualifications for each program are different
- Distrust of EE providers (utilities, government) among qualifying households, particularly for programs with income requirements
- Lack of knowledge of these programs/ineffective outreach to communities
- Lack of broadband access, esp. in rural areas
- Requires multiple applications to access different programs/solve intertwined problems; no one-stop application
- Split incentive between landlords and renters
- Who is trusted as an intermediary to get the consumers in the door for the programs?
- Understanding which programs you may qualify for and know to apply for
- Not only have to pay for internet/WIFI but need to be in a reliable service area to apply for services

What are the access-based challenges associated with programs in the energy efficiency-health space?

Solutions

- Getting info directly from other programs where possible instead of through the homeowner to reduce the burden
- Getting things onsite instead of over phone/email, building a personal relationship at their home
- Working through community organizations, referrals from other participants, and little groups of neighbors all going through the programs together
- Simplified applications
- Universal applications
- Make referrals part of the enrollment process – have people who have gone through programs “mentor” those who might be hesitant
- If someone is being helped, then can the consumer be paired with someone in the future who is skeptical of the program and reassure/help the skeptical consumer about the program – even if the consumer is not paired immediately i.e. mentoring program

Appendix 3. Initial Workshop Invitation E-mail

One sample provided, with invitee names redacted.

Dear _____,

My name is Hannah Wiseman, and I am a law professor at Penn State University at University Park. _____ of the [organization] suggested that I reach out to you.

I'm writing to let you know about a project supported by the Penn State Center for Energy Law and Policy entitled "Coordinating and Enhancing Access to Low-Income Energy Efficiency Programs." I am a member of the research team. As part of this effort, the research team is organizing a virtual workshop of individuals from energy efficiency and housing programs in Pennsylvania that serve low-income individuals. This virtual workshop will be held on **May 18, 2022, from 1:00 to 3:00 PM**, and we hope that you or a representative from your organization will participate. We provide more details below and in the attached document.

"Coordinating and Enhancing Access to Low-Income Energy Efficiency Programs" is a community-engaged research project that aims to identify and address research questions in the following three areas:

1. Improved understanding of the low-income energy efficiency services that are linked to health outcomes, and programs that deliver these energy efficiency services.
2. Challenges associated with coordinating energy efficiency programs, particularly within geographically or politically defined boundaries, such as counties or regions.
3. Challenges associated with ensuring that eligible recipients of energy efficiency programs have access to these programs and receive services offered by these programs.

We are currently in Phase I of this research project, which engages the three issues identified above and focuses on energy efficiency programs in Pennsylvania that serve low-income populations. We define low-income populations broadly to include those with relatively high energy burdens. Within this phase, we are working to refine and expand our research questions to better understand the relevant issues in this space. We are accordingly organizing a workshop with individuals who work for or lead energy efficiency programs or provide housing services in Pennsylvania, including individuals from non-profit organizations, government agencies, and utilities, among other organizations. **During this workshop we will lead a semi-structured discussion where participants will share their views on the three preliminary questions identified above; suggest sub-topics within these questions; and suggest how we should change, further refine, or expand this set of questions.**

Your involvement would be very helpful to this effort, and we hope that you will be able to participate. Please also let us know of other individuals whom you believe would be valuable

participants. Please confirm your availability to participate, and suggest others to be invited, by e-mailing me by April 22, 2022, at 5 PM.

Many thanks for your time. Please let me know if you have any questions.

Best wishes,

Hannah

Hannah Wiseman (she/her/hers)

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Appendix 4. Reminder Follow-Up E-mail

One sample provided, with invitee names redacted.

Greetings! Recently you received an email inviting you to attend a two-hour, virtual workshop of individuals from energy efficiency programs and similar organizations in Pennsylvania that serve low-income individuals. The workshop, which will be held on **May 18, 2022, from 1:00 to 3:00 PM** through Zoom, is an integral part of a project supported by the Penn State Center for Energy Law and Policy entitled “Coordinating and Enhancing Access to Low-Income Energy Efficiency Programs.” This aim of this community-engaged research project is to identify and address research questions in the following three areas:

1. Improved understanding of the low-income energy efficiency services that are linked to health outcomes, and programs that deliver these energy efficiency services.
2. Challenges associated with coordinating energy efficiency programs, particularly within geographically or politically defined boundaries, such as counties or regions.
3. Challenges associated with ensuring that eligible recipients of energy efficiency programs have access to these programs and receive services offered by these programs.

We wanted to let you know that **there is still time to RSVP for this event.** We are looking forward to speaking with a variety of individuals from non-profit organizations, government agencies, and utilities, among other organizations, and in hearing their views about the three issues listed above.

Your involvement would be very helpful to this effort, and we hope that you will be able to participate. Please confirm your availability to participate by e-mailing Hannah Wiseman, hwiseman@psu.edu by May 11th at 5:00 PM. I apologize if you have already RSVPed and we missed it.

Best wishes,

Hannah

Hannah Wiseman (she/her/hers)

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