



## Healthy Homes One Year Later: Progress and Possibilities

June 7, 2016

Hofstra University Club

8:30 – 9:00AM

Registration and Networking (Continental Breakfast Buffet)



9:00 – 9:30AM

### Welcome Remarks

Lawrence Levy, Executive Dean, National Center for Suburban Studies at Hofstra University

### Opening Remarks and Introductions

Marianne Garvin, President & CEO, Community Development Corporation of Long Island

- Mayor Wayne J. Hall, Sr, Village of Hempstead
- Keith Getter, Senior Relationship Manager, NeighborWorks® America
- Theresa A. Regnante, President & CEO, United Way of Long Island
- Louis Mastrianni, Managing Director, LI/Queens & National Head of Apparel, JPMorgan Chase & Co.

9:30 – 10:30AM

### Panel Presentation: *Healthy Homes One Year Later: Progress and Possibilities*

Moderated by L. Von Kuhen, Ph.D, Senior Vice President, Community Development Corporation of Long Island

- Martine Hackett, Ph.D, MPH, Assistant Professor, Department of Health Professions, School of Health Professions and Human Services, Hofstra University
- Rosemary A. Olsen, Esq., AICP, Executive Director, Hempstead Housing Authority
- Rachel E. Seiler, LMSW, Ph.D, Community Development Corporation of Long Island
- Robert Benrubi, Esq., Community Health & Development Strategies

10:30 – 11:00AM

### Panel Presentation: *Opportunities and Obstacles for a Healthy Housing Future*

Moderated by Lawrence Levy, Executive Dean, National Center for Suburban Studies at Hofstra University

- Gwen O'Shea, President & CEO, Health & Welfare Council of Long Island
- David Nemiroff, LCSW, Executive Director, Long Island FQHC

11:00AM

### Closing Remarks

Marianne Garvin, President & CEO, Community Development Corporation of Long Island



Homes and  
Community Renewal

The Health & Welfare  
Council of Long Island



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**With special acknowledgement to the following who contributed to the success of the program:**

Marianne Garvin, President and Chief Executive Officer,  
Community Development Corporation of Long Island, Inc.  
Her leadership made the Health Home Pilot possible and her efforts – from the initial *Home Matters for Health on Long Island* convening to completion of the **Healthy Home Pilot** – have been indispensable.

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## EXECUTIVE SUMMARY

This project provides nothing less than the foundation for a fundamental shift in the way Long Islanders think about health and housing.

Approximately one year ago, on June 8, 2015, CDCLI held a convening called "*Home Matters for Health on Long Island*." Leaders gathered at Hofstra University, whose National Center for Suburban Studies® co-organized the event, for an important discussion of strategies to improve the region's health outcomes. This initiative was a first step towards building stronger ties between the housing and health care industries. The convening led to the launching of a pilot program known as "**Healthy Homes Pilot**." The initiative was targeted to best meet the health and housing needs of the low-income population in the Village of Hempstead with a focus on the residents of the Hempstead Housing Authority ("HHA"). CDCLI is the first organization in the region to implement such a program. This Report reflects the results and recommendations of the **Healthy Homes Pilot** which was undertaken over a one year period.

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 hard improvements on the health and lives of the occupants and examined health needs and issues of the community, generally, 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 health care to residents. The four components are as follows:

- 1) **Weatherization and renovation services** to Gladys Gardens, a 30-unit public housing family complex within the HHA and home improvements to 10 single family private homes within Hempstead Village.
- 2) **Assessment** of the health and safety condition of individual HHA apartments through a Health and Safety Inspection Survey.
- 3) **Assessment** of the health needs of the HHA residents.
- 4) **Compilation** and analysis of information to create baseline health data, to identify gaps in health needs and to report on the creation of linkages, referrals and partnerships with health providers as a result of the **Healthy Homes Pilot** program, as well as best practices to improve the overall health and well-being of the residents and to replicate the program elsewhere.

### **This project yielded key findings, outcomes and recommendations.**

Weatherization audits at Gladys Gardens led to extensive work being completed to enhance the security, comfort, and energy efficiency of that property while facilitating aging-in-place for residents. After these upgrades were completed, a significant percentage of residents surveyed were able to identify health impacts which can be correlated with the renovations. Some of the health conditions reported to have improved are among the top health challenges for Gladys Gardens residents. Property performance analysis and anecdotal reports by residents and HHA maintenance records are promising in terms of the energy efficiency of the hard improvements. Health and safety inspections completed established that while safety features are present in the vast majority of the 271 homes inspected, some deficiencies exist and a list of recommendations for future repair and rehabilitation was generated.

They included residential upgrades which would be particularly beneficial for elderly tenants. Further longitudinal study is recommended to track and measure “hard” program component health impacts.

“Soft” program components also yielded several key findings in relation to the health status of residents as well as health challenges based on socioeconomic determinants of health such as violence, safety, and community concerns and lifestyle behaviors. Discussion of outcomes and suggestions for further study, funding, and program extension address linkages, referrals, and partnerships - both made and recommended. It also lays out recommendations for establishing cross-sector collaboration and a service-enriched housing model that situates **Healthy Homes Pilot** within the context of national efforts to link health and housing through community development and program development.

CDCLI has a record of successes in early and ongoing initiatives that have brought about positive health outcomes through weatherization and home rehabilitation programs, senior and family homes, and the Nursing Home Transition and Diversion Program. Over the last year, progress has been made and, through the **Healthy Homes Pilot**, CDCLI has built upon these successes. It is hoped that the progress made presents possibilities for continued collaborative efforts to make our homes and communities safe and healthy.



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## INTRODUCTION

**H**ealth does not happen in the doctor's office but where you live. Poor housing conditions are associated with a wide range of health conditions, including respiratory infections, asthma, lead poisoning, injuries, and mental health challenges. Additionally, housing affordability is linked to the health and well-being of individuals and families. When a market lacks a sufficient supply of affordable housing, lower income families are often forced to limit expenditures for food, medical care, and other necessities in order to pay rent. The lack of affordable housing within a community can contribute to family residential instability, as families are forced to move frequently, live with other families in overcrowded conditions, or experience periods of homelessness.

Recognition of the connection between housing and health is not new. In mid-19th century New York City, the Council of Hygiene's report on the City's sanitary conditions resulted in the first health and housing laws in the nation (the New York Metropolitan Health Act of 1866 and the New York Tenement House Law of 1867). Over the 20th twentieth century, legislation requiring windows that opened to outside air in place of air shafts, separate "water closets" for each apartment, functional fire escapes, adequate lighting in hallways, proper sewage connections, and regular waste removal was enacted. These reforms succeeded in controlling epidemics of infectious diseases.

Today there are calls for integrating the importance of housing conditions and housing policy with public health in order to address a fundamental factor that contributes to health outcomes including both individual illnesses and population health disparities. Research documents the correlations between socioeconomic factors like low income, inadequate housing, and concentrated neighborhood poverty, and health outcomes such as mortality rates and illnesses like coronary artery disease, diabetes, asthma, and many cancers.

A growing body of literature on the social and economic determinants of health contours their complexities. For instance, food insecurity and stress in early childhood, poor educational outcomes,

The lack of affordable housing within a community can contribute to family residential instability...

and exposure to violence are more common in low-income neighborhoods than elsewhere and increase the risk of many illnesses. Low-income families face barriers to health such as housing with lead paint, mold, and dangerous structural problems; fewer places to exercise safely and purchase nutritious food; and greater exposure to air pollution (Rogerson, Lindberg, Givens, & Wernham, 2014). According to Rauh, Landrigan, & Claudio (2008), across the U.S., Latinos and African Americans are

disproportionately impacted by poverty and its attendant adversities, including substandard housing, poor nutrition, inadequate healthcare, and environmental hazards. The report, "Making the Case for Linking Community Development and Health" (Edmonds, Braveman, Arkin, & Jutte, 2015), published in partnership by the Center on Social Disparities in Health, the Building Healthy Places Network, and the Robert Wood Johnson Foundation, maps short distances to large gaps in health with two cogent examples of a pattern which, sadly, repeats nationwide. A baby born in one of the poorest neighborhoods of New Orleans is likely to live 25 years less than a baby born 4 miles away in the same city's affluent neighborhoods. In the Chicago area, just a few subway stops between socioeconomically disparate neighborhoods can correspond to a 16 year difference in life expectancy.

Collaboration between community developers and public health professionals has been identified as a way to meet community health and social service needs by measuring and assessing health needs and outcomes. According to Rogerson et al. (2014), the fields of community development and public health are increasingly seen as natural potential allies in the challenging work of improving economic, environmental, and social influences on health. Community developers and community development finance institutions provide financing for small business development; build affordable housing; and support infrastructure and programming. These actions increase access to child care, social services, medical care, healthful food, safe places to exercise, and public transit—all of which can impact health outcomes. By catalyzing initiatives that enhance social cohesion, increase social capital, and foster deepened and more inclusive collaboration between diverse networks of stakeholders, community developers also support the strengthening of social infrastructure and the emergence of community-generated and -led solutions to health challenges.

Increased partnership between community development and public health offers opportunities for both fields as well as the communities they serve. Acknowledging that these sectors have been working side by side for years in the same communities and often with the same residents but often still don't know each other or coordinate efforts, the Robert Wood Johnson Foundation Commission to Build a Healthier America emphasizes the urgency of marrying health care with community development—an industry in the “zip code improvement business” with annual resources in the tens of billions of dollars—to improve health by addressing its social determinants and revitalizing low income neighborhoods (Edmonds et al., 2015).

The **Healthy Homes Pilot** program, developed by CDCLI with financial assistance from the JP Morgan Chase Foundation, NeighborWorks® America, United Way of Long Island and New York State Homes and Community Renewal, contributes to such cross-sector coordination. As the first program to interweave improved affordable housing with tenant health screenings, health service linkages, and primary research at the intersection of health and housing in a low-income, majority-minority community on Long Island, **Healthy Homes Pilot** joins other collaborative projects underway nationwide. These emphasize the value and importance of health-supportive community development, such as the Church Hill Revitalization/East End Transformation Plan spearheaded by the Bons Secours Richmond Community Hospital in Virginia; Portland, Oregon's Health in Housing program; and the green renovation of low-income housing in Washington, D.C.

Whereas many national efforts addressing the health-housing nexus focus on the urban milieu, **Healthy Homes Pilot** is distinctly suburban. Long Island can be viewed as a microcosm for the entire suburban American experience. Conceived as the opposite of New York City (sprawl instead of density and congestion, single-family houses instead of apartments, private cars instead of mass transit) and intended as a refuge from urban social ills, suburbia was born in Nassau County when Levittown became the archetype for post-WWII planned suburban development (Lambert, 2005).

Suburban Long Island now faces a midlife crisis. Generally, our region mirrors conspicuous national trends such as the increasing racial and ethnic heterogeneity of the U.S. population, and the rapid growth of suburban poverty, which according to a 2013 report by the Rockefeller Foundation now affects over 16.4 million people across the U.S., outpacing the growth rate of urban poverty over the last decade (64% vs. 29%). In her 2015 “Suburban Health Inequalities: The Hidden Picture”, Martine Hackett,

Suburban Long Island now  
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PhD, MPH, Assistant Professor of Health Professions at Hofstra University and **Healthy Homes Pilot** project associate writes: Our shifting suburbs are now more diverse in terms of age, ethnicity, and poverty status; and those who are poor, less educated, and minorities generally have a higher burden of illness, premature death, and disability compared to those who are more advantaged.

To illustrate this trend, consider suburban Nassau County's favorable overall health rankings vis-à-vis the County's deep socioeconomic and racial health divides. The national County Health Rankings, which provide a snapshot of a community's health and a starting point for investigating and focusing ways to improve its health ecology, scored Nassau County second for health outcomes, including length and

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quality of life for all counties in New York State, and first for health factors including health behaviors, clinical care, social and economic factors, and physical environment in 2016. Yet, according to Hackett (2015), 2011 NYS Department of Health statistics indicate that infant mortality rate in Uniondale (a community predominantly of color) is 11.5 per 1,000 births and the adjacent East Meadow (majority white) has just 0.9 per 1,000 births; childhood asthma discharge rates are higher in Uniondale than in East Meadow; and the teen pregnancy rate in Uniondale

is six times higher than in neighboring East Meadow.

When embroidered onto the historical tapestry of residential segregation along racial and socioeconomic lines in Nassau County, these trends bring the long-standing health disparities experienced by diverse communities into sharp relief. These problems and other changing realities on Long Island, such as our affordable housing crisis, local taxes among the nation's highest, and insufficient mass transit, shape the health disparities that belie the idealized image of the suburbs wealthy and healthy enclaves. They also impact the enterprise of health supportive community development. With over half of U.S. residents living in suburban areas, the growth of poverty in the suburbs and changing demographics including larger immigrant populations and an increase in elderly residents, health inequities such as those we see in our region are likely to present themselves across different populations in suburbs across the country (Hackett, 2015).

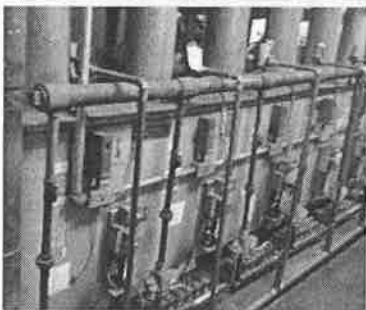
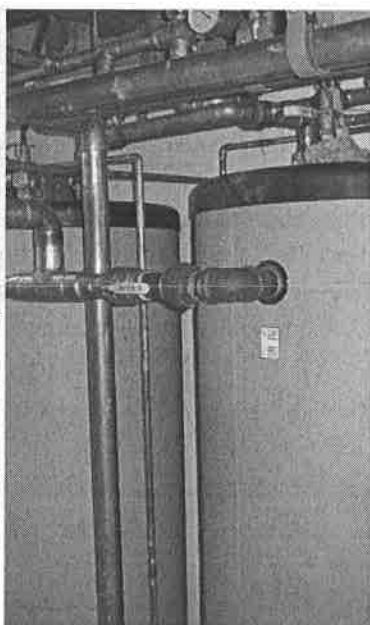
Crises open space for transformation, and Long Island can be at the vanguard of the New Suburbia—a feature of which must be increased health and housing quality and equity. **Healthy Homes Pilot** program extension can further the proliferation of national efforts linking health and housing, in a manner tailored to our suburban context. This can be achieved through the continued collection and analysis of longitudinal cross-sector data, as well as through innovative cross-sector collaboration for the deployment and evaluation of impactful community-based health supportive interventions.

## ***SUMMARY OF PILOT PROGRAM/SCOPE OF WORK***

The ultimate goal and deliverable of the pilot program was to improve the safety of private homes and apartments and the health of their low income occupants, and create baseline health data to help determine best practices to improve the overall health and well-being of the most vulnerable populations on Long Island. To accomplish this, CDCLI focused the **Healthy Homes Pilot** on the Village of Hempstead and, in particular, the residents of Hempstead Village's Public Housing Authority known as the Hempstead Housing Authority.

Specifically, the Scope of Work consisted of the following components:

- 1) **Weatherization and rehabilitation services** to 40 units of affordable housing with 37 of the units targeted to households earning at or below 60% of the HUD area median income for the Nassau/Suffolk area and 3 of the units targeted to households earning between 60% and 100% of the HUD area median income for the Nassau/Suffolk area;
- 2) **Inspection** of 170 units of public housing to identify health and safety issues including trip hazards and barriers to accessibility;
- 3) **Development** of baseline health data on at least 100 individuals;
- 4) **Creation** of linkages, referrals, and partnerships with health providers;
- 5) **Report** on the ultimate goal of the program to create a baseline to determine best practices to improve overall health and well-being of the most vulnerable populations on Long Island, and to improve the health and safety of private homes; the potential to replicate the program, including the outcomes of the *Home Matters for Health on Long Island* convening.



## METHODOLOGY

The multimodal **Healthy Homes Pilot** program design employed varied approaches to intervention and primary research at the intersection of health and housing. These included the completion of health and safety inspections, housing rehabilitation and weatherization upgrades, and follow up surveys with a sample of residents who received residential upgrades; health surveys and a focus group; data sharing with the LIFQHC and informal interviews with the Executive Director of the HHA.

### Housing Rehabilitation/Weatherization

Building Analysts from CDCLI completed weatherization audits in homes at the Gladys Gardens property which led to the completion of residential upgrades.

### Gladys Gardens Follow Up Surveys (Appendix A)

Surveys were conducted in February, 2016 with a sample of residents from Gladys Gardens (n=14) who had received renovations and weatherization of their homes to track and measure the self-reported health impacts of these residential upgrades.

### Health and Safety Inspections (Appendix B)

Rehabilitation Specialists from CDCLI made visits into homes and used a survey form to assess the health and safety status of HHA locations. A total of 271 surveys and inspections were completed, yielding recommendations for repair and rehabilitation at the four HHA properties: Totten Towers Senior Housing, General MacArthur Senior Village, Clinton Court Family Housing and Gladys Gardens Family Housing.



### Health Surveys (Appendix C)

To determine baseline health status information of HHA residents, a survey was constructed through collaboration with the LIFQHC Medical Director and executive staff, with input from Hofstra University Masters of Public Health Program personnel as well as CDCLI staff and consultant. Only residents who signed a consent agreement took the survey.

The data collection phase began with a health fair on November 4, 2015, held in the lobby and recreation room of the General MacArthur Senior Village. The health fair was advertised to all residents of the building and residents of the other buildings. LIFQHC provided physicians and other clinicians who offered blood pressure, vision and other screenings. Staff was also able to make appointments on site for residents seeking follow up care at the LIFQHC's Hempstead site. Representatives from the Health and Welfare Council of Long Island were also present to provide assistance with signing up for Supplemental Nutrition Assistance Program (SNAP) and other benefits. Surveys were administered

during the health fair. CDCLI and HHA staff asked the survey's questions and recorded residents' responses on a paper survey. Staff was also available to administer a survey that was translated into Spanish.

Health surveys were also administered in-person to other residents of the General MacArthur Senior Village and Totten Towers via door-to-door canvassing undertaken by CDCLI staff, a CDCLI consultant, and HHA staff. The HHA staff received training in the administration of the survey instrument prior to canvassing so as to support greater consistency and enhance the validity and reliability of data collected. A total of 106 surveys were completed, representing approximately 29% of the residents of the HHA.

Paper surveys were entered into a database and analyzed to produce descriptive frequencies and cross-tabulations.

### **Focus Group (Appendix D)**

One semi-structured focus group interview was conducted with a small representative sample (n=6) of HHA residents to bring qualitative dimension to the health survey data and to elicit clarifying feedback on preliminary data analysis and/or new insights into residents' lived experiences at the intersection of health and housing.

For the focus group, the HHA Executive Director recruited residents drawn from each of the HHA properties. These residents play organic leadership roles within their community and/or had expressed interest in health and housing issues and the pilot project.

Participants were asked a series of engaging, focused, yet open-ended questions to encourage them to react to preliminary survey results assessing the health needs and concerns of residents. They were also questioned about suggested solutions to the issues addressed. Participants signed a consent form indicating their willingness to participate in the focus group. The session was recorded and transcribed, and the transcript was analyzed to determine salient themes.

A number of strategies were employed to establish and check validity of focus group data analysis and interpretation. A debriefing was held two days after the focus group during which the research team and the HHA Executive Director discussed initial impressions and major take-aways and identified emergent themes. Open-ended analytical readings of the focus group transcript were performed and emergent themes and standout "hot spots" were synthesized with the tentative interpretations arrived at during the debriefing conference call. The result of this digestive process was the identification of a number of salient themes; some validated and expanded upon survey findings, and some diverged from them. Additionally, the researchers pinpointed impactful and emotionally resonant participant quotes that bring shade and color to the quantitative primary data collected through survey research

### **Data Sharing with LIFQHC**

To determine the level of utilization of the local Federally Qualified Health Center, data was solicited on various metrics including LIFQHC utilization by the residents of the HHA.

## Informal Interviews with the HHA Executive Director

Throughout the data collection process, the HHA Executive Director was consulted for feedback and insight into participant outreach, coordination of data collection and preliminary data analysis.

## Limitations

The research conducted to support the findings in this report provides a cross section or snapshot of the current status of health and housing among a sample of residents in the HHA. Though the data provides rich areas for understanding the conditions explored, it does not represent a fully comprehensive assessment of the population. Sampling of participants were mostly residents who were able to come outside of their homes to answer the surveys, though accommodations were made for face-to-face administration of the survey for those who needed it as well as door to door canvassing. The sampling and the sample size for the data collection was based on convenience, and could have been more purposeful to more precisely represent the population.

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Also, surveys relied on self-reported health data, which has not been verified to determine accuracy of the conditions identified.

The project timeline itself may also be seen as a limitation. Methodological best practices in focus grouping dictate repeating the focus grouping process until data saturation is reached, but we had sufficient time to conduct only one.

As such, additional research recommendations include:

- conducting more focus groups with a wider sample of the target population
- tracking health outcomes over a greater period of time

## Roadmap for What Follows

The multi-pronged program design delineated above yielded impactful outcomes and intriguing learnings, and led to the making and strengthening of promising multi-sector connections. The following sections present a demographic snapshot of the HHA population. They describe the HHA properties and their health supportive features and services, and outline upstream interventions at the built environment in terms of their goals, scope of work, hard weatherization and rehabilitation outcomes, and take-aways for program extension and future research. The project's "soft" components are also discussed in terms of their applications and implications. Later sections of this report chronicle linkages, referrals, and partnerships made and expanded and clinical health services provided, and outline best practices to improve general health and well-being and health and safety of HHA properties as well as recommendations for **Healthy Homes Pilot** program extension and replication and further study.

## **DEMOGRAPHICS OF RESIDENT POPULATION/PROPERTY DESCRIPTION**

**H**empstead Village is densely populated, centrally located on Long Island in Nassau County, New York, and has a significant proportion of residents who are low-income, minority, have limited literacy, and/or have multiple health needs. Of the Village's 55,361 residents, 20.5% live below the poverty level and 13% are unemployed – indicative of a low resource community. About 48% of village residents are Black or African-American and 44% Hispanic or Latino. Lack of health insurance is prevalent with 27.6% of residents uninsured – over 250% higher than the United States and New York State's percentage of uninsured. Over 20% of the Village's population receives Food Stamps. 30% of the population is foreign born and 47% speak a language other than English at home. (All statistics are from the 2009-2013 American Community Survey).

Comparatively, the HHA residents are mostly African American females, whose primary source of income is from Social Security, reflecting the age (>65) of many of its residents which is older than the population of Hempstead Village in general (See Table 1).

	<b>Hempstead Housing Authority</b>	<b>Village of Hempstead</b>
<b>Total population</b>	367	53,891
<b>Number of families</b>	271	10,945
Female head of household	194 (71.5%)	4,238 (27.8%)
Male head of household	77 (28.4%)	1,396 (9.2%)
Children <18 years old	49	6,912
<b>Race/ethnicity</b>		
Black	90.7%	48.3%
White	8.1%	21.9%
Latino	8.4%	44.2%
Mixed	1.1%	5%
<b>Median Income</b>	\$15, 896	\$45,234
<b>Primary Income source</b>		
Social Security	49.7%	21%
SSI	23.9%	6.3%
Wages	14.4%	82.3%
Pension	10%	n/a
TANF	3.2%	5.5%

Table 1. Demographics

The HHA operates 281 units of HUD assisted senior citizen and family housing for low income residents. The residents are subsidized through the Housing Choice Voucher (Section 8) Program which is managed by the HHA. The HHA operates four residential complexes throughout the Village of Hempstead: General MacArthur Senior Village, Totten Towers Senior Housing, Clinton Court Family Housing and Gladys Gardens Family Housing. The total resident population is approximately 367. The details of each complex are highlighted below.



**TOTTEN TOWERS SENIOR HOUSING**, 20 Totten Street, Hempstead, NY is a midrise building with 75 units of housing for senior and disabled residents, which includes 46 studio and 29 one bedroom apartments. It contains approximately 80 residents.



**GENERAL MACARTHUR SENIOR VILLAGE**, 260 Clinton Street, Hempstead, NY, is a midrise building with 143 units of housing for senior and disabled residents, which includes 114 studio and 29 one bedroom apartments. It contains approximately 150 residents.



**CLINTON COURT FAMILY HOUSING**, 114 and 134 Yale Street, Hempstead, NY, has 32 townhouse family homes. It contains approximately 71 residents.



**GLADYS GARDENS FAMILY HOUSING**, 20 and 40 Gladys Avenue, Hempstead, NY has 30 townhouse family homes. It contains approximately 66 residents.

The HHA has an existing continuum of health supportive services. These include:

- Two Wednesdays a month, Island Harvest comes to General MacArthur Senior Village to distribute a bag of groceries containing fresh fruits and vegetables and shelf-stable healthy foods (rice, meats, soups, etc.). This is available to any HHA resident.
- The Senior Citizen Center at General MacArthur Senior Village is open Monday, Wednesday and Friday from 10 a.m. - 4 p.m. During that time, there is nutrition (lunch and snacks), varied exercise programming (e.g. Zumba and line dancing) and arts and crafts (e.g. ceramics and painting) provided to senior citizens (age 62 and over) and individuals with disabilities.
- On summer Wednesdays, a bus is available to take seniors and individuals with disabilities to one of the Hempstead Town beaches.

## **RESULTS AND DISCUSSION: WEATHERIZATION/REHABILITATION AND HEALTH AND SAFETY INSPECTIONS**

### **What did we want to achieve?**

Rogerson et al. (2014) call for community developers to identify and implement building features that support health. Gibson, Petticrew, Bambra, Sowden, Wright, & Whitehead (2010) describe structural factors which influence health as *upstream determinants*, and note the importance a 2008 WHO report of the Commission for Social Determinants of Health placed upon developing upstream interventions like improving housing and neighborhood conditions in efforts to tackle health inequalities. **Healthy Homes Pilot** sought to incorporate these interventions at the level of the built environment (1) by leveraging multiple funding sources and programs to make hard improvements to homes, and (2) by conducting health and safety inspections at the HHA and identifying additional safety and aging in place issues. The scope of work was intended to improve 40 units of housing within the Village of Hempstead comprised of 30 rental units within the Gladys Gardens HHA complex and 10 single family units within the Village and to perform 170 health and safety inspections within the HHA. The goal was to provide greater security, reduce tripping hazards in the home, provide greater comfort to the home with superior insulation, reduce energy costs, prevent mold and mildew with enhanced ventilation, facilitate aging in place, and identify additional deficiencies.

### **KEY FINDINGS:**

- Residents of Gladys Gardens were very pleased with the renovations that were made
- A significant percentage of respondents were able to identify positive changes to their health conditions as a result of the renovations
- Some of the health conditions that were reported to have improved due to the renovations are also among the top health challenges for Gladys Gardens residents.
- Key safety features are present and functional in the vast majority of homes inspected
- Lighting in the home and lighting of walkways and stairs need to be addressed, particularly for elderly residents



### **How did we do it?**

**First**, in order to implement the weatherization and rehabilitation component, CDCLI staff conducted audits and inspections to assess the needed energy upgrades and health and safety issues of 30 rental units within the Gladys Garden complex of the HHA and 10 single family homes located within the Village of Hempstead. The audits revealed that significant residential upgrades were required on the Gladys Gardens complex and that targeted work was required on each of the 10 single family homes. Work on Gladys Gardens commenced on September 23, 2015 and the energy efficiency components were completed on December 19, 2015. Work on the 10 single family homes commenced on January 12, 2016 and was completed on April 16, 2016.

The hard improvements made at Gladys Gardens required a leveraging of multiple funding sources both governmental and non-governmental and were conducted in compliance with the requirements of two municipal programs: The Weatherization Assistance Program ("WAP") was funded by the U.S. Department of Energy and the U.S. Department of Health and Human Services and the NYS Affordable Housing Corporation. Both programs are administered, in New York State, by NYS Homes and Community Renewal with funds allocated to CDCLI for program application. Leveraging of funding sources was necessary due to distinct programmatic restrictions on the type of improvements that are eligible activities under WAP.

**Second**, in order to track and measure outcomes, follow-up surveys were conducted at Gladys Gardens as it presented a finite area and demographic to assess. The surveys focused on the self-reported impact that the improvements made on the health of the residents four months after the upgrades were completed.

**Third**, in order to identify any additional health and safety issues, CDCLI staff performed 271 Health and Safety Inspections of the four HHA housing complexes: General MacArthur Senior Village, Totten Towers Senior Housing, Clinton Court Family Housing and Gladys Garden Family Housing. The Health and Safety Inspections identified 23 different deficiencies discussed below.

### **What did we accomplish?**

Through weatherization and home rehabilitation, physical improvements were made on 30 low income rental units located at Gladys Gardens and 10 additional single family private homes located outside the HHA complex but within the Village of Hempstead. Of the total 40 units, 37 of the units targeted households earning at or below 60% of the HUD area median income for the Nassau/Suffolk area and 3 of the units targeted households earning between 60% and 100% of the HUD area median income for the Nassau/Suffolk area. Ninety-four (94) residents were directly impacted and \$508,188 dollars were invested for labor and materials.

**Improvements at Gladys Gardens (30 rental units):**

- Replacement of existing heating system with new condensing boilers to include new piping and venting.
- Upgrade of domestic hot water system with high efficiency indirect storage tanks.
- Replacement of all existing double hung operating windows with more superior insulated vinyl Thermopane Replacement windows.
- Replacement of all ceiling and wall mounted light fixtures in all apartments, including in bathrooms, kitchens, foyers, second floor landing and dining area fixtures with energy efficient LED fixtures of between 1000 Lumens (for foyers) to 2600 Lumens (for kitchens), in order to enhance lighting for safety and cost.
- Replacement of all ceiling mounted fluorescent light fixtures in the basement with 2600 Lumens LED lighting.
- Replacement of all exterior wall mounted light fixtures to resident entrances with 700 Lumens LED lights.
- Replacement of all wallpaks for building exteriors with 2400 Lumens LED lights.
- Installation of Pre-fabricated metal attic hatches with locking mechanisms.
- Air sealing of all bypasses and chase-ways in attics.
- Installation of 12 inches of cellulose insulation in all attics.
- Installation of automatic ventilation fans in all bathrooms.
- Removal and replacement of roof
- Removal and replacement of gutters and leaders



**Improvements at the 10 single family homes:**

- Mold removal on 3 homes
- Bathroom demolition and replacement on 1 home
- Gutter replacements on 3 homes
- Alarms and fire extinguishers provided at 3 homes
- Handrails installed at 8 homes
- Stoop renovated at 6 homes
- Bathroom or kitchen exhaust fan installed at 3 homes
- Smoke detectors installed at 5 homes

- Windows replaced at 2 homes
- Sidewalks and walkways repaired at 2 homes
- Miscellaneous electrical and/or plumbing at 2 homes

Through Health and Safety Inspections conducted at the four HHA housing complexes, General MacArthur Senior Village, Totten Towers Senior Housing, Clinton Court Family Housing and Gladys Garden Family Housing, 23 different deficiencies were identified and recommendations were made for future repair and rehabilitation. Those included:

- Sealing cracks, holes, vents and heating bypasses to prevent roach and mice intrusion from unit to unit.
- Removal of all open lamp fixtures from all closets, and replacing them with incandescent and LED fixtures with completely enclosed light sources.
- Removing items such as boxes, clothing, wood, grills and flammable liquids and/or cans from areas around all water heaters.
- Placing signs on doors.

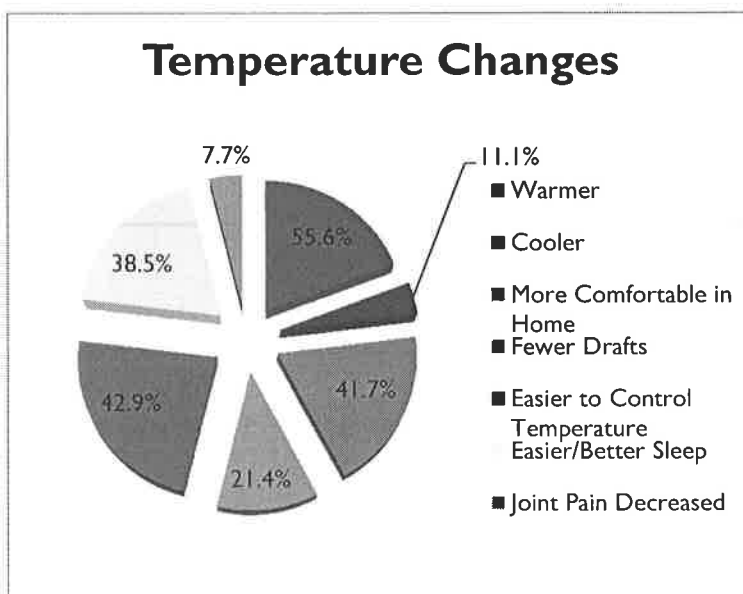
#### **What did we learn? Weatherization/Rehabilitation**

The follow-up surveys conducted by CDCLI revealed changes to health as related to the renovations and repairs as self-reported by survey respondents.

The demographics of the participants (n=14) in the follow up survey are younger and less diverse than the general population of HHA. They are mostly female (78%), mostly under the age of 65 (78%), all are African American and 21% are working full or part time. In addition, the respondents from Gladys Gardens are healthier than those of the larger health survey discussed below, with more reporting to be in good or very good health; a smaller percentage having cancer, high blood pressure, or heart disease. However, a greater percentage of those identify joint or back pain and vision problems as a health challenge and expressed more concern about violence in the community. A more detailed description of

the population demographics as well as their reported health conditions is set forth in Appendix E.

A meta-analysis of thirty evaluation studies on direct health impacts of internal housing improvements found that, overall, warmth and energy efficiency interventions seemed to have the clearest positive impacts on low-income groups, particularly where these are targeted at elders or people with preexisting health conditions (Gibson et al., 2010). The results of the follow-up survey present consistent with these prior studies.



**Figure 1. Temperature Changes**

Over one half of the residents who had their homes renovated reported their homes were warmer (the survey was conducted in the winter), with 21% reporting fewer drafts. As a result of these temperature changes, 38% said that they had slept better than before the renovations and 7% reported that their joint pain had decreased.

Changes to the windows reduced the sound of outside noises in 87% of the homes, with 38% saying they had easier or better sleep and 30% reporting decreased stress level since the changes to the windows.

### Noise Changes Due to Renovations (Windows)

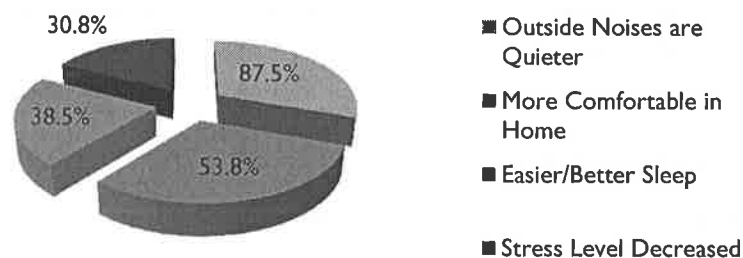


Figure 2. Noise Changes Due to Renovations (Windows)

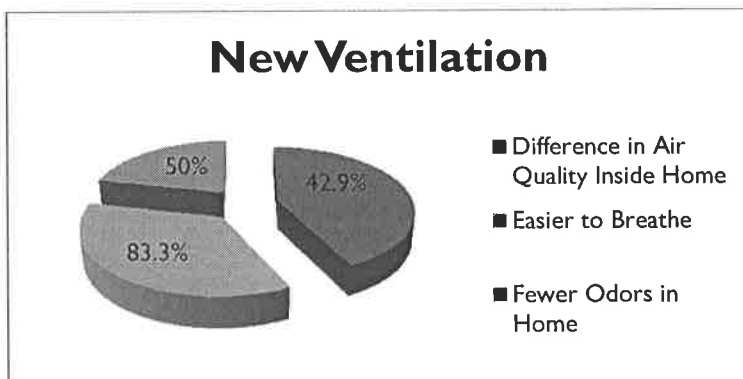
Lighting improvements prompted 85% of respondents to notice a difference in their homes. 41% reported that they can see trip hazards more clearly and 58% said that they can read printed materials more easily.

### Lighting Changes Inside Home



Figure 3. Lighting Changes Inside Home

New ventilation was also added to the Gladys Gardens homes, and 42% said that they have noticed a difference in the air quality inside of their apartments. Over two thirds said that it is easier to breathe and 50% said that there were fewer odors in the home.



**Figure 4. New Ventilation**

Specific concerns as a result of the renovations identified by the respondents include the higher noise level of the new vents, particularly in kitchens and bathrooms.

Respondents also added that they were pleased with the renovations and that the contractors were pleasant to deal with.

In addition, the HHA confirmed that there were no complaints of lack of heat or that the dwellings were too cold during cold weather days following the weatherization of Gladys Gardens (Hempstead highs/lows: Feb. 12 28/14; Feb. 13 24/5; Feb. 14 16/-1; Feb. 15 46/9 – from the Weather Channel). Also, the HHA Executive Director reported that receiving no complaints is extraordinary and that she could not remember if that had ever happened. Comparison of the log of resident housing complaints from February 2016 to February 2015 found that there were fewer reports of temperature related issues in the Gladys Garden apartments that were renovated. Overall energy savings to the building of \$5,954 is confirmed by the Property Performance Summary showing a decrease in utility spending before and after improvements (see Appendix F). There are additional anecdotal reports from residents that their utility bills are lower than they were last year.

#### **What did we learn? Health and Safety Inspections**

Home inspections for safety, accident, and health hazards (n=271) revealed several areas to highlight. Most residences had equipment installed to detect smoke (96%) and carbon monoxide (98%) while 99% had working window locks and deadbolt door locks. However, only 37% of homes had working fire extinguishers.

Electrical inspections found no damaged or frayed extension cords, no overtaxed extension cords, and only 7% of homes inspected had non-professional electric work. While only 10% of homes had signs of trip hazards, 39% of respondents need adequate lighting in the home, 37% need lighting in walkways and stairs. Almost one fifth of the respondents had chipped, peeling or flaking paint in the home, or tub or tile deterioration, and 29% had signs of cockroaches present during the time of inspection.

	Yes %	No %
Water leaks	10.8	89.2
<b>Tub or Tile deterioration</b>	<b>19.1</b>	<b>80.9</b>
Washing and/or dishwashing machine hoses frayed or worn	1.8	98.2
<b>Safety Items</b>		
Fire extinguishers in the home	37.5	62.5
<b>Smoke detector on each floor of the home</b>	<b>96.0</b>	<b>4.0</b>
Working CO detector	98.9	1.1
<b>Windows have working locks and open and close properly</b>	<b>99.3</b>	<b>0.7</b>
Deadbolts present and working	98.2	1.8
<b>Accident and Health Hazards</b>		
Outlets in kitchens and baths GFI protected	97.8	2.2
Damaged or Frayed Extension Cords	0	100
Overtaxed outlets	0.4	99.6
Non-professional electric work	7.2	92.8
Signs of tripping hazards	10.1	89.9
Walkways require repair	1.4	98.6
Adequate lighting in the home	60.1	39.9
Walkways/stairs adequately lit	62.2	37.8
Breathing problems of residents	21.1	78.9
<b>Cockroaches or signs of cockroaches</b>	<b>29.2</b>	<b>70.8</b>
Signs of mice or rats	3.2	96.8
Bedbugs or signs of bedbugs	3.2	96.8
Signs of mold growth	1.1	98.9
<b>Areas of chipping, peeling or flaking paint in the home</b>	<b>20.2</b>	<b>79.8</b>

Table 2. Home & Safety Inspection Results

## ***RESULTS AND DISCUSSION: CREATION OF BASELINE HEALTH DATA***

### **What did we want to achieve?**

**T**he Healthy Homes Pilot holistic design for primary research applied and combined two inquiry methods—survey and focus group—in the study of the nexus between housing and *midstream* health determinants like individual lifestyle dimensions, supportive social environments that make healthy choices easier, etc. The design and methods employed techniques for facilitating the validation of data through cross verification. The scope of work was to create baseline health data on at least 100 low income individuals residing within the HHA. The goal was to assess the health needs of the residents of the HHA, identify gaps in health services and recommend best practices to address the gaps.

### What did we learn from the Health Surveys?

The demographics of the residents who completed the health survey represent the general population of the HHA in terms of demographic variables such as age, gender, and income. There is an underrepresentation of the percent of Latinos as compared to the Village of Hempstead (7% vs. 44%). The majority of participants have high school or less than a high school education, and almost all are retired/disabled and not working full or part time. In addition, cross tabulations that examined the differences in reporting health conditions by age highlighted that some concerns were more pertinent to those over the age of 65 as compared to respondents who are under age 65. In particular, cancer, high blood pressure, heart disease, vision and dental problems were greater among the older population. This age group was also more concerned about falling within their home and violence within the building than those younger than 65 and are more likely to take prescription drugs regularly.

	%	Number
<b>Race/ethnicity*</b>		
African-American/black	86.8	92
White	5.7	6
Mixed/other	7.5	8
Latino	6.6	7
<b>Sex</b>		
Male	24.3	26
Female	75.7	81
<b>Born in the US</b>		
Yes	84.9	90
No	14.2	15
<b>Preferred language</b>		
English	95.2	99
Spanish	4.8	5
<b>Age</b>		
<65	38.6	41
>65	58.4	63
<b>Level of education</b>		
Less than HS/no formal schooling	26.1	27
HS or GED	42.7	44
Some college	19.4	20
College graduate	11.7	12
<b>Employment status*</b>		
Working full or part time	6.7	7
Disabled	51.4	54
Retired	59.0	62
<b>Veteran or spouse of veteran</b>		
Yes	13.5	14
No	86.5	90

**Table 3. Respondent Demographics (n=106)**

\*Total is more than 100%; respondents could answer more than one category

## **KEY FINDINGS:**

- Almost half of residents surveyed in poor or fair health.
- High blood pressure and vision top health challenges.
- 84% take prescription drugs regularly.
- Almost all are able to visit a doctor when needed, but few have their own car for transportation.
- Over one third are concerned about violence within the community.
- Very few of HHA residents are using health care services provided by the local FQHC.
- Misconceptions about the FQHCs may be influencing utilization.
- Bringing health professionals to HHA sites for health screenings has a positive benefit for residents.

## **How did we do it?**

In consultation with our partners, HHA and LIFQHC, a comprehensive Health Needs Survey was prepared. Working with the HHA residents, surveys were completed through several means including door-to-door solicitation and through participation in a community health fair at the HHA, held on November 4, 2015, with the Health and Welfare Council of Long Island and Island Harvest. Residents were given free health screenings, information on health insurance and community resources, and participated in the Health Needs Survey. A semi-structured focus group was also conducted on the grounds of the HHA which included individual HHA residents who volunteered to participate in the focus group. Following completion of the focus group, participants were given a \$15 gift certificate to CVS. These combined methods were utilized as part of a holistic strategy to identify possible partnerships, best practices and solutions to bring quality and accessible health care to residents. Information also was obtained from the FQHC as to utilization of the local FQHC by residents of the HHA.

## **What did we accomplish?**

Through survey research, primary baseline health data was collected and analyzed on 106 individuals and one semi-structured focus group interview was conducted with a small representative sample of HHA residents to examine the health needs and assets of the community, the health issues impacting residents and the barriers to good quality healthcare.

As a result, baseline data was collected and compiled on a variety of subjects related to the health of the HHA residents in the following areas:

- Health challenges
- Health care access
- Utilization of the local FQHC
- Lifestyle behaviors
- Violence, safety and community concerns
- Barriers to health care
- Resident assets



### Health Challenges

The respondents of the survey identified a variety of health issues with which they or a member of their household were currently dealing. A little more than half (53%) said they were in good or very good health, and 46% in poor or fair health. Many people are likely suffering from more than one physical ailment, and these health issues may influence the quality of day to day living.

In particular, the health issues that affect most people are: high blood pressure/hypertension (62%); joint or back pain (61%), which some

identified as contributing to difficulty walking; vision problems i.e. glaucoma (54%); high cholesterol (39%); dental problems (36%); respiratory/asthma problems, (21%) and overweight/obesity (21%). Additional issues that were raised included Alzheimer's and MS.

Many of these health conditions affect the overall population in Nassau County, particularly African American and elderly residents (Nassau County Department of Health Community Needs Assessment, 2013).

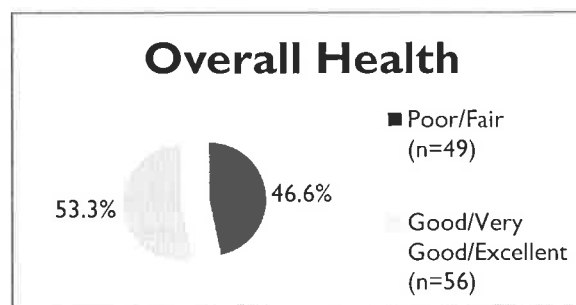


Figure 5. Overall Health

	Yes %	No %
Cancer	13.3	86.7
Diabetes	20.2	79.8
Overweight/obesity	21.2	78.8
Lung disease	4.8	95.2
High cholesterol	39.0	61.0
Respiratory/asthma issues	21.9	78.1
High blood pressure	62.9	37.1
Stroke	9.5	90.5
Heart disease	18.1	81.9
Kidney disease	2.9	97.1
Vision problems	54.3	45.7
Dental problems	36.2	63.8
Hearing problems	8.7	91.3
Gastrointestinal problems	18.1	81.9
Joint or back pain	61.9	38.1
Mental Health issues	18.1	81.9

Table 4. Summary of Health Challenges

### Health Care Access

The survey respondents were also asked about their practices and preferences with accessing health care. Almost all are able to visit a doctor when needed (98%) and have insurance coverage, particularly those covered by both Medicare (71%) and Medicaid (61%). The majority go to a physician's office for routine health care and take non-emergency Medicaid transport (41%), bus (26%), taxi (23%) or ride

with family and friends (20%) or in their own car (19%). Even though respondents said that they were able to access care when needed, 30% still went to the emergency room within the last six months. The time preference to visit a healthcare provider is overwhelmingly Monday-Friday from 9am to 5pm (90%). Prescriptions are filled mainly through local pharmacies and through mail order.

	%	Number
<b>Able to visit a doctor when needed</b>		
Yes	98.1	103
No	1.9	2
<b>Where do you go for routine care</b>		
Physician's office	72.4	76
Urgent care office	4.8	5
Community health center	19.0	20
<b>Mode of transportation to healthcare</b>		
Own car	19.0	20
Taxi	23.8	25
Bus	26.7	28
Ambulette	13.3	14
Family or friends	20.0	21
Non-emergency Medicaid transport	41.6	37
<b>Emergency room within last 6 months</b>		
Yes	30.6	21
No	69.4	71
<b>Type of insurance coverage*</b>		
Medicaid	61.9	65
Medicare	71.4	75
Private insurance	12.4	13
VA	2.9	3
*more than one answer possible		
<b>What days/hours preferred to visit healthcare provider</b>		
M-F, 9-5PM	90.4	94
M-F, evening	7.6	8
Saturdays	7.7	8
Sundays	7.7	8

**Table 5. Health Care Access**

### ***Utilization of local FQHC***

The LIFQHC has five primary health clinics located throughout Nassau County: Elmont, Freeport, Hempstead, New Cassel and Roosevelt. It also has one satellite -- a school-based clinic in Roosevelt. The LIFQHC'S Hempstead site is situated within the Village of Hempstead, less than one mile from each of the four HHA sites (Gladys Gardens is .65 miles; MacArthur is .51 miles, Clinton Court is .42 miles and Totten Towers is .82 miles away). The map below locates the HHA residences and the NuHealth Family Health Center in Hempstead.



LIFQHC provides on-site primary care in medically underserved areas throughout Nassau County and a full complement of services, at its various locations, including family medicine, internal medicine, pediatrics, OB/GYN, podiatry, behavioral health, psychology, nutrition and dental. Yet, there is clearly underutilization of the FQHC by HHA residents.

According to statistics provided by the LIFQHC, 31 residents of the HHA had accessed primary care medical services through the FQHC representing only 8.4% of the total population of the HHA in 2015. Of the 31 residents, only 28 utilized the nearby Hempstead location and 3 utilized the Freeport location. Comparatively, in 2015, there were 52 visits (from 25 residents) to the NuHealth Emergency Department from residents of the HHA.

Complex	2015	2014
Totten Towers Senior Housing	5	2
General Macarthur Senior Village	16	18
Clinton Court Family Housing	9	7
Gladys Gardens Family Housing	1	4
Total	31	31

**Table 6. Number of Residents who Visited all FQHC Locations by HHA Complex**

Based upon information obtained through the focus group, one possible reason for LIFQHC underutilization is that residents may not be aware of their locations and structure, as the LIFQHC is relatively new to the communities in Nassau County. For example, 35% of residents surveyed said they had dental problems and 42.5% stated that they had not had a dental cleaning/X-ray within the last year. In discussion, focus group participants indicated that they were not aware that dental services are provided at certain of the LIFQHC locations, and were very interested in knowing more information about these facilities and their continuum of services.

In addition, the focus group revealed that older residents may have negative associations with the FQHC locations, which in several cases were once the site of Nassau County run clinics that did not have a good reputation and were located in buildings that were not well maintained. Finally, there is anecdotal feedback that the African American population of Hempstead does not feel comfortable obtaining services at sites that they felt might be primarily serving the growing Latino community. The rationale behind these perceptions are unclear, and these possible cultural perceptions are a potential barrier to accessing health care that is nearby and able to meet the multiple health needs of the HHA. This is an area worthy of further research and future studies.

### ***Lifestyle behaviors***

Survey respondents were asked about health related behaviors, with a focus on preventative health screenings and testing as well as questions about nutrition and physical activity. Considering the leading health challenges that residents face, it is a positive sign to see that 85% have had their blood pressure checked. Additionally, a majority have had their blood sugar (63%), cholesterol (59%) and vision (58%) checked within the past year.

Preventative measures that could be improved, particularly when considering the older age of the respondents include: getting an annual flu shot, mammograms, pap smears and prostate cancer screening as well as pulmonary function tests and colon cancer screening.

The vast majority of respondents take prescription drugs regularly (84%), which is expected considering the many chronic health conditions that they face.



Lifestyle behaviors contribute to overall health and wellness. Among the respondents, only 45% are exercising 3 or more days per week and just 32% are eating the recommended 5 servings of fruit and vegetables per day. However, just 10% eat fast food more than one time per week. The percentage of respondents who smoke (21%) is in line with others in New York State with similar education and income levels, though it is higher than the prevalence for adults in New York State (New York State Department of Health, 2015).

	Yes %	No %
Exercise 3 or more days /week	45.2	54.8
Eat at least 5 servings of fruit and vegetables/day	32.4	67.6
Eat fast food more than one time/week	10.5	89.5
Smoke cigarettes	21.0	79.0
Take prescription drugs regularly	84.8	15.2
Consume more than 4 alcoholic drinks (female) or 5(male) daily	3.8	95.3
Flu shot once/year	48.6	51.4
Access to wellness program through employer	2.9	97.1
Mammogram within past year	51.1	48.9
Pap Smear (female) within past year	34.8	65.2
Prostate Cancer screening (male) within past year	23.4	76.6
Colon/ Rectal Exam or other cancer screening test within past year	27.9	72.1
Blood pressure check within past year	85.7	14.3
Blood sugar check within past year	63.8	36.2
Cholesterol check within past year	59.0	41.0
Vision screening within past year	58.1	41.9
Hearing screening within past year	23.8	76.2
Pulmonary function test within past year	25.7	74.3
Age appropriate vaccines/ immunizations	26.0	74.0
Bone density test within past year	28.6	71.4
Dental cleaning/X-rays within past year	43.3	56.7
Physical exam within past year	64.8	35.2

Table 7. Medical Screenings and Lifestyle Behaviors

### *Violence, safety and community concerns*

Survey respondents were also asked about other health and safety concerns in their homes and communities. Most of the respondents said they had access to healthy food choices (87%), though it was unclear whether or not they were able to take advantage of this access. Within their homes, 21% of residents surveyed were concerned about falling, and 19% were concerned with pest and vermin. Fewer than half had access to a computer or mobile device with an internet connection.

Within the building and community, safety and the threat of violence was a concern. Respondents felt the front door buzzer of the buildings needed to be more secure, as they felt people were being let into the building without permission. They also wanted additional security guards or community policing within the buildings. Overall 29% were concerned about violence in their building.

The safety of the Village of Hempstead was also an issue. Violence within the community was a concern of 39% of the respondents and gang violence was seen to be a problem by 30%. Additionally, safety at bus stops and street crossings were identified as concerns as was lighting in the parking lot and hearing gun shots. Residents surveyed also identified the need to have more of an open dialogue with community leadership.

Written comments reflected concerns about the maintenance of the apartments and buildings as well as suggested improvements. These included updating the senior center, repairs and painting in the hallways and shared spaces, and improved lighting outside of buildings. Several respondents cited

concerns about high temperatures and lack of ventilation within apartments during the summer; additionally, drafts and chills were identified as a problem in winter.

	Yes %	No %
Violence in my home	3.8	96.2
Falling in my home	21.0	79.0
Violence in my building	29.5	70.5
Violence in my community	39.0	61.0
Pest/vermin in my home	19.0	81.0
Lack of security/community policing	28.6	71.4
Gang violence in my community	30.5	69.5
Need for home healthcare/personal caregiver	10.5	89.5
The health of another household member	7.6	92.4
Access to health food choices	91.2	8.8
Access to a computer or mobile device with internet connection	49.0	51

**Table 8. Other Concerns: Violence, Access to Healthy Foods, Household Safety**

### **What did we learn from the focus group?**

The sample of focus group participants (n=6) were all women, over the age of 65 and African American. Several complexly intertwined themes emerged from the focus group data. They were useful in providing background and context to the health and housing issues identified, and offered several potential solutions. The responses from the focus group also provided insight into how assets of the HHA can be strengthened to contribute to improving the health of residents.

### ***Barriers to health care***

**Transportation:** Only 19% of survey respondents reported using their own car to access healthcare services. On a related note, focus group participants identified that not having a car was a barrier to accessing less expensive healthy food. Not having access to a car also limited the ability of residents to participate in activities and programs or regularly availing themselves of health supportive resources outside of the HHA.

**Isolation:** Although the vast majority of survey respondents indicated they are able to visit a doctor when needed (98%), focus group participants recognized there were residents who needed assistance, including medical care, but were reticent to seek it due to lack of insurance and/or transportation, or were too proud to ask. They said that reaching out to these residents in need was not always successful in that they were often angry or non-responsive.

...participants identified that not having a car was a barrier to accessing less expensive healthy food.

The participants acknowledged concern about many residents who do not interact with others or do so on a limited basis. There was also a sense, corroborated by the HHA Executive Director, that a core subset of residents experience significant health/mental health challenges to living independently in the community. They are seen as going without the treatment and wrap-around services they need to short-circuit the cycle of crisis-hospitalization-discharge. Participants expressed fear for the mental health and

physical well-being of those who have isolated themselves in their apartments, and frustration that they were not able to reach out in a positive way.

There were also issues of trust when it comes to offering services and support.

**Security/Violence issues:** Focus group participants verified survey findings (see Table 7) that violence and safety within the community of Hempstead was a concern. 39% of health survey respondents expressed concern regarding community violence, while 28.6% identified lack of security/community policing as a problem. 30.2% worried about gang violence. Similarly, focus group participants acknowledged that fear for their own safety could limit their interactions in the larger community and was a possible barrier to healthy living. Safety was also identified as a source of increasing stress. As one participant stated: "I'm telling you, I'm not saying it because I'm old or something, but I am very afraid. It's very dangerous out there now. You have to watch you back."

"I'm telling you, I'm not saying it because I'm old or something, but I am very afraid. It's very dangerous out there now. You have to watch you back."

Interfacing with perceptions of a pervasive climate of violence, insecurity, and drugs was their sense that the Village of Hempstead is demographically shifting, and that the role and status of elders within the community has eroded since several of them moved there in the 1970s-1980s. Several participants expressed their desire to work within their community for positive change instead of letting fear limit their daily lives.

**Multiple health issues and the cost of managing chronic conditions:** Management includes purchasing drugs/co-pay and also lifestyle behaviors such as eating well and exercise. Some found the costs of buying healthy food and managing drug purchases, along with rent and other expenses, to be prohibitive. As one resident stated about fellow seniors on a fixed income: "A lot of them said that they can't afford it or otherwise I know. I am one of those that's paying a high price for my prescriptions and they say either they don't eat or they don't pay rent."

**Lack of awareness/comprehensive knowledge of health supportive resources and services:**

Participants conceded that while excellent health supportive resources and services may be available to them, gaps in awareness may exist. And, even when residents are aware of such programs, i.e. weekly distribution of nutritious food in the lobby of General MacArthur Senior Village, residents may benefit from or need "friendly reminders."

***Resident Assets***

**Socialization:** The focus group participants identified socialization as a way to combat the health barriers of isolation. As one participant stated: "You need the socialization. When we meet together, we talk, we exchange ideas and we are laughing, instead of sitting in our apartment doing what they are doing... It feels good." The communal nature of the HHA units makes it a natural location for shared resources and social support.

**In-house services:** Participants identified successful HHA activities that could be expanded. These include the Island Harvest food distribution; and lunch, exercise classes and socialization in the Senior

Center. There are also natural leaders among residents who are able to connect to those who may not be outgoing or they have mobility or other concerns. A generation gap was mentioned between seniors over 65 and those over 80.

## ***CREATION OF LINKAGES, REFERRALS AND PARTNERSHIPS***

### **What did we want to achieve?**

Creating connections between sectors in health, human services, housing and community development is key to improving the overall health and well-being of vulnerable populations on Long Island. Improved community engagement and capacity building can contribute to community cohesion, which has strong links to reducing violence and improving general health and well-being (Rogerson et al., 2014). Successful collaborations across the United States have built in a network of linkages and partnerships between agencies that traditionally operate in a silo. Recognizing the shared interests and opportunities is a necessary first step in establishing long lasting intersections that will benefit individuals, families and communities on Long Island. The primary goal of **Healthy Homes Pilot** was to make key connections between complementary agencies that will serve as a foundation for future action.

### **What did we accomplish?**

Through outreach, meetings and coordination, several linkages, referrals and partnerships were made or expanded:

- A partnership among CDCLI, the HHA and the LIFQHC. In Nassau County, the LIFQHC were established to provide comprehensive health care, dental care and mental health services to populations who do not qualify for Medicaid or have access to private insurance. The five primary LIFQHC locations are situated in communities where people need these types of services. Partnering with the NuHealth FQHCs was a natural alliance for this project; they would be able to provide access to medical services and primary care for the residents. Specifically, LIFQHC has a family health center that is located within a few blocks of HHA buildings. The LIFQHC offers primary care in its office as well as preventative health screenings and tests, access to dental and mental health services and referrals to specialists as needed at Nassau University Medical Center.
- A Data Sharing Agreement between CDCLI and the LIFQHC to provide baseline and longitudinal follow up data on the health status of HHA residents.
- Health screenings by LIFQHC medical professionals at the health fair conducted at the General MacArthur HHA residence on November 4, 2015. Follow up appointments were made at the Fair and residents who participated received a written assessment of their screening tests. For many HHA residents, this was an introduction to the LIFQHC and represents a first step toward increased awareness and utilization of the local health center.



- Referral of approximately 48 residents of the HHA to free health screenings at the health fair as follows: Vision screenings – 16; dental screenings – 10; blood pressure screenings – 22
- Connection with HealthFirst which participated in the health fair. HealthFirst is one of several insurance companies that work with the LIFQHC to offer health insurance. Through the health fair, three residents of the HHA, previously uninsured, were enrolled in health insurance programs (1 Medicare; 1 Medicaid and 1 Family Health Plus).
- Increased awareness of HHA residents with the services provided by the local LIFQHC.
- Discussions with United Way of Long Island to target resources and referrals like the 2-1-1 Long Island Database operated by United Way of Long Island and the Middle Country library to enable HHA residents to more easily find local and accessible health service providers. This work is a beginning step towards completing a thorough assessment of the community's health and housing-related needs and resources and includes collaboration with LIFQHC and other agencies that provide health care services to eligible clients.
- Collaboration with Northwell Health in connection with its Accountable Health Communities grants submission to the Centres for Medicare and Medicaid Services. CDCLI will participate as part of the advisory board and consortium to align health, community development and social service organizations in addressing the needs of Medicare and Medicaid beneficiaries.
- Engagement with the Suburban Health Equity Institute, a collaboration of Hofstra University's National Center for Suburban Studies and Masters of Public Health program, to provide independent data analysis and programmatic evaluation. This is a critical relationship for independent validation of findings and practices.

**Areas for program expansion and further study:**

- A longitudinal study using residents that have been linked with the LIFQHC and how their objective health outcome measures change over time based on linkage to services and housing related programs
- Further systematized inquiry into the trend of LIFQHC underutilization by HHA residents
- Expand upon connections made with LIFQHC for HHA resident participation in the LIFQHC Advisory Committee

## **BEST PRACTICES TO IMPROVE OVERALL HEALTH AND WELL-BEING AND THE HEALTH AND SAFETY OF PRIVATE HOMES**

### ***Cross Sector Partnerships and Collaboration***

**B**ringing uncommon partners together to address common concerns holds deep promise for the seeding of a more vibrant health ecology within the target community. Such diverse stakeholders may include representatives from a variety of sectors including business and employer partners, grassroots community advocates across a range of demographics (youth, faith community, etc.), law enforcement, health care & public policy professionals, local government and higher education.

In Richmond, VA, a five-year visioning focused on collaborative economic development for social transformation was kicked off Secours Richmond Community Church Hill North east end. A charrette started Hill residents and local vision for their community. access to health and wellness for healthy foods, job creation decent affordable housing, and child and youth services (Demeria, 2015; Spiers, 2016).

Effectively inclusive  
collaboration necessitates  
the active involvement of  
community members...

under the leadership of Bons Hospital, situated in the poor neighborhood in Richmond's the process by which Church businesses helped create a new Residents identified issues of activities and services, the need and business development,

Similarly, broadened collaboration between the HHA and a diverse network of stakeholders has laid the groundwork for the development of programs to enhance health and housing outcomes of HHA residents. The white paper generated after the *Home Matters for Health on Long Island* convening, which kicked off the **Healthy Homes Pilot**, includes calls for establishing and maintaining working relationships between staff from hospitals, community-based organizations, and other agencies. These relationships would facilitate community support services and develop more effective discharge plans with built-in follow-up support, as well as creating an integrated database for service providers to enable better coordination of services (New York Council of Nonprofits, Inc., 2015).

Such collaborative efforts can also become a vehicle for advocacy and policy change around root causes of unfavorable health & housing outcomes, and environmental/community impediments to health i.e. community violence, food access, etc. The white paper referenced above recommends engaging foundations and other funders in efforts to reform the system by convening diverse providers to share information, draft policy, and lobby for reform and resources. It also calls for developing broad system-wide proposals that seek large grants to help ensure collaborations with adequate resource allocation for relevant stakeholders. Indeed, Paul Weech, President of Neighborworks® America, noted in his closing remarks at the *Home Matters for Health on Long Island* convening that success in efforts to interweave health and housing will require community leaders to leverage the relationships established at the conference. From such widely inclusive collaboration, a collective, effective voice can emerge to leverage support for future initiatives at the intersection of health and housing in the HHA and beyond.

Effectively inclusive collaboration necessitates the active involvement of community members, including those who may not have formal power and/or are most vulnerable or are experiencing the worst conditions for good health. Several enthusiastic and concerned HHA residents participated in the focus group. Also identified were residents with organic leadership roles within HHA who have established strong rapport and trust with their peers. These leaders could be the core of a standing working group dedicated to confronting challenges at the intersection of health and housing. Such a standing group could liaise with the wider continuum of partner-stakeholders to work for neighborhood revitalization, increased social cohesion, and improved health outcomes.

Robust health ecology development requires the comprehensive and nuanced inventorying of health supportive assets. *The Home Matters for Health on Long Island* white paper articulates the need to increase awareness of existing resources, build working relationships between diverse providers, and document and communicate the existing coalitions, advisory panels, and networks in the region. Such efforts initiated through **Healthy Homes Pilot** are ongoing.

#### **Areas for program expansion and further study:**

- Health fairs and health and human services tabling events could be coordinated between the LIFQHC and the HHA on a regular basis now that the procedure and process has been established.
- Future collaborations should reflect the particular health and social needs of the population in the HHA, including a) coordination with law enforcement and others for improved/more consistent security within HHA buildings and the wider community, and b) programs to increase economic opportunity for youth in order to address community violence, drugs and other crime issues.
- Systems should be developed for building relationships, sharing information, and learning about existing health supportive services and their eligibility criteria for use by residents and providers.
- All partnerships moving forward should have Memorandums of Understanding, part of establishing a formal group network within the Village of Hempstead and Nassau County.

#### ***Co-Locating Services & Service Enriched Housing***

In its white paper generated after the *Home Matters for Health on Long Island*, the New York Council of Nonprofits, Inc. (2015) called for the improvement of client-centered, “user friendly” health and human service delivery mechanisms. Recommendations included the establishment of “one stop shop” services that are accessible where people live, work, play, and worship, eliminating barriers to accessing care such as lack of transportation or childcare, etc. Such co-location of services may facilitate communication and collaboration among diverse providers including primary and behavioral health practitioners, as well as better provide and market extended service hours.

Indeed, there is evidence that service-enriched housing is an effective platform for improving health outcomes, reducing health costs, and supporting aging in place for vulnerable populations. Integrated services provided or coordinated directly on site are a major feature of the Portland, OR Health in Housing program (Saul, Gladstone, Weller, Vartanian, Wright, & Li, 2016) and presents a best practices

approach. As with the HHA properties, the Portland housing includes units for families, and for seniors and the disabled.

The Portland, OR study discussed above echoes and reinforces the primary and anecdotal data gathered during the **Healthy Homes Pilot** which suggests that co-locating services including healthcare navigators, complementary and alternative medicine (CAM) and integrative medicine services, as well as mental health, socialization, and holistic stress mitigation services, can help meet identified needs and gaps. These include lack of wrap around services for residents whose health is deteriorating or who feel a sense of helplessness/hopelessness engendered by the perceived climate of violence/insecurity which can in turn fuel depression and isolation.

Resident driven recommendations from the focus group included the development of on-site mental health and socialization programs to help them “cope with reality” and a peer-to-peer health ambassador/educator program to help increase residents’ ability to connect to the continuum of health supportive resources and services available within the buildings and the wider community.

#### **Areas for program expansion and further study:**

- Co-location at HHA residences of consistent medical services including mental health programs to facilitate use and decrease stigma.
- Increased capacity of LIFQHC for on-site education and navigation services. Work with LIFQHC to provide transportation to their sites, as well as coordinating taxi, bus and other transportation services to external medical and social service providers, and stores with healthy food options. Encourage utilization and participation on LIFQHC Advisory Committee.
- Development of a peer-to-peer education and socialization program for residents interested in helping others in need. This in itself is a strategy for enhancing social cohesion and capital within the target population (Rogerson et al., 2014).
- Consider recommendations made by focus group participants on health supportive resources including (a) written material included with rent receipt (needs to be easy to read) and (b) phone call or face-to-face/peer-to-peer “friendly reminders.”
- Establishment of working group of resident stakeholders dedicated to continue to address health and housing issues within their community.

#### ***Continuation of “hard” improvements and upgrades to homes***

Evidence is clear that home upgrades and improvements have positive impacts.

- Leverage available capital for housing repairs/weatherization/rehabilitation as identified in the 271 Health and Safety Inspections. The list of repair/renovation recommendations for Gladys Gardens, Clinton Court, General MacArthur Senior Village and Totten Towers could be used to plan for/implement improvements perhaps not feasible within the HHA’s capital improvements plan.
- Gladys Gardens residents who received residential upgrades to their homes could be re-surveyed in July, 2016 and again between February and July, 2017 to longitudinally measure and track health impacts correlated with those improvements.

- Engage engineering and architectural consultants to envision and provide cost estimates for improvements to the HHA properties that meet the needs of the residents and reflects best practices.

## ***RESULTS AND DISCUSSION: REPLICATE THE PROGRAM ELSEWHERE***

**T**he **Healthy Homes Pilot** is one that can be readily duplicated in other Long Island locales. For example, the hamlet of Wyandanch – like Hempstead Village, containing some of the poorest census tracts on Long Island – is undergoing a revitalization effort, called “Wyandanch Rising,” that includes over 177 new apartment units. Also in Wyandanch is a Federally Qualified Health Center, just as in Hempstead Village, and the National Center for Suburban Studies has done extensive work in relation to the new development. Thus there is an opportunity to track the health and FQHC primary care utilization of residents in Wyandanch’s new housing stock, and draw comparisons of similar data to residents of housing that could be identified as “unhealthy” and in need of repair. Health surveys similar to the one in this **Healthy Homes Pilot** would be utilized, and appropriately identified homes could be weatherized and rehabilitated based upon available capital funds. Changes in health indicators at the rehabilitated housing could be tracked, and compared to those residing in Wyandanch’s new apartment stock. Additionally, given the new revitalization effort, such an initiative could study the efficacy of Wyandanch Rising’s community revitalization efforts in terms of whether or not appropriate linkages required for enhanced resident health and wellness were developed. Where lacking, efforts to strengthen such linkages between Wyandanch’s residents, FQHC and social service organizations can be made.

Another area suitable for program replication is the City of Long Beach, located on the south shore of Nassau County. The Long Beach Public Housing Authority operates several rental complexes to assist low income seniors and residents. Currently, CDCLI, through its Weatherization Assistance Program, has commenced the audit process on Channel Park Homes, a 108 unit complex that is owned by the Long Beach Housing Authority. Preliminary findings indicate that upgrades will be necessary in order to provide greater comfort to the homes with superior insulation, enhanced ventilation, and improved lighting. With the proper community collaboration and funding, program applications similar to those implemented at the HHA could be replicated in order to wrap the weatherization services into an overall assessment of the health of the Long Beach Housing Authority residents.

See Appendix G for nationwide program extension and replication efforts.

## CONCLUSION

**H**ealthy Homes demonstrates that CDCLI is a leader and catalyst powerfully positioned to impact positive change at the intersection of health and housing at a time when Long Island is once again a laboratory for the study and shaping of suburbia's future. Launched in June, 2015 at the *Home Matters for Health on Long Island* convening, the Pilot built upon CDCLI's successful early and ongoing health and housing-related initiatives. It did so by making physical improvements to HHA residences and studying their health effects; examining the health needs and issues of the community to establish baseline data and determine the gaps and barriers to good health; and identifying possible partnerships, best practices and solutions to bring quality and accessible care to residents as well as suggestions to replicate the program.

Poor health outcomes and disparities experienced by HHA residents and by demographically similar communities result in part from the deliberate planning processes which birthed the prototypical post-WWII American suburbs here on Long Island. If we are to mitigate these health differences, research literature recommends that health and housing approaches should be front-loaded into all suburban planning and renewal and community development initiatives well before any shovel strikes the earth. **Healthy Homes Pilot** lays groundwork tailored to Long Island's unique suburban milieu, resources, and goals for such systematic collaborative efforts. They will be essential to remolding and reviving our region's health and housing infrastructure, socioeconomic environment, and continuum of health supportive resources and services.

...health and housing approaches should be front-loaded into all suburban planning and renewal and community development initiatives well before any shovel strikes the earth.



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## **Appendix A**

### **Gladys Gardens Follow Up Surveys (survey instrument)**



*Community Development Corporation of Long Island, Inc.*

*2100 Middle Country Road*

*Centereach, NY 11720*

*(631) 471-1215*

*www.cdcli.org*

#### **GLADYS GARDENS FOLLOW UP SURVEY      2016**

Community Development Corporation of Long Island, Inc. (CDCLI), in partnership with the Village of Hempstead Housing Authority, NuHealth and Long Island FQHC, Inc., is undertaking a pilot program, called the *Healthy Homes Initiative*. This program seeks to examine the health needs of the community, the health issues impacting residents and the barriers to good, quality healthcare while identifying possible partnerships, best practices and solutions to bring quality and accessible health care to residents. In connection with the program, CDCLI has also weatherized and improved a certain number of the Village's Housing Authority homes, as well as other homes within the Village of Hempstead, and is studying the effects that such improvements have on the health and lives of the residents of these homes.

We are also interested in evaluating how you feel about the repairs that were done to your home a couple of months ago. These repairs included a new roof, new windows, and a new heating system, upgraded lighting within each unit and vented ceiling fans in each unit.

To help with this effort, CDCLI requests your consent to use and share your concerns, patient health information gathered from this health survey, as well as health and wellness information that might be generated from follow-up visits with you or your healthcare providers, so that we can educate those in the healthcare and social services field, government officials, community development and housing professionals, and residents such as yourself in ways to help make people healthier, happier, and generally improving quality of life.

**Participation in this survey and the Healthy Homes Initiative is voluntary and your consent is required.**

**Your personal identifying information will be removed before it is shared and any information that is shared will be done in an anonymous fashion, so no person's identity is exposed and linked to specific health information.**

Please know that the results of this survey will in no way affect your housing status or services. May we begin?



Signature \_\_\_\_\_

Date: \_\_\_\_\_

Complex Name: \_\_\_\_\_

Tenant Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone#: \_\_\_\_\_

Approx. date repairs were completed: \_\_\_\_\_

1. What is your age? \_\_\_\_\_ DOB: \_\_\_\_\_

2. What is your sex?

☐ Female

☐ Male

3. Are you of Hispanic, Latino, or Spanish origin? (select one)

☐ Not Hispanic, Latino, or Spanish origin

☐ Yes, Mexican, Mexican American, Chicano

☐ Yes, Puerto Rican

☐ Yes, Cuban

☐ Yes, another Hispanic, Latino, or Spanish origin

(please specify) \_\_\_\_\_

4. Race: (select one or more)

☐ American Indian or Alaska Native

☐ Black or African American

☐ Asian Indian

☐ Korean

☐ Chinese

☐ Filipino

☐ Vietnamese

☐ Other Asian (please specify) \_\_\_\_\_

☐ White

☐ Other (please specify) \_\_\_\_\_

5. Location of birth:

☐ Foreign Born

☐ Born in the United States

6. What is your preferred language?

☐ English

☐ Spanish

☐ Other (please specify) \_\_\_\_\_

7. What is your current employment status (select one or more)?

- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Student
- ☐ Homemaker
- ☐ Unemployed
- ☐ Disabled
- ☐ Retired

8. What is the highest level of education you have completed?

- ☐ Elementary school
- ☐ Some high school
- ☐ High school graduate
- ☐ Some college
- ☐ College graduate
- ☐ No formal schooling

9. Are you a veteran or the spouse of a veteran?

- ☐ Yes ☐ No

10. How would you describe your overall health?

- ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor

11. Please select the health challenges you and/or other household members face.

- ☐ Cancer
- ☐ Diabetes
- ☐ Overweight/Obesity
- ☐ Lung disease
- ☐ High cholesterol
- ☐ Asthma or other respiratory issue
- ☐ High blood pressure
- ☐ Stroke
- ☐ Heart disease
- ☐ Kidney disease
- ☐ Vision
- ☐ Dental
- ☐ Hearing
- ☐ Gastrointestinal
- ☐ Joint or back pain
- ☐ Mental health issues
- ☐ Substance Abuse
- ☐ I do not have any health challenges
- ☐ Other (please list) \_\_\_\_\_

Comments: \_\_\_\_\_

12. What are your primary health/safety concerns?

- ☐ Violence in my home.
- ☐ Falling in my home.
- ☐ Violence in my building.
- ☐ Violence in my community.
- ☐ Pests/vermin in my home.
- ☐ Lack of security/community policing.
- ☐ Gang violence in my community.
- ☐ Need for home healthcare/personal caregiver
- ☐ Other (please list) \_\_\_\_\_
- ☐ None, I feel safe in my home and community.

Comments: \_\_\_\_\_

13. Have you noticed a difference in the **temperature inside your home** since the repairs?  
☐ Yes ☐ No \*if no skip to #15

14. If you have noticed a difference in temperature, what is it?  
☐ Warmer  
☐ Cooler  
☐ Easier to maintain/control the temperature  
☐ Fewer drafts  
☐ Other: \_\_\_\_\_

Comments: \_\_\_\_\_

15. If there has been a change in temperature in your home since the repairs, how has it affected you?

- ☐ More comfortable in my home
- ☐ Less comfortable in my home
- ☐ Easier/better quality sleep
- ☐ Worse quality sleep
- ☐ Stress level has improved
- ☐ Stress level has increased
- ☐ Joint pain has decreased
- ☐ Joint pain has increased
- ☐ More active inside my home
- ☐ Less active inside my home
- ☐ Other \_\_\_\_\_

Comments: \_\_\_\_\_

16. Have you noticed a difference in the **noise level** inside of your home since the repairs?  
☐ Yes ☐ No \*if no skip to #18

17. If you have noticed a difference in the noise level, what is it?  
☐ Outside noises are louder  
☐ Outside noises are quieter

Comments: \_\_\_\_\_

18. If there has been a difference in the noise level, how has it affected you?  
☐ More comfortable in my home

- ☐ Less comfortable in my home
- ☐ Easier/better quality sleep
- ☐ Worse quality sleep
- ☐ Stress level has decreased
- ☐ Stress level has increased
- ☐ Other \_\_\_\_\_

Comments: \_\_\_\_\_

19. Have you noticed a difference **with the air inside of your home** since the renovation?

- ☐ Yes ☐ No \*if no skip to #20

20. If there is a difference in the air inside of your home, how has it affected you?

- ☐ Easier to breathe
- ☐ Harder to breathe
- ☐ Fewer odors in the home
- ☐ More odors in the home
- ☐ Allergies are better
- ☐ Allergies are worse
- ☐ Other \_\_\_\_\_

Comments: \_\_\_\_\_

Have you noticed a difference **in the lighting inside of your home** as a result of the renovations that were completed?

- ☐ Yes ☐ No \*if no skip to #22

21. If there is a difference **in the lighting inside of your home**, how has it affected you?

- ☐ Can see possible trip hazards more clearly
- ☐ Cannot clearly see trip hazards
- ☐ Easier to read printed materials
- ☐ Other \_\_\_\_\_

Comments: \_\_\_\_\_

Are there any other health changes you have noticed **after the repairs have been done to your home**?

- ☐ Yes ☐ No

22. If you have noticed any health changes, what are they?

Overall how do you feel about the repairs that were done?

23. Is there anything else that you would like to share about the repairs that have been done to your home?

24. May we contact you for follow-up information?

- ☐ Yes ☐ No

Best way/time to contact you:

## Appendix B

### Health & Safety Inspections (survey instrument)

COMMUNITY DEVELOPMENT CORPORATION OF LONG ISLAND, INC.

#### HOME SAFETY SURVEY

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone #: \_\_\_\_\_  
Inspectors Name: \_\_\_\_\_

##### Exterior

Does roofing or siding have missing or broken shingles? \_\_\_\_\_  
Does chimney or valley have missing flashing? \_\_\_\_\_  
Do any walkways, steps, windows or doors have access  
blocked by overgrown trees, shrubs or bushes? \_\_\_\_\_  
Is a pool properly fenced or enclosed? \_\_\_\_\_  
Any exterior glass broken or missing? \_\_\_\_\_  
Any evidence of water seepage through exterior siding, roof  
or basement walls? \_\_\_\_\_  
Comments/Suggestions: \_\_\_\_\_

##### Kitchen

Does water leak from plumbing system or dishwasher? \_\_\_\_\_  
Are outlets along counter tope, GFI protected? \_\_\_\_\_  
Does a 220 volt line connect to an electric stove? \_\_\_\_\_  
Is a fire extinguisher or smoke detector nearby? \_\_\_\_\_  
Are extension cords connected to appliances? \_\_\_\_\_  
Comments/Suggestions: \_\_\_\_\_

##### Bathroom

Does water leak from plumbing system? \_\_\_\_\_  
Does the tub enclosure or ceramic tile show signs of  
advanced deterioration or rot? \_\_\_\_\_  
Are outlets near sink or tub, GFI protected? \_\_\_\_\_  
Comments/Suggestions: \_\_\_\_\_

##### Bedrooms

Do extension cords run under carpeting, over doors, under  
contents or appear frayed? \_\_\_\_\_  
Are smoke detectors nearby? \_\_\_\_\_  
Comments/Suggestions: \_\_\_\_\_

## Appendix C

### Health Surveys (survey instrument)



#### *Community Development Corporation of Long Island, Inc.*

*2100 Middle Country Road Centereach, NY 11720*

*(631) 471-1215 [www.cdcli.org](http://www.cdcli.org)*

#### *Community Health Needs Survey 2015-2016*

Community Development Corporation of Long Island, Inc. (CDCLI), in partnership with the Village of Hempstead Housing Authority, NuHealth and Long Island FQHC, Inc., is undertaking a pilot program, called the *Healthy Homes Initiative*. This program seeks to examine the health needs of the community, the health issues impacting residents and the barriers to good, quality healthcare while identifying possible partnerships, best practices and solutions to bring quality and accessible health care to residents. In connection with the program, CDCLI will also weatherize and improve a certain number of the Village's Housing Authority homes, as well as other homes within the Village of Hempstead, while studying the effects that such improvements have on the health and lives of the residents of these homes.

To help with this effort, CDCLI requests your consent to use and share your concerns, patient health information gathered from this health survey, as well as health and wellness information that might be generated from follow-up visits with you or your healthcare providers, so that we can educate those in the healthcare and social services field, government officials, community development and housing professionals, and residents such as yourself in ways to help make people healthier, happier, and generally improving quality of life.

**Participation in this survey and the Healthy Homes Initiative is voluntary so that your consent is required.**

**Your personal identifying information will be removed before it is shared and any information that is shared will be done in an anonymous fashion, so no person's identity is exposed and linked to specific health information.**

**I consent to my health information being used and shared in an anonymous way for *Healthy Homes Initiative* reports.**

Signature \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_ Self \_\_\_\_ Other (please specify) \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Name of advocate/third party helping to fill out survey/relationship to respondent:  
\_\_\_\_\_

1. What is your age? \_\_\_\_\_ DOB: \_\_\_\_\_
2. What is your sex?  
☐ Female ☐ Male
3. Are you of Hispanic, Latino, or Spanish origin? (select one)  
☐ No  
☐ Yes (please specify): \_\_\_\_\_
4. Race: (select one or more)  
☐ American Indian or Alaska Native  
☐ Black or African American  
☐ Asian Indian  
☐ Korean  
☐ Chinese  
☐ Filipino  
☐ Vietnamese  
☐ Other Asian (please specify \_\_\_\_\_)  
☐ Native Hawaiian  
☐ Guamanian or Chamorro  
☐ Samoan  
☐ Other Pacific Islander (please specify \_\_\_\_\_)  
☐ White  
☐ Other (please specify \_\_\_\_\_)
5. Location of birth:  
☐ Foreign Born  
☐ Born in the United States
6. What is your preferred language?  
☐ English  
☐ Spanish  
☐ Haitian Creole  
☐ Other (please specify) \_\_\_\_\_
7. What is your current employment status?

- ☐ Employed full-time
- ☐ Employed part-time
- ☐ Student
- ☐ Homemaker
- ☐ Unemployed
- ☐ Disabled
- ☐ Retired

Comments: \_\_\_\_\_

8. What is the highest level of education you have completed?

- ☐ Elementary school
- ☐ Some high school
- ☐ High school graduate
- ☐ Some college
- ☐ College graduate
- ☐ No formal schooling

Comments: \_\_\_\_\_

9. Are you a veteran or the spouse of a veteran?

- ☐ Yes ☐ No

10. How would you describe your overall health?

- ☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor

11. Are you able to visit a doctor when needed?

- ☐ Yes (skip to question 13) ☐ No

12. If you answered No to question 11, please choose all that apply.

- ☐ No appointment available
- ☐ Cannot afford it
- ☐ Cannot take time off from work
- ☐ Transportation
- ☐ No specialist in my community for my condition
- ☐ Providers do not speak my primary language
- ☐ Immigration status
- ☐ Providers do not understand my cultural differences/needs
- ☐ Other (please list) \_\_\_\_\_

Comments: \_\_\_\_\_

13. What type of healthcare coverage do you have? (select one or more)

- ☐ Medicare
- ☐ Medicaid
- ☐ Commercial health insurance (Examples: Aetna, Cigna)
- ☐ Veterans Administration
- ☐ No healthcare coverage



☐ Other (please list)\_\_\_

14. Where do you go for routine healthcare?

- ☐ Physician's office (where: \_\_\_\_\_)
- ☐ Emergency room (where: \_\_\_\_\_)
- ☐ Urgent care clinic (where: \_\_\_\_\_)
- ☐ Community Health Center (where: \_\_\_\_\_)
- ☐ Clinic in a grocery or drug store (where: \_\_\_\_\_)
- ☐ I do not receive routine healthcare
- ☐ Other (please list) \_\_\_\_\_

Comments: \_\_\_\_\_

15. What is your mode of transportation to get to your healthcare? (select one or more)

- ☐ Own car
- ☐ Taxi
- ☐ Bus
- ☐ Ambulette
- ☐ Rely on family or friends
- ☐ Other \_\_\_\_\_

16. If you have Medicaid, do you utilize non-emergency Medicaid transportation services to see your healthcare provider?

☐ Yes

☐ No

17. Have you gone to the local emergency department for care in the last 6 months?

☐ No

☐ Yes

If yes, how many times? \_\_\_\_\_

18. Where do you get your prescriptions filled? \_\_\_\_\_

19. Please select the health challenges you face.

- ☐ Cancer
- ☐ Diabetes
- ☐ Overweight/Obesity
- ☐ Lung disease
- ☐ High cholesterol
- ☐ Asthma or other respiratory issue
- ☐ High blood pressure
- ☐ Stroke
- ☐ Heart disease
- ☐ Kidney disease
- ☐ Vision
- ☐ Dental
- ☐ Hearing
- ☐ Gastrointestinal

- ☐ Joint or back pain
- ☐ Mental health issues
- ☐ Substance Abuse
- ☐ I do not have any health challenges
- ☐ Other (please list) \_\_\_\_\_

Comments: \_\_\_\_\_

20. What days/hours would you prefer to visit your primary care physician?

- ☐ Monday – Friday, 9 a.m. – 5 p.m.
- ☐ Monday – Friday, evening hours
- ☐ Saturday, 9 a.m. – 12 p.m.
- ☐ Saturday, 1 p.m. – 4 p.m.
- ☐ Sunday, 9 a.m. – 12 p.m.
- ☐ Sunday, 1 p.m. – 5 p.m.

Comments: \_\_\_\_\_

21. Please choose all statements below that apply to you.

- ☐ I exercise at least 3 times per week.
- ☐ I eat at least 5 servings of fruits and vegetables each day.
- ☐ I eat fast food more than once per week.
- ☐ I smoke cigarettes.
- ☐ I chew tobacco.
- ☐ I take prescription drugs regularly
- ☐ I take prescription drugs occasionally.
- ☐ I abuse or overuse prescription drugs.
- ☐ I consume more than 4 alcoholic drinks (female) or 5 (male) daily.
- ☐ I use sunscreen or protective clothing for planned time in the sun.
- ☐ I receive a flu shot each year.
- ☐ I have access to a wellness program through my employer.
- ☐ None of the above apply to me.

Comments: \_\_\_\_\_

22. Which of the following preventive procedures have you had in the past 12 months?

- ☐ Mammogram (if female)
- ☐ Pap smear (if female)
- ☐ Prostate cancer screening (if male)
- ☐ Flu shot
- ☐ Colon/Rectal Exam or other cancer screening test
- ☐ Blood pressure check
- ☐ Blood sugar check
- ☐ Skin cancer screening
- ☐ Cholesterol screening
- ☐ Vision screening
- ☐ Hearing screening
- ☐ Pulmonary function test

- ☐ Age appropriate vaccines/immunizations
- ☐ Bone density test
- ☐ Dental cleaning/x-rays
- ☐ Physical exam
- ☐ None of the above

Comments: \_\_\_\_\_

23. What are your primary health/safety concerns?

- ☐ Violence in my home.
- ☐ Falling in my home.
- ☐ Violence in my building.
- ☐ Violence in my community.
- ☐ Pests/vermin in my home.
- ☐ Lack of security/community policing.
- ☐ Gang violence in my community.
- ☐ Need for home healthcare/personal caregiver
- ☐ The health of another household member

Please specify: \_\_\_\_\_

☐ Other (please list) \_\_\_\_\_

☐ None, I feel safe in my home and community

Comments: \_\_\_\_\_

24. Are there any issues that you have with your home/residence?

- ☐ Home is drafty/chilly
- ☐ Water intrusion/leaks
- ☐ Home lacks ventilation/feels hot in the summer
- ☐ Other \_\_\_\_\_

Comments: \_\_\_\_\_

25. Do you have access to healthy food choices?

☐ Yes ☐ No

Comments: \_\_\_\_\_

26. Do you have regular access to a telephone?

☐ Yes ☐ No

Comments: \_\_\_\_\_

27. Do you have regular access to a computer or mobile device with internet connection?

☐ Yes ☐ No

Comments: \_\_\_\_\_

28. May we contact you for follow-up information?

☐ Yes ☐ No

## ***Appendix D***

### **Focus Group Demographic Survey**

We'd like to know a little bit more about you before we begin to help us understand more about you!

What is your age?

- ☐ Under 35 years old
- ☐ 35-45 years old
- ☐ 46-50 years old
- ☐ 51-60 years old
- ☐ 61-70 years old
- ☐ 71-80 years old
- ☐ Over 80 years old

What is your sex?

- ☐ Male
- ☐ Female
- ☐ Other:

Please specify your ethnicity.

- ☐ White
- ☐ Hispanic or Latino
- ☐ Black or African American
- ☐ Caribbean American
- ☐ Native American or American Indian
- ☐ Asian / Pacific Islander
- ☐ Other:

What is your current employment status? Please indicate all that apply.

- ☐ Employed for wages
- ☐ Self-employed
- ☐ Out of work and looking for work
- ☐ Out of work but not currently looking for work
- ☐ A homemaker
- ☐ Retired
- ☐ Unable to work/disabled
- ☐ Other:

How long have you lived in Hempstead Housing Authority housing?

- ☐ Less than one year
- ☐ 1-5 years
- ☐ 5-10 years
- ☐ 10-20 years

- More than 20 years

How would you describe your health?  
Mark only one oval.

- Poor
- Fair
- Good
- Very Good
- Excellent

## Focus Group Interview Guide

Thank you for agreeing to participate in this group interview with residents of the Hempstead Housing Authority.

Hello, my name is Martine Hackett, I am an assistant professor at Hofstra University where I teach public health. We are interested in hearing your views about the connections between housing and health within this community. We will also be discussing some of the results from a survey that was conducted with over 100 residents about health and housing concerns. Today we have some other team members present, let's have them introduce themselves....

### *CDC LI Introductions*

This focus group interview should take about one and a half hours, and we will be recording this interview and transcribing it to use in a report that we are submitting to the organization that funded this project. Please know that your name will not be used and that your information will be kept confidential. We will delete the recording once the tape is transcribed to protect your identity.

As a reminder, we will be videotaping some of the focus group and taking some photos that will be used for promotional purposes.

Before we begin, I would like to go over some focus group ground rules:

- One person speaks at a time.
- Everyone gets a chance to speak.
- Anyone can pass on speaking.
- Respect everyone – make sure you leave enough time for others to speak.
- Respect everyone's privacy – keep the discussion confidential.
- There are no right or wrong answers, only differing points of view.

Are you ready to begin? Let's start by getting to know each other a little better. Please start by introducing yourself and then tell us:

*If money were no problem, and you could choose one place in the world to travel for a week, where would that place be?*

1. In our health needs survey, 98% of participants said they are able to see a doctor when they need to. Do you think that residents of the Hempstead Housing Authority have all of the access they need to health care?
    - a. PROBE: Family Health Center in Hempstead? Why would you use it/not use it?
  2. What do you feel could be improved about seeing your doctor/your health care?
  3. The survey said that most people in the Hempstead Housing Authority can get regular access to healthy food in this community. Can you please give us an example of how you get access to healthy food?
  4. Of our 105 health needs survey participants:
    - 21% said “yes” to concerns about falling in the home
    - 29.5% said “yes” to concerns about violence in building
    - 19% said “yes” to concerns about pests/vermin
    - 28.6% said “yes” to concerns about lack of security/community policingHow do you think any of these concerns affect health & wellness in your community?

PROMPT: What is the most important concern?
  5. What do you think can be done to address these concerns?
  6. Is there anything about the building where you live that helps you stay healthy?
    - a. PROBE: Other residents? Staff? Activities?
  7. Is there anything about the wider community that helps you stay healthy?
    - a. PROBE: Parks? Library events? Church?
  8. What do you think is needed for your wider community to be healthy?
  9. How do you find out about where to go to meet your health and wellness needs?
    - a. PROBE: Do you use any web-based resource guides?
    - b. PROBE: Would you work with your peers if they were trained to refer you to local services?
  10. Is there anything else you’d like to share about your health & wellness goals and needs?
- Thank you for participating! Please accept a gift card as a token of our appreciation for your time and insight.

## ***Appendix E***

### **Demographics of Gladys Gardens Residents who Took Follow Up Survey**

<b>Respondent Demographics</b>	<b>%</b>	<b>number</b>
<b>Born in the US</b>		
Yes	100	14
No	0	0
<b>Sex</b>		
Male	21.4	3
Female	78.6	11
<b>Age</b>		
<65	78.6	11
>65	21.3	3
<b>Race/ethnicity</b>		
African American/black	100	14
Latino	0	0
<b>Employment status</b>		
Working full or part time	21.4	3
Disabled	21.4	3
Retired	21.4	3
Student/unemployed	35.7	5
<b>Veteran or spouse of veteran</b>		
Yes	7.1	1
No	92.9	13

<b>Health conditions of residents in Gladys Gardens</b>		
<b>Overall health</b>	<b>%</b>	<b>Number</b>
Poor/fair	28.6	4
Good/Very good/Excellent	71.4	10
	<b>Yes %</b>	<b>No %</b>
Cancer	0	100%
Diabetes	7.1	92.9
Overweight/obese	28.6	71.4
High cholesterol	14.3	85.7
Respiratory issues/Asthma	28.6	71.4
High blood pressure	28.6	71.4
Stroke	7.1	92.9
Heart disease	7.1	92.9
Kidney disease	7.1	92.9
Vision problems	64.3	35.7
Dental problems	35.7	64.3
Hearing problems	7.1	92.9
Gastro-intestinal problems	14.3	85.7
Joint or back pain	64.3	35.7
Mental health issues	21.4	78.6
Falling in the home	14.3	85.7
Violence in the building	21.4	78.6
Violence in the community	78.6	21.4
Pests in the home	28.6	71.4
Lack of security/community policing	42.9	57.1
Gang violence	35.7	64.3



## Appendix F

### Property Performance Summary for Gladys Gardens

## Property Performance Summary

Gladys Gardens

Q4 2015

### Summary

	Q4 2014	Q4 2015	Variation	Year over Year Spend Variation
All Utilities Spend	\$14,499	\$8,545	-\$5,954	-41%

### Electric Whole Building

	kWh	Total Cost	Rate (\$/kWh)
Q4 2015	6,359	\$1,132	\$0.18
Q4 2014	9,818	\$1,722	\$0.17
Variation	-3,459 -35%	-\$590 -34%	\$0.01 6%



-34%

### Gas Whole Building

	Therms	Total Cost	Rate (\$/therm)
Q4 2015	5,172	\$4,851	\$0.93
Q4 2014	11,581	\$9,556	\$0.83
Variation	-6,409 -55%	-\$4,705 -49%	\$0.10 12%



-49%

### Water Whole Building

	Gallons	Total Cost	Rate (\$/gal)
Q4 2015	448,893	\$2,562	\$0.006
Q4 2014	597,495	\$3,221	\$0.005
Variation	-148,802 -25%	-\$659 -20%	\$0.001 20%



-20%

wegowise

## ***Appendix G***

### **Program Extension & Replication**

As with **Healthy Homes**, the National Center for Healthy Housing, Healthy Housing Solutions, Urban Green Partners and Wiencek & Associates Architects & Planners also attempted to quantify health outcomes resulting from the rehabilitation of low-income housing (Jacobs, Breysse, Dixon, Aceti, Kawecki, James, & Wilson, 2014). Samples of settled dust in 69 units of Washington D.C. low-income housing that were in disrepair were tested for pest allergens, and homes were then renovated utilizing Enterprise Green Communities criteria including water and energy conservation designs and appliances, environmentally friendly and sustainable resources, ventilation systems designed to bring fresh air into the apartments, repairs of leaks, and elimination of mold and injury hazards.

The Washington D.C. study's timeline models a more longitudinal timeline for our continued investigation of how Healthy Homes housing rehabilitation projects can be linked with health concerns. In the D.C. study, homes were retested 4-9 months and then 12-17 months post-renovation, and residents interviewed reported statistically significant improvements in home comfortability, cleanliness and other perceptions. Similarly, the Healthy Homes post-weatherization and residential upgrade surveys conducted with Gladys Gardens residents yielded promising results in terms of the generally positive health impacts reported in relation to renovations and repairs; however, only approximately four months had elapsed between the completion of the residential improvements in October, 2015 and the administration of the survey in February, 2016. Program extension would allow for the more longitudinal tracking and measuring of health outcomes which may allow for a stronger correlation between residential improvements and positive health impacts to emerge.

It is difficult to quantify the savings of health care from the Washington, D.C. study, though intuitively it is reasonable to assume that reduction in allergens will result in reduction of asthma and allergy-related medical visits, and possibly other bronchial ailments. As with the Healthy Homes project that is the subject of this report, a longer longitudinal study is required for such assessment.

Also, the Washington study was unable to discern whether or not self-reportable health and comfort improvements and quantified improvements in the presence of allergens were the result of "green" improvements, or if such improvements would have been shown should the residents been improved with alternative methods. In light of the high energy around the environmental justice movement and the role as a potential agent of and focus for change (Rauh, Landrigan, & Claudio, 2008), it may be worthwhile, and within the broader scope of CDCLI's organizational Mission, to consider incorporating expressly "green" building systems into plans for future residential upgrades, which could then be systematically and longitudinally studied for correlation with health outcomes.