HEMPSTEAD HOUSING AUTHORITY USED HEALTH SURVEY TO IDENTIFY IMPACTS OF WEATHERIZATION BUILDING IMPROVEMENTS

SOLUTION OVERVIEW
Poor housing conditions are associated with a wide range of health conditions, including respiratory infections, asthma, injuries, and mental health challenges. When housing is stable, weather-tight, accessible, and safe from trip and fall hazards, occupants are healthier. [i]  [ii]

In 2015, Gladys Gardens, a 30-unit townhouse development built in 1972, was one of Hempstead Housing Authority’s (HHA) aging properties with significant deferred maintenance needs. As a result of lack of investments, residents complained of inadequate heat, drafty windows, a leaking roof and poorly insulated attic, and odor and safety issues.

As part of the Healthy Homes Pilot Project, the Community Development Corporation of Long Island (CDCLI) weatherized and rehabilitated Gladys Gardens. In addition to energy efficiency improvements, the funding addressed health and safety issues of the units, including trip hazards and barriers to accessibility.

The Healthy Homes Pilot consisted of four distinct components containing both “hard” and “soft” elements. The hard component was designed to make physical improvements to resident housing and assess the health and safety of the physical structures. The “soft” component surveyed the effects of the physical improvements on occupants, in order to establish baseline health data, identify gaps and barriers to quality healthcare, and identify partnerships, best practices, and solutions to bring quality and accessible healthcare to residents.


ORGANIZATION TYPE
Public Housing Authority

BARRIER
The impact of weatherization improvements on the health of residents is often not measured as part of the project.

SOLUTION


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Collaboration between community stakeholders and public health services to integrate weatherization upgrades with pre- and post-weatherization tenant health surveys, focus group interviews, and health service linkages in low-income communities.

**OUTCOME**
A significant percentage of residents surveyed identified health, safety, and comfort impacts which researchers correlated to the renovations.

**POLICIES**
Housing is a platform from which we can work to improve health outcomes, particularly when woven into a supportive living environment that promotes healthy lifestyles. The goal of the Healthy Homes Pilot was to improve the overall health and well-being of a very low-income, vulnerable population.

The Healthy Homes Pilot kicked off in June 2015 with an event at Hofstra University, Home Matters for Health on Long Island. The pilot was developed by CDCLI—the local Weatherization Assistance Program (WAP) provider—with financial assistance from the JP Morgan Chase Foundation, NeighborWorks® America, United Way of Long Island, and New York Homes and Community Renewal. The Pilot was a collaboration amongst HHA, CDCLI, the National Center for Suburban Studies at Hofstra University, and the Long Island Federally Qualified Health Center, Inc. (LIFQHC) working together to address both energy and health needs of low income residents of the Housing Authority.

**PROCESS**
The first component of the pilot was the renovation of Gladys Gardens, 30 family apartments owned by HHA. CDCLI conducted an energy audit of the building, developed a scope of work, and put the project out to bid. HHA also hired Bright Power, an energy management firm, to develop specifications for a new gas-fired boiler and heating/domestic hot water (DHW) plant.

Work included energy-efficiency measures under the New York Department of Homes and Community Renewal’s Weatherization program. Key elements of the retrofit included:

- Demolition of existing heating and DHW equipment and piping, and installation of new condensing boilers, piping, and boiler venting equipment;
- Replacement of all windows with Low-E argon-filled Thermopane windows;
- Installation of 12-inch loose cellulose insulation in the attic;
- Replacement of all interior and exterior ceiling and wall-mounted light fixtures in units and common areas with LED fixtures; and
- Installation of bathroom fans for ASHRAE ventilation compliance.

In addition, a new roof, leaders, and gutters were funded by the JPMorgan Chase Foundation.


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The second component of the pilot was an assessment of the health and safety issues in HHA housing. To accomplish this, CDCLI staff inspected over 170 additional units of HHA’s housing for health and safety concerns, including impediments to aging in place. These inspections will guide the HHA and CDCLI in future renovations.

The third component was to assess the health needs of HHA residents. HHA conducted an on-site Community Health Fair, in partnership with the Health and Welfare Council of Long Island and Island Harvest, where residents were given free health screenings, information on health insurance and community resources, and more than 100 residents participated in a comprehensive Health Needs Survey.

The pilot’s final component was the compilation and analysis of information to create baseline health data, identify gaps in health needs, and report on the creation of linkages, referrals, and partnerships with health providers, as well as best practices to improve the overall health and well-being of the residents and replicate the program elsewhere.

OUTREACH
The Healthy Homes Pilot was presented to residents of the housing authority with a kick-off meeting, a health screening and resources fair, door-to-door surveying, door-to-door inspections, post-retrofit surveys, a focus group, and a meeting to present the findings of the study.

The pilot kicked off at the Home Matters for Health event in June 2015 and the study was presented at the Healthy Homes One Year Later: Progress and Possibilities event in June 2016. Both conferences included leaders from government, health, housing, and community development sectors. Members of the HHA Resident Focus Group were invited to the June 2016 event.

TOOLS AND RESOURCES
For additional information on Gladys Gardens’ healthy homes retrofit, please see the following resources:

- Baseline Health Survey (see Appendix C of the Healthy Homes Study above).
- Gladys Gardens Follow Up Surveys (see Appendix A of the Healthy Homes Study above).
- Health & Safety Inspection Survey (see Appendix B of the Healthy Homes Study above).
- Focus Group Demographic Survey and Interview Guide (see Appendix D of the Healthy Homes Study above).

OUTCOMES
After the weatherization upgrades were completed, a significant percentage of residents surveyed were able to identify health, safety and comfort impacts which researchers correlated to the renovations. See the charts below for some key outcomes:


For more information, visit https://betterbuildingssolutioncenter.energy.gov
Hempstead Housing Authority Used Health Survey to Identify Impacts of Weatherization Building Improvements - Better Buildings Solution Center

**Impact of Retrofit Improvements to Occupant Health and Comfort**

- More comfortable in home
- Warmer
- Cooler
- Fewer drafts
- Easier to control temperature leading to better sleep
- Decreased joint pain

**Impact on Air Quality**

- Noticed improved air quality
- Easier to breathe
- Fewer odors in homes

**Impact of Lighting Improvements on Occupant Safety and Comfort**

- See trip/fall hazards more clearly
- Easier to read printed materials

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MEASURING SUCCESS
The energy upgrades achieved 40 percent energy savings at Gladys Gardens, and significantly improved the health, comfort and safety of residents. $354,400 in weatherization, health and safety improvements were funded through WAP, the Low Income Home Energy Assistance Program (LIHEAP) and the U.S. Department of Housing and Urban Development.

Healthy Housing grant funds helped pay for an additional $80,000 for roof replacement and leader and gutters.

- A total of 106 Baseline Health Surveys were completed, representing approximately 29 percent of the residents of HHA.
- CDCLI rehabilitation specialists conducted a Health & Safety Inspection Survey to identify issues including trip hazards and barriers to accessibility. A total of 271 surveys and inspections were completed yielding recommendations for repair and rehabilitation at four HHA properties.
- HHA staff conducted post retrofit Gladys Gardens Follow Up Surveys with a sample of residents to track and measure the self-reported health impacts of the weatherization improvements.
- HHA conducted a focus group interview of a small sample of HHA residents to review data analysis and gain insights into residents’ shared experiences at the intersection of health and housing.