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Community Health Needs Assessment 2014: East and Central Harlem

The Institute for Family Health



Family Health Center of Harlem

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Executive Summary

In 2014, faculty and residents at the Family Health Center of Harlem (FHCH) conducted a community health needs assessment. Located in upper Manhattan's East Harlem neighborhood, the FHCH is a health center operated by the Institute for Family Health, a network of federally qualified health centers focused on improving access to high quality, patient-centered primary health care for medically underserved communities. In leading the health needs assessment effort, the FHCH's faculty and residents aimed to:

- develop a comprehensive health profile of the East and Central Harlem populations served by the FHCH
- identify priority health needs in the community
- provide recommendations on interventions to be undertaken by healthcare providers and community stakeholders

The FHCH serves a broad community of diverse patients, primarily in East and Central Harlem. The majority of residents in the service area are African American or Hispanic, with approximately 40 percent of FHCH patients identifying as Hispanic. East and Central Harlem are ranked among the poorest neighborhoods in all of New York City. The median household incomes in these neighborhoods are significantly lower than New York City and the US. In addition, the percentage of persons living in poverty in East and Central Harlem is significantly higher than in the rest of the city or the country.

In order to obtain a comprehensive understanding of the community served, data was collected in a number of ways. This involved a multi-method approach using secondary and primary sources. Secondary data was collected to provide in-depth information on the health status of East and Central Harlem communities. The data gathered indicated that these communities have consistently demonstrated a significantly higher rate of mortality in a number of underlying preventable causes compared to Manhattan and New York City overall. The major community health concerns identified through the process of gathering secondary data were heart disease, hypertension, diabetes, obesity, cancer, HIV and sexually transmitted diseases, and asthma. Understanding the existing health outcomes for East and Central Harlem was critical to informing the primary data collection process.

For primary data collection, a total of 136 surveys, seven key informant interviews, and three focus groups were conducted with FHCH patients and community members. The survey results were grouped into three categories: health priorities, barriers to care, and community issues. The top health concerns identified by survey participants were hypertension, musculoskeletal pain, diabetes, mental health, and obesity. Several barriers to care were identified, with over half of survey participants experiencing at least one barrier to care. One in four respondents indicated insurance access as a barrier. Other barriers to care included a lack of available appointments, transportation, inability to find a provider, and interference with work schedule. Several community issues were identified by the survey respondents as health challenges. The five most important community issues were asthma, mental health, smoking, obesity, and unemployment.

Qualitative findings were based on key informant interviews and focus groups conducted with patients and community members. Focus group participants and key informants were asked what they thought were the biggest health problems facing the community. Although hypertension was identified as the biggest health problem in the quantitative data, participants in the focus groups and key informant interviews were more verbal about the mental health concerns of the community. In addition, participants highlighted obesity as a major health priority. Participants mentioned many different barriers to accessing healthcare. Access to information to better manage health and know about available services was the most prominent theme, followed by cost of care. In addition to personal health issues and diseases, participants were asked about what would help make the community healthier as a whole. Their main concerns were around the relative low income of the community. These concerns centered on being able to afford healthcare and medications, being able to purchase healthy food, and being able to pay for exercise opportunities. Concerns about finances were seen as contributing to mental health issues in the community. One Spanish-language focus group was conducted to learn about community health needs specific to the Spanish-speaking population. Participants spoke about language as a barrier to accessing healthcare and discussed the fact that people who don't speak English are apprehensive about seeking healthcare because translators are not always accurate.

Based on the data gathered through primary and secondary sources, the Institute team leading the needs assessment determined that the following health needs should be prioritized:

- Access to and awareness of culturally specific, affordable, and accessible primary care
- Increased access to mental health services
- Asthma prevention and outpatient management
- Access to healthy foods to combat obesity and other diet-related diseases
- Economic and housing security

As such, the following recommendations were made to advance positive health changes in East and Central Harlem:

- ✚ Improve access to and awareness of culturally specific, affordable, and accessible primary care
- ✚ Increase access to mental health services
- ✚ Asthma prevention and outpatient management
- ✚ Promote increased access to healthy foods to combat obesity and other diet-related diseases
- ✚ Support advocacy for improved economic and housing security

Introduction

According to the National Association of County & City Health Officials (NACCHO),¹ a community health needs assessment is a process that uses quantitative and qualitative methods to systematically collect and analyze data to understand health within a specific community. As a federally qualified health center (FQHC), the Institute for Family Health (the Institute) is required to periodically conduct community health needs assessments of its service areas. As Harlem is one of its largest service areas, Institute staff decided to conduct a health needs assessment of the East and Central Harlem communities in 2014. The goal of this health needs assessment was to expand the understanding of current health issues and needs and to identify specific interventions and resources to improve health outcomes in these historically underserved communities. This community health needs assessment was conducted by the faculty and family medicine residents of the Harlem Residency in Family Medicine.

About the Institute for Family Health

Founded in 1983, the Institute is a network of federally qualified health centers. The mission of the Institute is to improve access to high quality, patient-centered primary health care targeted to the needs of medically underserved communities. In support of its mission, the Institute for Family Health:

- develops and operates community health care centers that include primary care, behavioral health, dental and social services;
- trains health care professionals to provide patient centered primary care in a family practice model;
- addresses barriers to health equity to eliminate racial and ethnic disparities in health outcomes;
- promotes the meaningful use of health information technology to enhance the quality and efficiency of care, increase coordination with other providers, provide patients with ready access to their personal health records and communicate with the public health care system;
- implements community based health promotion and outreach programs; and
- engages in health services research and formulates policy related to primary care and mental health care delivery and education.

FAST FACTS: THE INSTITUTE

▲ HEALTH CENTERS

Operates 19 full-time health centers and 8 part-time centers in Manhattan, the Bronx, and the Mid-Hudson Valley

▲ POPULATION

Serves medically underserved communities

▲ SERVICES

Provides primary and preventive care, mental health, dental care, and social services

The Institute currently operates 19 full-time health centers and eight part-time centers in Manhattan, the Bronx, and the Mid-Hudson Valley of New York State. All centers provide a full range of primary and preventive care, mental health, dental care and social services, among other services. Like all community health centers, the Institute accepts all patients regardless of their ability to pay and is governed by a Board comprised of a majority of health center patients.

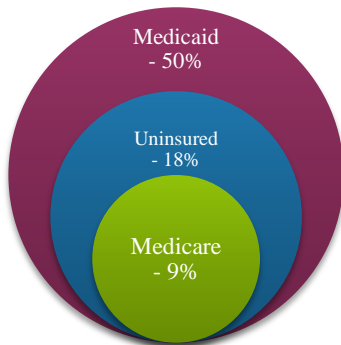
The Institute has a strong track record of success in operating high-quality clinical programs. Since 2005, the Institute has been fully accredited by the Joint Commission on the Accreditation of Health Care Organizations (JCAHO). In August 2009, the Institute achieved Level 3 certification as a Patient Centered Medical Home from the National Committee for Quality Assurance, the first health center network in New York State to achieve this distinction.

In addition to its health centers, the Institute operates numerous programs that support the goals of eliminating health disparities and providing access to quality health care to all, regardless of ability to pay. These include Bronx Health REACH, funded by the Centers for Disease Control to eliminate racial disparities in health outcomes in diabetes; the New York Metropolitan Area Health Education Center (AHEC), which focuses on increasing the diversity of the healthcare workforce and recruiting providers to underserved communities; four Ryan White programs that provide comprehensive medical, mental health and other services to people affected by HIV/AIDS; and two free clinics operated in collaboration with medical students from the Albert Einstein College of Medicine and the New York University School of Medicine. It also operates a large NYS funded Healthy Families program that provides home visiting services to at-risk families with young children in Ulster and Dutchess counties.

About the Family Health Center of Harlem

Opened in 2010, the Family Health Center of Harlem (FHCH) is one of the two largest Institute sites in Manhattan. In 2014, 15,000 patients visited the FHCH making over 81,000 visits, including primary care, dental, mental health, and specialty care. The FHCH serves a broad community of diverse patients with a wide range of health care needs. Approximately 56% of FHCH patients identify as Black/African American and 40% identify as Hispanic. Twelve percent identify as Puerto Rican, and comprise the largest Hispanic ethnic group we serve at the health center. Eighty percent of FHCH patients are aged 18 and older. Nearly 50% of FHCH patients have Medicaid, 9% have Medicare and 18% are uninsured.

FHCH: INSURANCE COVERAGE



The FHCH currently does much to address the health needs of our patients and the community. As a patient-centered medical home, our practice increases patient access to primary care and specialists, as well as emphasizes care coordination functions through non-visit based care. The FHCH currently offers the following services:

- Primary care (bilingual providers)
- Behavioral health services: individual, group, couples and family therapy as well as psychiatric services
- Dental services
- Specialty care: cardiology, dermatology, gastroenterology, neurology, podiatry
- Procedure clinics: full spectrum reproductive health services; skin/dermatology; joints injections
- Case management: assistance with insurance, food stamps, housing
- Care management/navigators: intensive disease management services
- HIV Medical Care and Case Management (COMPASS)
- Women, Infants, and Children (WIC)

- Fit For Life group nutrition and exercise programming
- Diabetes care: Help Educate to Eliminate Diabetes (HEED) program; Stanford diabetes self-management program; and CDC National Diabetes Prevention Program (NDPP) groups

In addition, the Institute participates in the Manhattan-focused Medicaid Health Home, a care management service model where a diverse network of organizations – providers, health plans and community-based organizations - communicate and collaborate with one another so patients’ needs are addressed in a comprehensive, coordinated manner. Health Home participating organizations work collaboratively to advocate for service and policy changes to improve the health of East Harlem.

FHCH staff is trained to work in teams to engage in population management, patient outreach, and targeted patient contact. Expanded hours and use of a patient portal allow for Internet communication between the patient and the provider, patient access to individual medical records, and the ability to schedule appointments. Technology plays a role in integrating complex health systems through health information exchange. Through the use of Institute Link, partner organizations can schedule appointments for their clients, authorized medical personnel can access record data and communicate with Institute staff to provide coordinated patient care and facilitate cross-referrals. The goal is ultimately is to improve patient wellness and reduce over-utilization of acute care resources.

Apart from offering these services, the FHCH was designated one of the first Teaching Health Centers in the United States in 2011. The residency program at the FHCH is a collaboration with the Icahn School of Medicine at Mount Sinai and Mount Sinai Hospital (ISMMS) with 32 residents currently being trained in family medicine. Teaching Health Centers like the FHCH receive federal funding to train more than 550 residents nationally in the provision of primary care services in high-need communities.

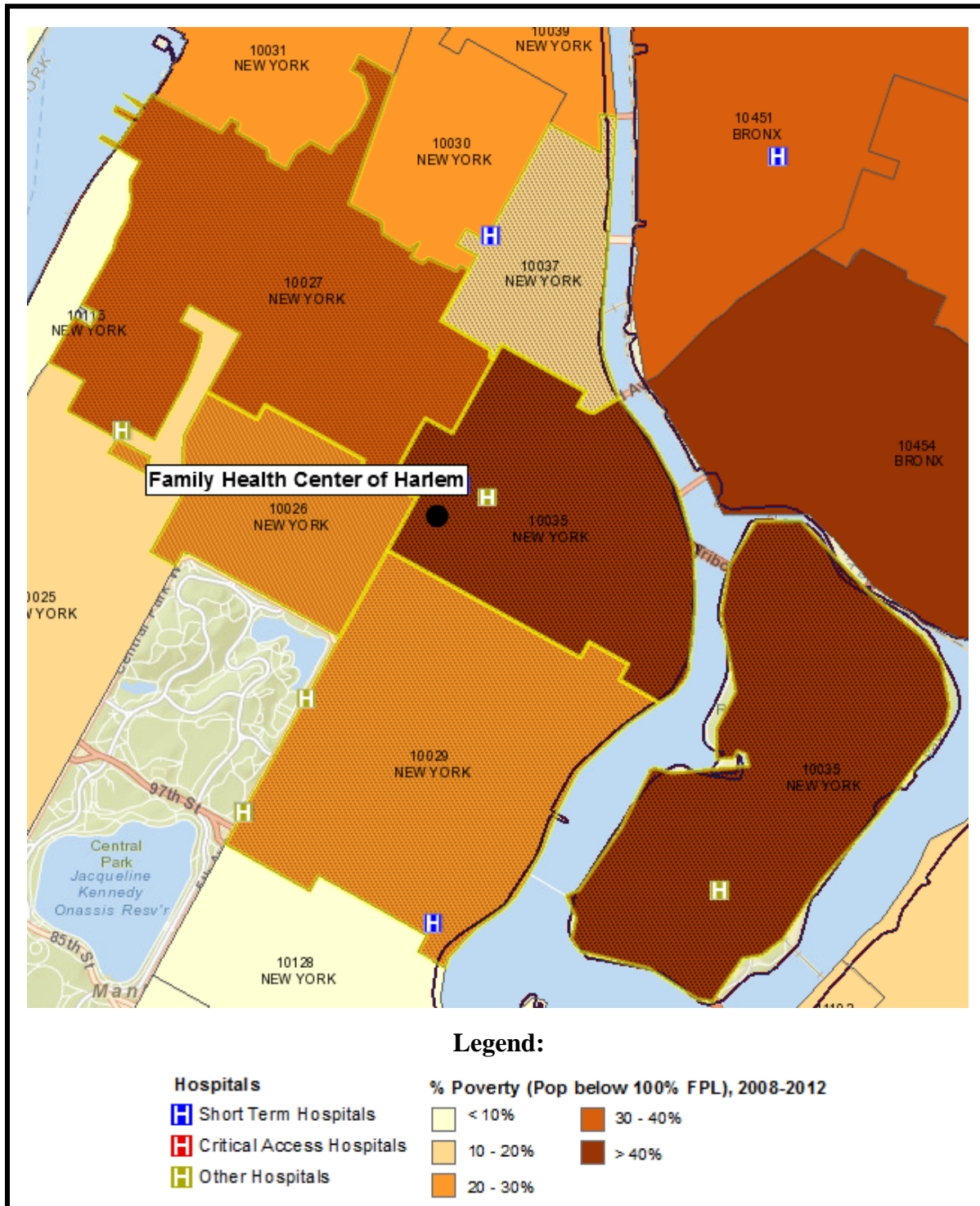
FHCH Service Area: East and Central Harlem

Located in upper Manhattan’s East Harlem neighborhood, the FHCH primarily serves the communities of East and Central Harlem. The FHCH service area was determined based on the location of the health center, zip codes where a majority of current FHCH patients reside, and the service area of the local community boards. The service area includes zip codes 10035, 10029, 10027, 10026 and 10037 (see Table 1 and Figure 1). Most census tracts in these zip codes are Federally Designated Medically Underserved Areas/Populations (MUA/Ps) and Health Professional Shortage Areas (HPSAs) (see Figure 2).² The FHCH is also located in an area that is a primary care, mental health and dental HPSA.

Table 1: Primary Zip Codes Served by the FHCH

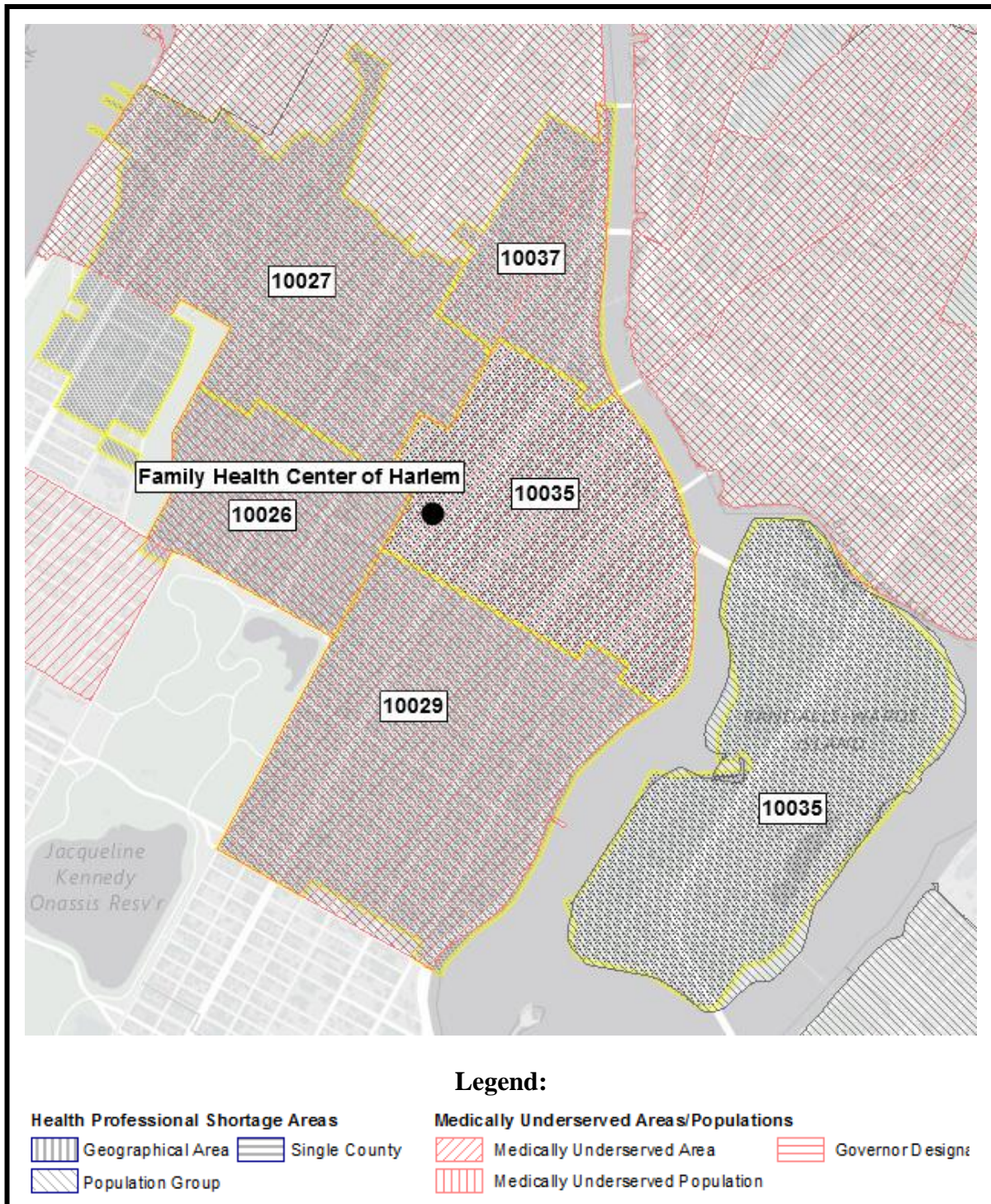
Primary Zip Codes	Percentage of FHCH Patients by Zip Code
10035	22.55%
10029	14.7%
10027	6.3%
10026	5.3%
10037	3.8%

Figure 1: Percent of Population Living Below 100% Federal Poverty Level (FPL) in Service Area



Source: UDS Mapper

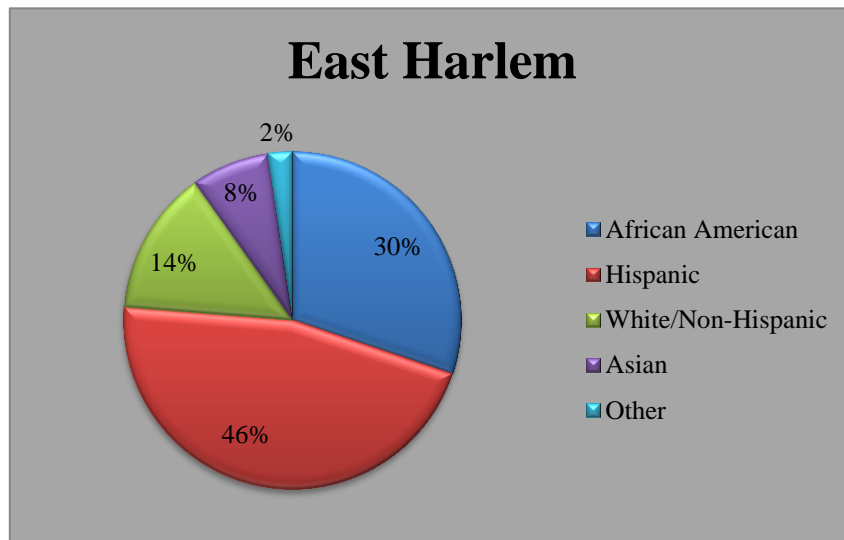
Figure 2: HPSAs and MUA/Ps in Service Area



Source: UDS Mapper

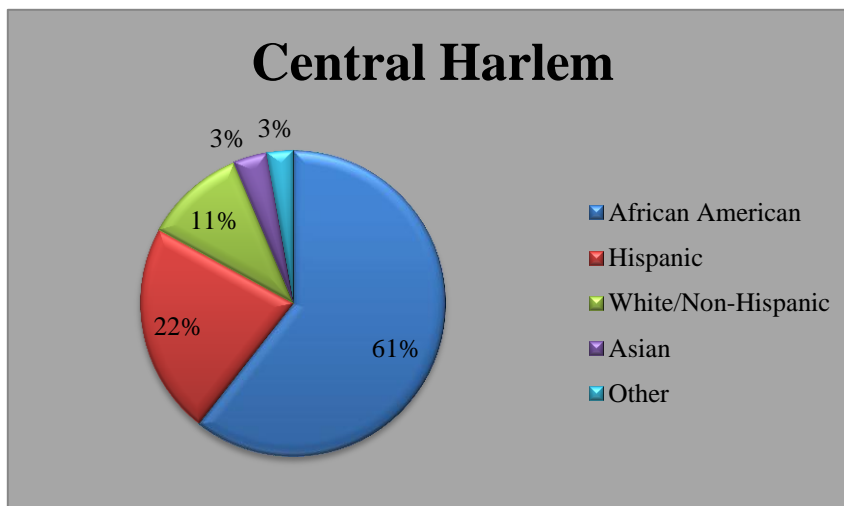
According to the 2010 Census, the total population of the primary service area of the FHCH is 221,098.³ The majority of the residents in the service area, which largely corresponds to Community Districts 10 and 11, are African Americans and Hispanics (see Figures 3 and 4).⁴ East and Central Harlem are also home to a large population of foreign born residents. The largest foreign groups are West Indian (excluding Hispanic origin) and Sub-Saharan African.⁴

Figure 3: Racial and Ethnic Demographics of East Harlem



Source: US Census Bureau, ACS 3 year estimates 2010-2012

Figure 4: Racial and Ethnic Demographics of Central Harlem



Source: US Census Bureau, ACS 3 year estimates 2010-2012

The following sections will describe our data collection methodology, report community health findings, and suggest recommendations on how to address health issues identified through both secondary and primary data collection.

Data Collection, Process and Methods

COMMUNITY ADVISORY BOARD

Community Advisory Board Selection:

Individuals representing the broad interests of the community were invited to join the community advisory board (CAB) to provide direction for the health needs assessment. Careful attention was given to invite CAB members with knowledge of both the East and Central Harlem communities and the respective needs of each. Those invited included a New York City Housing Authority tenant association president, a Central Harlem entrepreneur and historian, a community activist, a religious leader, and a health educator and asthma expert. These individuals were known informal community leaders with extensive varied interests and involvement in activities focused on improving the quality of life for Harlem residents.

Role and Composition:

The CAB, comprised of eight community members, was created in January 2014. Six out of the eight members were African American and two were Hispanic; five CAB members were females. The CAB was comprised of members who worked for organizations that serve the East and Central Harlem communities and are activists and/or residents of these communities.

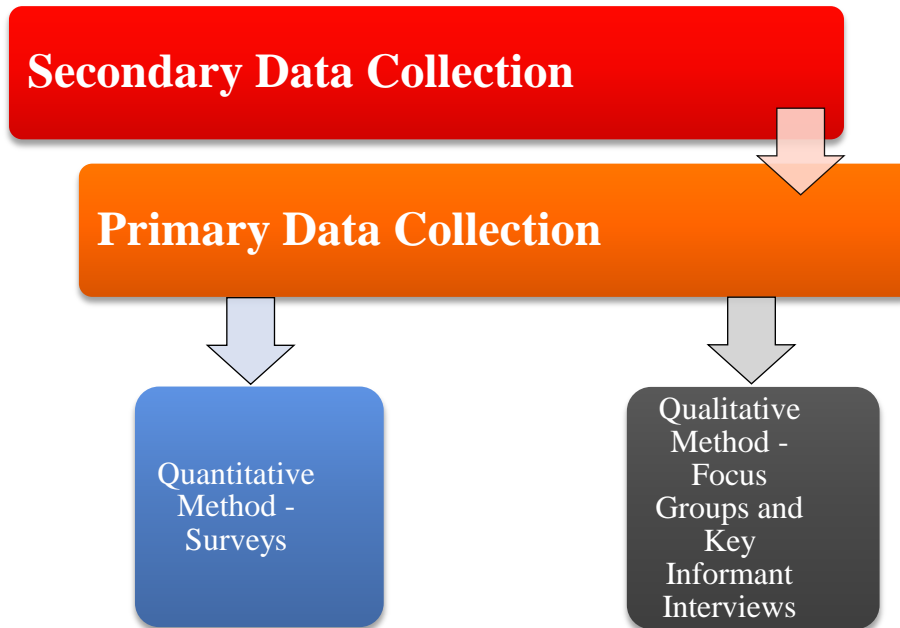
The CAB was instrumental in helping to identify the health needs of the community. It provided feedback on the data collection instruments, assisted with recruitment of community residents for the focus groups, and recommended key informants for interviews.

For a complete list of organizations the Institute collaborated with on the health needs assessment, see Table 2.

Table 2: Community Collaborators

Organization Name	Description
Union Settlement	Union Settlement Association has served the people of East Harlem since 1895. One of the largest settlement houses in New York, it serves more than 10,000 East Harlem residents of all ages each year through its education, health, senior services, youth development, childcare, counseling, and economic development programs. This organization recruited participants for and hosted one focus group.
Little Sisters of the Assumption	The Little Sisters of the Assumption (LSA), Inc. is a nonprofit, neighborhood-based organization founded in 1958 that works with the people of East Harlem to address the physical, emotional, educational, and spiritual dimensions of family health. This organization helped recruit focus group participants.

In order to obtain a comprehensive understanding of the community we serve, data was collected through a multi-method approach using secondary and primary sources. Further details are outlined below for each type of data collected and method used. All data was collected and analyzed between September 2013 and October 2014.



SECONDARY DATA COLLECTION

Secondary data was collected to provide in-depth information on the health status of the East and Central Harlem communities. Secondary data analysis informed the instruments used in the primary data collection for both quantitative and qualitative methods. A variety of sources were used in secondary data collection. For all of the reported measures, the most recently available data and reports were used.

▲ SECONDARY DATA COLLECTION SOURCES

- ✚ U.S. Census data, demographic data²
- ✚ New York City Department of Health and Mental Hygiene Community Health Surveys⁵
- ✚ Statements of Community District Needs, Fiscal Year 2013, Districts 10 and 11⁶
- ✚ Center for Disease Control (CDC) National Vital Statistics Reports⁷
- ✚ New York City Department of City Planning, District Profiles^{8,9}
- ✚ Health Resources and Services Administration²
- ✚ New York State Department of Health¹⁰
- ✚ American Cancer Society¹¹

PRIMARY DATA COLLECTION

For primary data collection, both quantitative and qualitative methods were used to gain insight from East and Central Harlem community members. A total of 136 surveys were collected from FHCH patients and community members. In addition, seven key informant interviews and three focus groups were conducted.

Recruitment:

Surveys were distributed to patients who utilize the services of the FHCH as well as other community members. Research team members asked patients in the waiting room if they would be willing to complete the survey. Waiting room patients were also invited and given information on the scheduled focus groups. They were given a “Save the Date” pocket sized reminder card. Some community residents were recruited to complete the surveys and participate in focus groups in the health center. Many of these residents were accompanying FHCH patients to their health center appointment. Community residents were also recruited outside of the FHCH. Research team members surveyed community residents in areas where people are likely to congregate. If assistance with the survey was requested by any participant due to low literacy or health issues, a research team member would read and explain each question on the survey. Flyers promoting the focus groups were distributed to FHCH patients and were posted in highly visible areas. Health center providers were encouraged to promote the focus groups to their patients. Patients attending the Institute’s diabetes groups were also given information. Additionally, as detailed above, participants who completed the surveys were given information about the focus groups. Community residents were recruited through community contacts of the Outreach Department at the FHCH. The CAB also helped identify key informants with community expertise.

Methodology - Quantitative:

The survey included a total of 15 questions and solicited information on participant demographics, personal health priorities, barriers to care, and community issues. The CAB was asked for their input on the survey content and wording. The surveys were distributed from March through June 2014. Data was cleaned and analyzed using SPSS v.22. Data was analyzed using frequencies and descriptive statistics.

Methodology - Qualitative:

To obtain more information about the FHCH patient’s health priorities and concerns, three focus groups were held with East and Central Harlem patients and community members. These focus groups took place between April and June of 2014. The average number of participants was ten. One of the focus groups consisted of Spanish speaking patients and community members, while the other two were with English speaking patients and community members. In addition, we conducted seven key informant interviews with patients and community members. The focus groups and interviews concentrated on barriers to care, health priorities, social issues, and specific population needs. All participants were given a metro card as remuneration for their time. Transcripts from key informant interviews and focus group discussions were analyzed using Dedoose, an Internet-based mixed-methods analysis software. Two members of the research team identified and coded common themes.

PRIMARY DATA COLLECTION

▲ QUANTITATIVE METHODS

Participants: 136 patients and community residents

Method: Paper survey

▲ QUALITATIVE METHODS

Participants: 25 FHCH patients and community residents

Methods: Focus Groups and Key Informant Interviews

Community Health Findings

SECONDARY DATA FINDINGS

Secondary data was collected to provide a deeper understanding of the prevailing health concerns in the communities of East and Central Harlem. After secondary data was gathered, a set of community health concerns was identified. These are described below and subsequently served as the basis for primary data collection.

FAST FACTS: EAST AND CENTRAL HARLEM

EAST HARLEM

- Median Household Income: \$28,734
- Percent Living Below 100% Federal Poverty Line: 34%
- Percent Receiving Income Support: 45%
- Unemployment Rate: 34%
- High School Completion: 66%
- Insurance: 25% are uninsured and 28% receive Medicaid
- No Regular Doctor: 20%

CENTRAL HARLEM

- Median Household Income: \$36,807
- Percent Living Below 100% Federal Poverty Line: 27%
- Percent Receiving Income Support: 39%
- Unemployment Rate: 28%
- High School Completion: 84%
- Insurance: 14% are uninsured and 23% receive Medicaid
- No Regular Doctor: 19%

East and Central Harlem are ranked among the poorest neighborhoods in all of New York City. The median household incomes of East Harlem (\$28,734) and Central Harlem (\$36,807) are significantly lower than New York City (\$51,865) and the US (\$53,046).² In addition, the percentage of persons living in poverty in East Harlem (34%) and Central Harlem (27%) is significantly higher than in the rest of New York City (20%) and the US (15%).² In East Harlem (zip codes 10029 and

10035), the unemployment rate averages 34%, and only 66% of residents have completed high school.² Similarly, in Central Harlem (zip codes 10026, 10027, and 10037), the unemployment rate averages 28% while 84% of residents have completed high school.² Additionally, 45 percent of East Harlem residents and 38.7 percent of Central Harlem residents received some type of income support in 2014.²

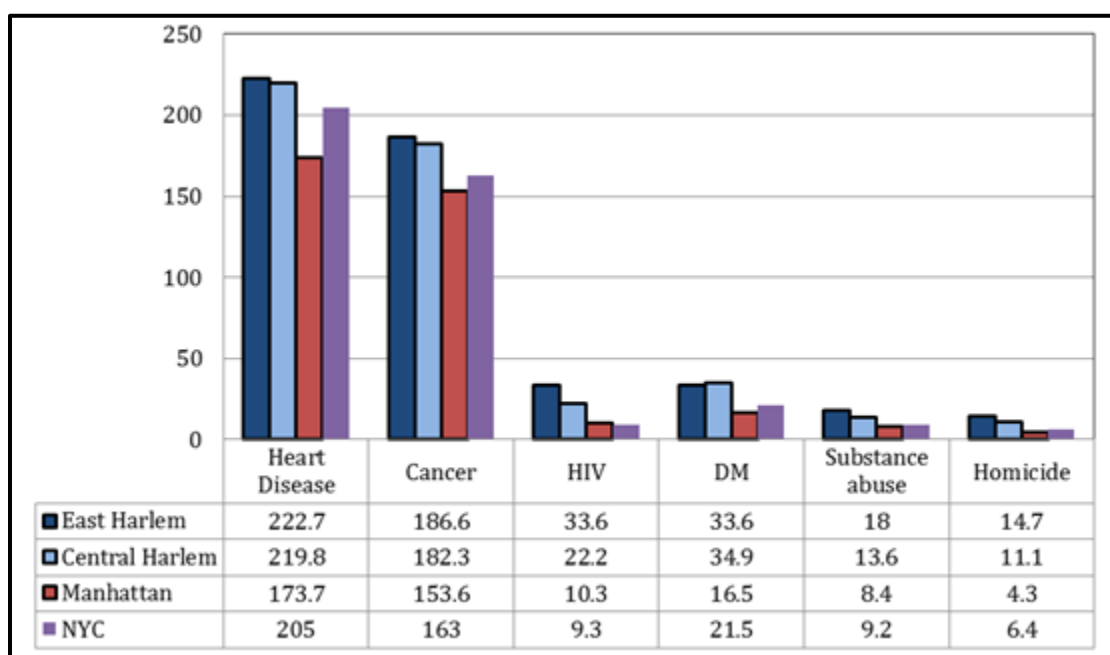
According to the New York City Community Health Survey 2013, 25% of residents in East Harlem and 14% of residents in Central Harlem did not have health insurance.⁵ Approximately 28% of East Harlem residents and 23% of Central Harlem residents received Medicaid.⁵ Twenty percent of East Harlem residents and 19% of Central Harlem residents did not have a regular doctor or other health care provider.⁵

Social determinants of health like those described above (income, education, employment and access to resources like insurance) have a tremendous impact on health. Research has demonstrated a strong correlation between poverty and poor health outcomes, thought to be mediated by diminished access to

resources including nutritious foods, safe spaces to exercise, and adequate housing. In addition, research has shown that in high-poverty communities like East Harlem, increased stress, and limited social capital and political influence can further erode community health. These influences are reflected in the poor health outcomes experienced by residents in these communities and are detailed below.

East and Central Harlem have consistently demonstrated a significantly higher rate of mortality in a number of underlying preventable causes compared to Manhattan and New York City. As illustrated in Figure 5, deaths related to heart disease, cancer, HIV and diabetes were all significantly higher in East and Central Harlem than the rest of Manhattan and NYC in 2012.¹² In that same year, homicide rates in East and Central Harlem were three times as high as Manhattan and NYC, while substance abuse-related deaths were nearly twice as high.¹²

Figure 5: Death Rate by Underlying Causes, 2012 (per 100,000)



Source: NYCDOHMH Vital Statistics 2011. Mortality rates are per 100k populations

Heart Disease

Cardiovascular disease is the leading cause of death in the United States.¹³ Cigarette smoking, hypertension, elevated cholesterol, sedentary lifestyle and elevated fasting blood glucose are borderline risk factors for cardiovascular disease. Central and East Harlem have a high prevalence for many of these risk factors.^{14,15} New York State Department of Health (NYS DOH) Prevention Quality Indicators reveal that the hospital admissions rate for all cardiovascular conditions in East Harlem is 331% of the expected admissions rate for the population size.¹⁶ Admission rates for Hispanics are 227% of the expected admission rate.⁶ In Central Harlem, the hospital admission rate was 201% and 150% of the expected admission rate for African Americans and Hispanics, respectively.⁶ This data indicates great

potential to reduce inpatient cardiovascular admission rates by providing adequate preventative care and education, and by harnessing community resources to enable healthier behaviors.

Hypertension

According to the Centers for Disease Control and Prevention (CDC) in 2010, 32% of adults in the United States over the age of 20 were diagnosed with hypertension.¹⁷ The prevalence of hypertension is highest among African American adults (44%).¹⁸ According to the New York City Department of Health and Mental Hygiene (NYS DOHMH), 36.5% of East and Central Harlem residents have been told by a doctor, nurse or other health professional that they have hypertension, compared with 27.8% of all NYC residents.^{15,14} Hypertension is one of the main risk factors for cardiovascular disease and stroke and can be managed with proper diet, exercise, and inexpensive medications.

Diabetes

The NYCDOHMH characterized diabetes as an epidemic in NYC.¹⁹ Diabetes in NYC has more than doubled from 1995 to 2011.¹⁹ In neighborhoods with high poverty, diabetes is nearly 70% more common compared to low poverty neighborhoods. Among NYC neighborhoods, both East and Central Harlem have one of the highest rates of patients diagnosed with diabetes.⁵ The complications of diabetes such as death and limb amputations have also been found to disproportionately affect these low income neighborhoods.²⁰

Obesity

Obesity, defined as Body Mass Index (BMI) greater than 30 kg/m², continues to grow at an alarming rate in the US, contributing to many leading causes of preventable death including stroke, type 2 diabetes, heart disease, and cancer.²¹ Non-Hispanic African Americans have the highest age-adjusted rates of obesity (47.8%), followed by Hispanics (42.5%), non-Hispanic Whites (32.6%), and non-Hispanic Asians (10.8%).²⁰ Residents of East and Central Harlem tend to have higher rates of obesity, consume more sugary beverages, and exercise less than residents of other neighborhoods of Manhattan, as shown in Table 3 below.²²

FAST FACTS: HEALTH MEASURES

- ▲ HEART DISEASE HOSPITALIZATION (PER 100K)
 - ✚ East Harlem: 2,706
 - ✚ Central Harlem: 2,122
- ▲ HYPERTENSION
 - ✚ East Harlem & Central Harlem: 36.5%
- ▲ DIABETES
 - ✚ East Harlem: 13%
 - ✚ Central Harlem: 12%
- ▲ OBESITY
 - ✚ East Harlem: 25.3%
 - ✚ Central Harlem: 30.3%
- ▲ CANCER MORTALITY (PER 100K)
 - ✚ East Harlem: 208
 - ✚ Central Harlem: 222
- ▲ HIV (PER 100K)
 - ✚ East Harlem: 84.2
 - ✚ Central Harlem: 127.1
- ▲ ASTHMA RELATED HOSPITALIZATIONS (PER 10K)
 - ✚ East Harlem: 364
 - ✚ Central Harlem: 371.4

Table 3: Percentage of neighborhood population that self-report as overweight and obese, consume >1 sugary drinks per day, and report no exercise in last month.

Neighborhood	East Harlem	Central Harlem	Upper East Side/Gramercy	Union square/lower Manhattan
% Overweight and Obese	25.3	30.3	8.8	8.1
% Consume >1 sugary drinks per day	38.3	37.9	11.6	18.9
% No exercise in last 30 days	22	21.7	14.3	15

Source: Bureau of Epidemiology Services. NYC Dept. of Health and Mental Hygiene 2012

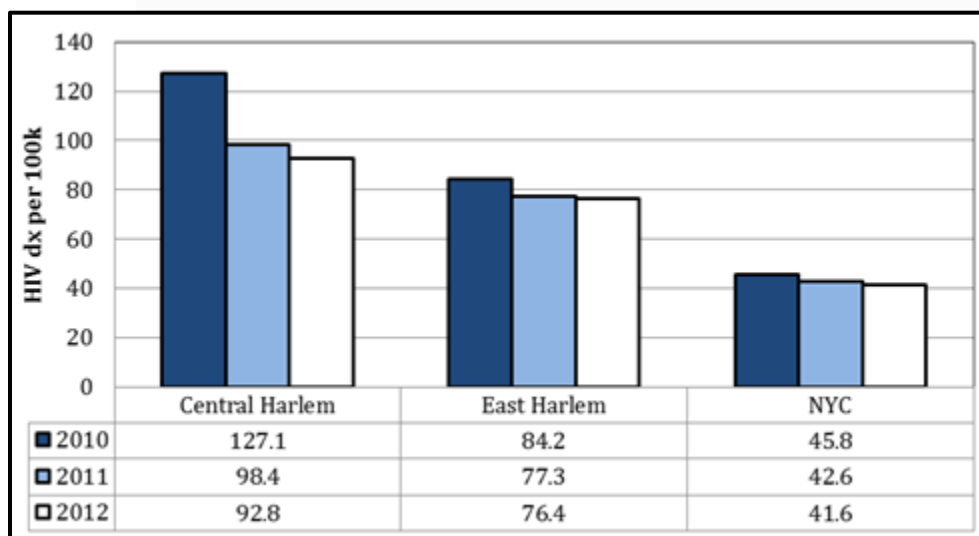
Cancer

African Americans have the highest cancer-related death rates and shortest survival times compared to any other racial and ethnic group in NYC.²³ The causes of these inequalities are complex and are thought to reflect social and economic disparities. Disparities include barriers to high-quality cancer prevention, early detection, and treatment services.²³ As indicated in Figure 5, cancer related mortality rates in the primary service area of the FHCH reflect many of these inequities. Data from the NYC DOHMH show death rates from breast, colorectal and cervical cancer are highest among African-Americans, particularly in the poorest neighborhoods of the city such as East and Central Harlem.²³

HIV and Sexually Transmitted Diseases

HIV mortality rates have decreased significantly during the past decade in East and Central Harlem.^{15,14} However, even in 2012, the annual HIV-related death rate was more than twice the rate in Manhattan and NYC overall.²⁴ Although trending downward, the rate of new HIV diagnosis is still nearly twice as high in East and Central Harlem compared to NYC (See Figure 6).²⁴

Figure 6: HIV Diagnosis Comparison in New York City, 2010 – 2012



Source: NYCDOHMH HIV epidemiology and field services program semiannual report, October 2012

Compared to NYC, East and Central Harlem also have higher rates of other sexually transmitted infections (STIs). As shown in Table 4, rates of chlamydia and gonorrhea in East and Central Harlem were in the top quartile for both men and women of all ages in 2013.²⁵

Table 4: Chlamydia and Gonorrhea infections among all ages, Full year 2013 rank (out of 42 neighborhoods), reported to NYCDOHMH

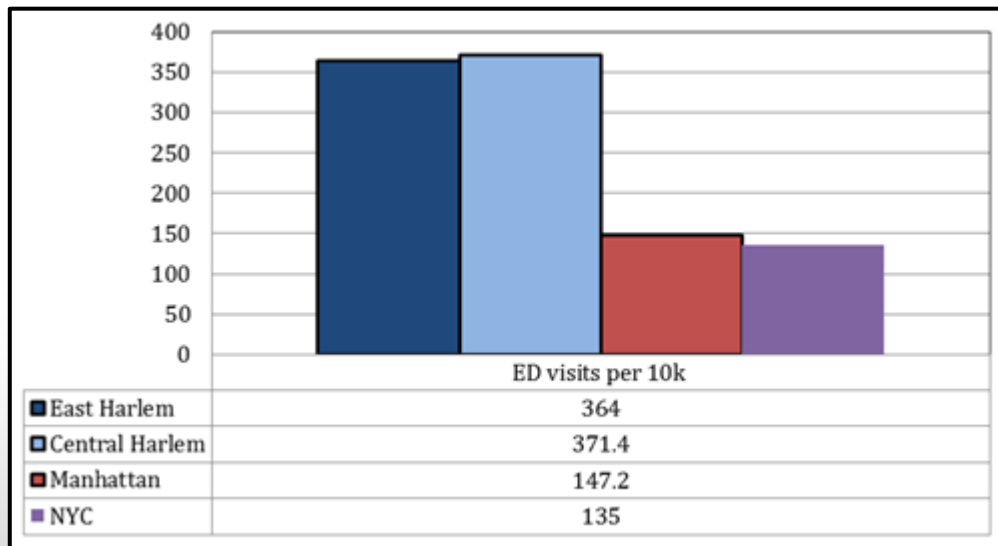
	Chlamydia		Gonorrhea	
	Female	Male	Female	Male
Central Harlem	7	2	6	2
East Harlem	8	6	3	5

Source: Bureau of Sexually Transmitted Disease Control 2nd Quarter 2014 Quarterly Report

Asthma

Asthma is a common chronic lung disease worsened by exposures or “triggers” in the home, including second-hand smoke, dust, and rodent or other pest infestations.²⁶ One indication of poorly controlled asthma is the number of emergency room visits in a community. According to 2009-2011 SPARCS data, East and Central Harlem residents had twice as many asthma related Emergency Department (ED) visits compared to the rest of Manhattan and NYC (see Figure 7).²⁷

Figure 7: Asthma-related ED visits (per 10,000), 2009 – 2011



Source: NYSDOH Asthma Emergency Dept. Visits in New York State by County and Zip Code (2009-2011)

These secondary data demonstrate that East and Central Harlem have consistently higher rates of mortality in a number of underlying preventable causes compared to Manhattan and New York City overall. The major community health concerns identified through the process of gathering secondary data, as reported above, were heart disease, hypertension, diabetes, obesity, cancer, HIV and sexually transmitted diseases, and asthma.

PRIMARY DATA FINDINGS

While the secondary data demonstrates a general landscape of the health of East and Central Harlem, the actual experiences and perceptions of the residents of the neighborhoods provide a more personal frame of reference for identifying community health priorities.

Quantitative Findings:

Sample Characteristics

Demographic characteristics of survey respondents ($n = 136$) are summarized in Table 5. Nearly 50% of respondents were between the ages 40 and 64, and 68% identified as female. The majority were African American (68%) and 35% were Hispanic, reflecting the overall composition of FHCH patients and the community. Most respondents reside in East and Central Harlem (43.4% and 23.5%, respectively). English was the primary language for 73% of the respondents and 29% were Spanish speakers or bilingual. About 12% of respondents had less than a high school education, 26% had completed high school, 33% had some college education, and 28% were college graduates. Ninety percent of the patients had some form of health insurance.

Survey Results

A variety of health-related questions were asked in the survey and the results are grouped into three categories: health priorities, barriers to care, and community issues.

Table 5: Characteristics of Survey Respondents (N=136)

	<i>n</i>	%
Age		
18-39	51	38.9
40-64	64	48.9
65+	16	12.2
Gender		
Male	43	32.1
Female	91	67.9
Race		
Black/African American	61	65.6
White	16	17.2
Multiracial/Other	16	17.2
Hispanic	47	34.6
Language		
English	98	73.2
Spanish or bilingual	36	26.9
Spanish- English		
Education		
< High School	14	12.3
High School	30	26.3
Some College	38	33.3
College Graduate	32	28.1
Insurance		
Yes	90	90.0
No	10	10.0
Zip Code		
Central Harlem [^]	32	23.5
East Harlem [#]	59	43.4
Bronx	37	27.2
Other	8	5.9

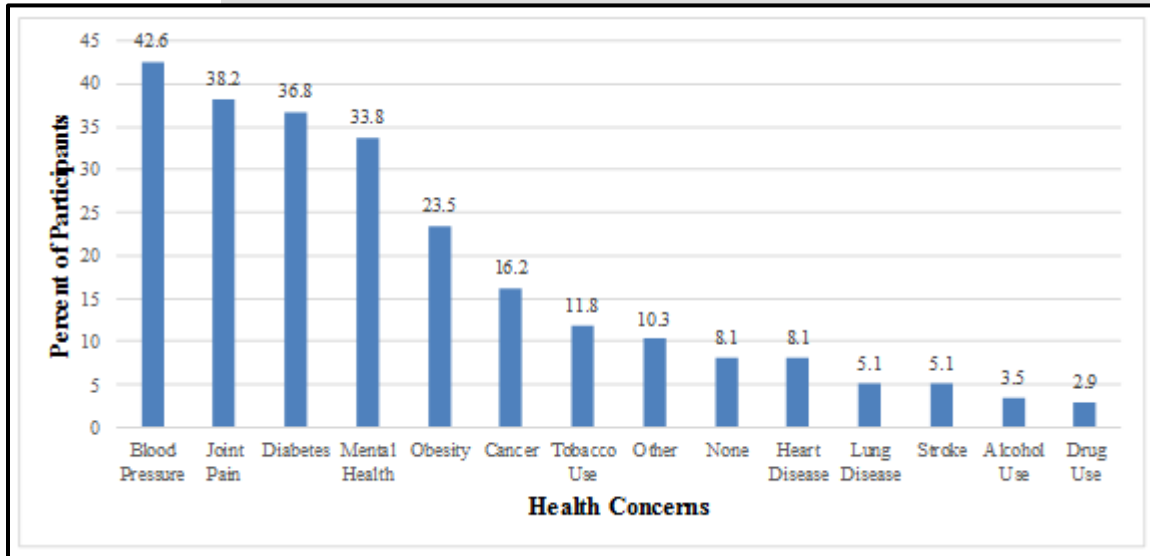
[^]10026, 10027, 10030, 10037, 10039

[#]10029, 10035

Health Priorities

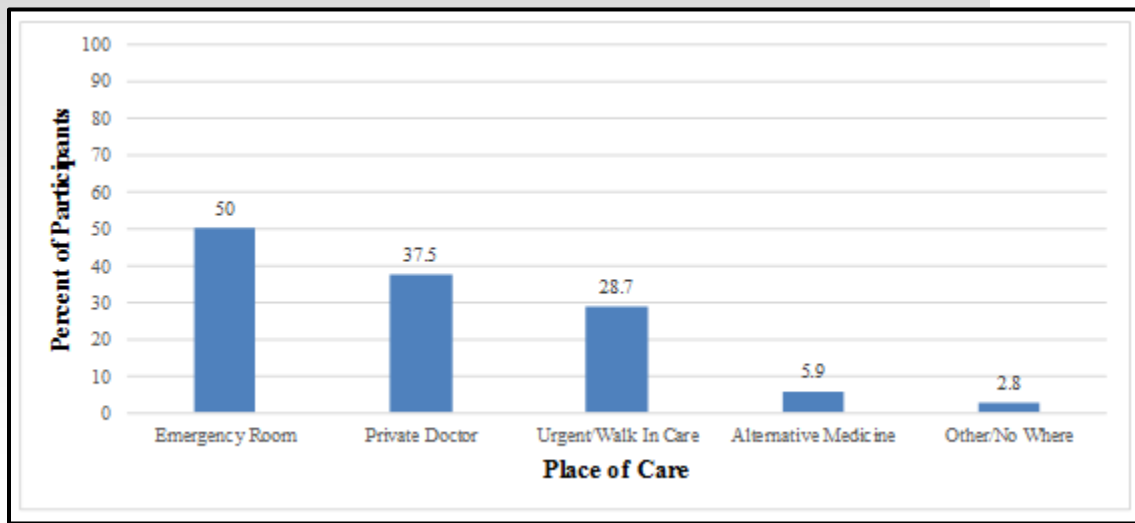
The top five health concerns identified by survey participants were blood pressure, joint pain, diabetes, mental health, and obesity. Hypertension was leading cause of concern for nearly 43% respondents, followed by musculoskeletal pain at 38%, diabetes at 37%, mental health at 34% and obesity at 24% (see Figure 8).

Figure 8: Top Health Concerns for Individuals



With regard to where participants seek medical care, respondents seek care more in the emergency room than at any other facility. Fifty percent of those surveyed reported the emergency room as their main source of medical care compared to 37.5% and 28.7% who seek care from a private doctor or an urgent care center/walk in facility, respectively (see Figure 9).

Figure 9: Where do Community Residents Seek Care?
(Note: Not mutually exclusive)



As illustrated in Figure 10, almost 80% of survey participants utilize medical services for primary care. Other highly utilized medical services included dental care (63%) and mental health care (34%). Figure 11 displays the types of preventative health services utilized by respondents. Physical exams are the most highly utilized preventative care service at 77%, followed by blood pressure monitoring (63%), flu vaccination (55%), dental examination (53%), and eye exams (49%).

Figure 10: Medical Service Utilization
(Note: Not mutually exclusive)

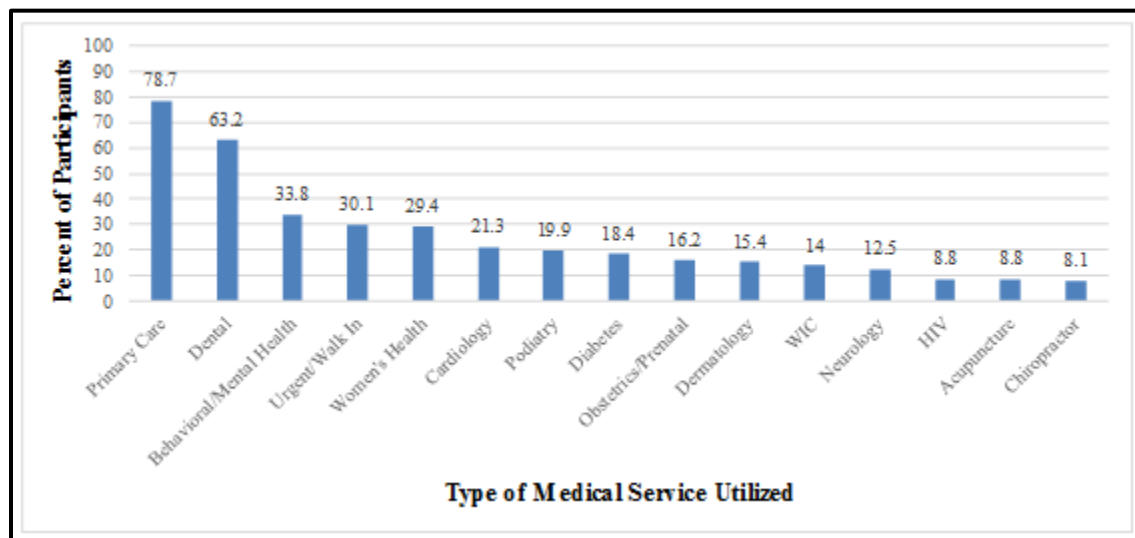
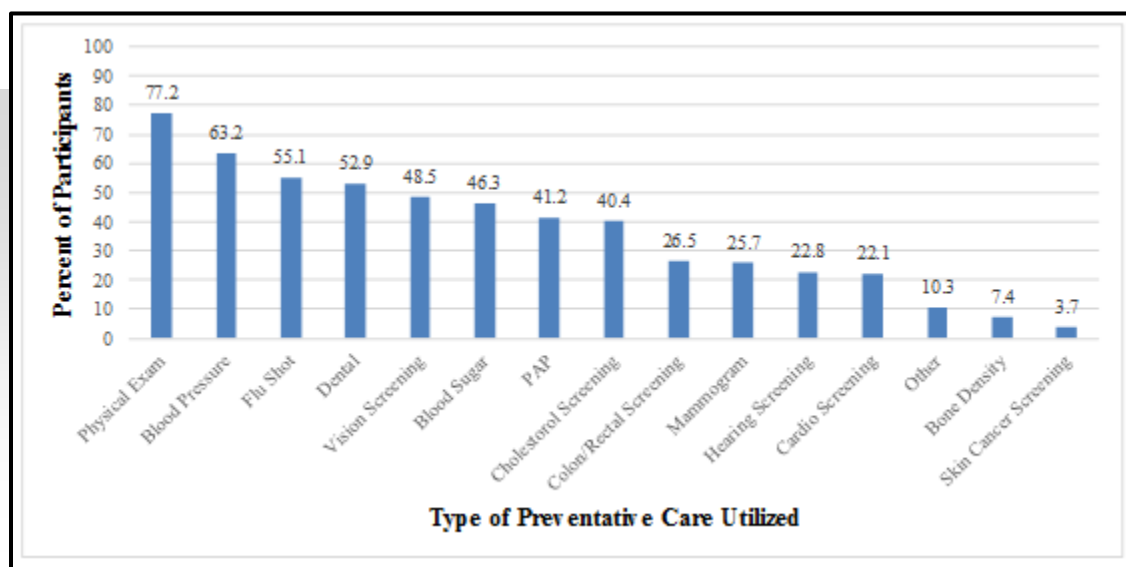


Figure 11: Preventative Care Services Utilization
(Note: Not mutually exclusive)



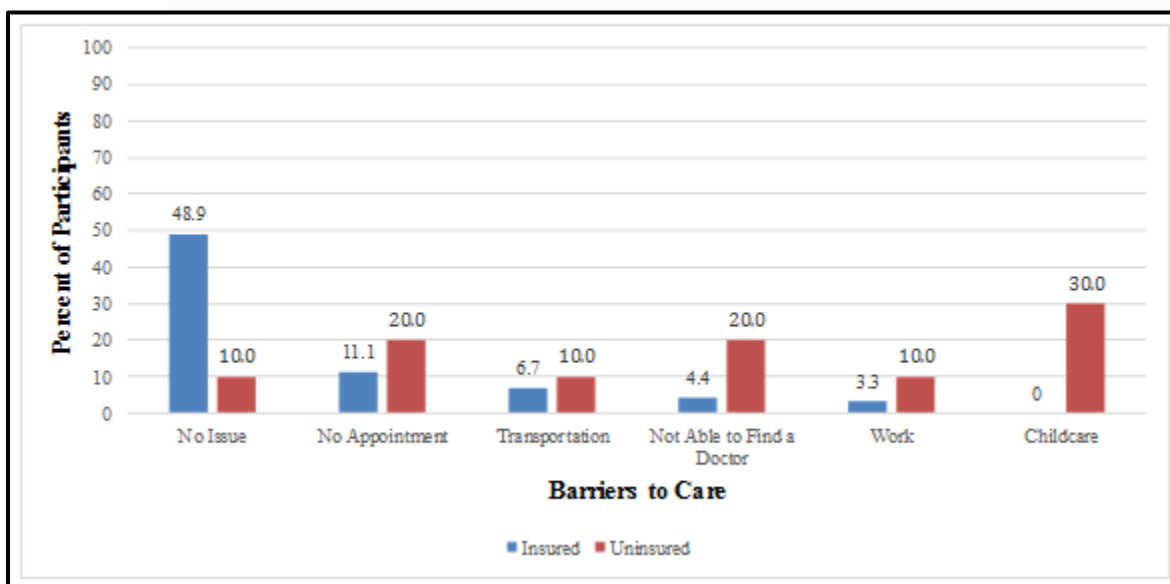
Participants access health information from a variety of sources. A majority of survey respondents receive health information from their doctor or another healthcare professional. Over one third of participants reported that they obtain health information from the Internet or social media outlets. Family and friends are also a source of health information for 33% of the respondents, while 28% use hospitals as their main source of information (see Table 6).

Table 6: Top 5 Sources of Health Information	
Source	Percent of Respondents
Doctor/Health Professional	61%
Internet/Social Media	35%
Family/Friends	33%
Hospital	28%
Newspaper/Magazine	16%

Barriers to care

Several barriers to care, defined as any issue that might prevent respondents or their family members from getting desired medical care, were identified. Over half of survey participants experienced at least one barrier to care. One in four respondents indicated insurance access as a barrier. Other barriers to care included a lack of available appointments (12%), transportation (8%), inability to find a provider (8%), and interference with work schedule (7%). Additional analysis revealed that insurance status is a major contributor to barriers to care. Nearly half of insured participants had no issues with getting medical care compared to only 10% of uninsured participants. More uninsured respondents encountered each of the barriers listed above than insured respondents as depicted in Figure 12.

Figure 12: Barriers to Care by Insurance Status



Community Issues

Several community issues were identified by respondents as health challenges impacting the communities of East and Central Harlem. The top five most important health issues facing the community were reported as asthma (53%), mental health (39%), and smoking (33%). Obesity and unemployed were both 30%. With the exception of mental health and obesity, three of the five most important community issues were different from those identified as top personal health priorities by respondents (See Table 6). Health priorities and community issues also differed in rank.

Table 7: Personal Health Priorities of Respondents versus Community Issues	
Top 5 Health Priorities	Top 5 Community Issues
Hypertension (43%)	Asthma (53%)
Musculoskeletal Pain (38%)	Mental Health (39%)
Diabetes (38%)	Smoking (33%)
Mental Health (34%)	Unemployment (30%)
Obesity (24%)	Obesity (30%)

Mental health and obesity were revealed in the survey data as top health priorities as well as top community issues. These were also identified as primary health needs in the qualitative data, as reported below.

Qualitative Findings:

To learn more about Family Health Center of Harlem patients' health priorities and concerns, three focus groups were held with Harlem patients and community residents. One of the focus groups was with Spanish speakers; the other two were with English speaking participants. In addition, we conducted seven key informant interviews with patients and community members. The focus groups and interviews focused on health priorities, barriers to care, community health, and monolingual Spanish-speakers' needs.

Health Priorities

Focus group participants and key informants were asked what they thought were the biggest health problems facing the community. Although hypertension was identified as the biggest health problem in the quantitative data, participants in the focus groups and key informant interviews were more verbal about the mental health concerns of the community. Participants' main concern around mental health was that there are not enough services in the community to address people's mental health needs:

Mental health is the highest priority. You got a lot of people around here who need therapy... In Harlem, I don't think there are enough services for all the people who need those services. Because there are too many people who have mental illness walking around who are not getting the services they need.

Participants expressed that there are not enough mental health care providers in East and Central Harlem. One key informant noted that mental health in this community goes mostly undiagnosed. Another key informant thought there would be less violence in the community if there were more mental health providers. A third key informant spoke of the limited number of social workers available specifically trained to work with youth. Because of the lack of mental health providers, wait times for appointments are much too long.

Participants also discussed stigma and fear in the community around accessing the mental health care services that do exist:

There's a stigma, particularly in Harlem, with mental health services. People do not want to be considered crazy, so they do not address these issues. The family may be in denial and will ignore mental health issues. There needs to be a push to address more of these issues.

Another participant pointed out that the elderly are afraid of Alzheimer's and dementia and that older Latinos in particular have preconceived notions of what a mental health exam might entail. They fear receiving any type of mental health evaluation. Participants also mentioned having seen a lot of mental health issues arising related to budget cuts. Stress and anxiety are increasing around these poverty-related issues.

Another health priority participants highlighted was obesity, a main concern around which was access in the community to exercise and recreation opportunities, especially for youth:

Why don't places like this [health center] or even other health facilities have places where we can go and exercise? Not everybody can pay \$90 a month to go to the gym. That should be a given.

In addition to concerns about paying for exercise opportunities, participants mentioned that community members cannot always afford healthy foods. Many people in the community do not have access to fresh vegetables or other healthy food choices:

As far as they tell us, we need to feed our children healthier. There's some mothers...or fathers that don't have the money to buy healthier food the way that we should, and then what, they give a family of three like 200 something dollars in food stamps. How do you feed a family healthy with that kind of money?

Some participants voiced a desire for nutrition education. Other health priorities mentioned were diabetes, hypertension, asthma, cancer, substance abuse, dental care, HIV/AIDS, domestic violence and prenatal care. On a positive note, participants noted that they do not see as many people smoking in the community as they used to.

Barriers to care

Participants mentioned many different barriers to accessing healthcare. Access to information was the most prominent theme, followed by cost of care. When participants spoke about access to information as a barrier to achieving health and accessing healthcare, they noted a desire for workshops or information on managing specific diseases, nutrition, taking prescriptions, and safe sex. A key informant discussed the need for information about healthy eating:

Why don't we have more information about healthy eating, and places that offer healthy eating? We got more fast food places than any other place in America, right here in Harlem. I think that it's about the almighty buck and not caring about the community, and I think there needs to be better education.

In addition to the desire for education on managing health, participants overwhelmingly expressed a need for better dissemination of information about services already available to the community. One key informant spoke about a need for better marketing at the Family Health Center of Harlem regarding services offered, because people in the community do not know where they can go for care::

I think there are services that people don't know about, again it's access, whether you disseminate information about what services are out there.

Another key informant spoke about the frustration that comes with trying to figure out how to access healthcare in this community:

A lot of people lack information. And basic things kind of stymy them. I think people are fed up with the system, fatalism as you age.

Participants also said that community members do not understand the changes to access to care from the Affordable Care Act, and that they need more information on accessing health insurance.

Focus group participants and key informants stated that cost of care is one of the main barriers to accessing healthcare in the East and Central Harlem community. There are different health problems in different parts of Harlem, but, according to participants, if you're poor you'll experience them anywhere no matter what. Participants agreed that with more money people would have more access to better healthcare. Community members also deal with having to prioritize healthcare based on income:

If people have to choose between food and their medications, they'll sell their medications.

A lot of people in the community cannot afford health insurance. Many families may make too much to qualify for Medicaid, but seeking medical care is still quite expensive for them. Even if one does qualify for Medicaid or Medicare, navigating the system is confusing and takes time, and paying out of pocket for healthcare in the meantime is often too expensive.

In addition to access to information and cost of care, participants noted health disparities, transportation, fear, and language as barriers to accessing care. Race is a barrier, part of the structural system that presents obstacles for people of color.

Community Health

Finally, participants were asked about what would help make the community healthier as a whole. Their main concerns were around the relative low income of the community. These concerns centered on being able to afford healthcare and medications, being able to purchase healthy food, and being able to pay for exercise opportunities. Problems with finances were seen as contributing to mental health issues in the community.

Housing is also a problem in the community. The rent is too high and people are being forced into shelters:

I'm paying \$1,200 for rent and I don't have heat all winter long. My child gets sick, some people's kids get worse, the flu and this and that, and you gotta take off from work to take care of your child. And then you're losing income... and then the next thing you know you're falling back on your rent and now you got your eviction notice.

Increases in rent are associated with the gentrification of the community:

What are you doing building that kind of building up in Harlem? We don't need you here... I hate to say it like that, but it is what it is. Take care of home, take care of us here first before you start bringing the other people.

The stress of dealing with housing issues is exacerbated by unemployment in the community. Jobs have become very difficult to come by and the community needs more employment opportunities.

Other than issues related to income, housing and employment, participants voiced concerns about not having enough parks and recreational spaces to accommodate the population. The concern over lack of community space was not only related to recreation and exercise opportunities, but to social isolation. Community members need social gathering places, especially for the elderly. These spaces would not just be to combat social isolation, but to mobilize the community:

It's a lack of communication, also with a lack of education or lack of involvement... We're the voices. We're supposed to be the voices and but we can't do it alone.

Monolingual Spanish-Speakers' Needs

One Spanish-language focus group was conducted so that we could learn about community health needs specific to the Spanish-speaking population. For this population, language is a barrier to accessing healthcare. People who don't speak English are apprehensive about seeking healthcare because translators are not always accurate:

I think that the biggest problem is that we Hispanics and mostly those that don't speak the language are afraid of exposing themselves to go to healthcare places where they don't speak their language, that don't have people that can translate for them. And they don't know how to express themselves, and the people that translate for them don't say exactly what that person is saying or feeling. Sometimes they add things or leave things out.

There is also a need for more culturally competent providers who speak Spanish. Patients receive letters from the health center in English and not in Spanish. Another deterrent for Spanish-speaking participants trying to access healthcare, in addition to fear of being misunderstood, is a concern about experiencing racism:

Many times if you don't know English, they speak to you in a nasty way.

Participants are afraid they might be discriminated against for not knowing the language, and many had experienced racism in the healthcare system. Undocumented immigrants are afraid to go to the doctor because they are concerned about deportation. Better marketing for the health center and services provided by the FHCH would help undocumented patients know where they can go for care.

These qualitative data revealed that participants' health priorities are mental health and obesity and diet-related diseases. They see a need for decreased stigma around mental health and greater access to mental health providers. As for obesity, they expressed a need for more affordable and accessible exercise opportunities and healthy food options. The main barriers to accessing healthcare noted by participants were access to information and financial barriers. The main issues affecting the health of the community as a whole are financial issues including housing and unemployment, and social isolation. Issues affecting monolingual Spanish-speakers are access to culturally and linguistically competent care.

Discussion

East and Central Harlem remain two of the poorest and most underserved areas in New York City. Secondary data reveals poorer health outcomes in both East and Central Harlem compared to other NYC communities in all of the reported measures. Glaring health disparities are seen in many health outcomes where African Americans and Hispanics do worse than any other racial and ethnic groups. Residents tend to utilize the emergency department for their healthcare needs, although with the passing of the Affordable Care Act, more access to health insurance is readily available and more Harlem residents now qualify for assistance. To address the barriers to healthy living identified in this report, creative approaches to connecting with the community may help steer community members toward preventive care. Furthermore, readily accessible, culturally sensitive healthcare may encourage community members to embrace preventative medicine as a means toward positive health outcomes.

The findings from primary data collection provide valuable insights into the communities that supplement the secondary data on the general landscape of health in East and Central Harlem. Although the qualitative results were not identical to the quantitative survey results, they identified many similar issues, such as mental health problems, obesity, and unemployment. Survey results indicate that many participants seek care in the emergency room, suggesting a lack of access to or awareness of outpatient options such as those at the FHCH. Qualitative results were particularly useful in gaining a deeper understanding of some of the issues identified in the surveys and for capturing information, particularly related to social and economic issues.

Based on this needs assessment, we have determined that the community's main health priorities are:

- Access to and awareness of culturally specific, affordable, and accessible primary care
- Increased access to mental health services
- Asthma prevention and outpatient management
- Access to healthy foods to combat obesity and other diet-related diseases
- Economic and housing security

RECOMMENDATIONS

Based on our findings from this community health needs assessment, we propose the following recommendations for the East and Central Harlem communities:

+ **Improve access to and awareness of culturally specific, affordable, and accessible primary care.** As revealed in this assessment, a large proportion of community members seek the emergency room as a primary source of medical care. Residents are in need of providers that not only speak their native language but are also culturally diverse. There are opportunities for community organizations to disseminate information on the benefits of primary care, specifically family medicine, via community outreach activities such as health fairs, community board meetings, and annual community cultural events. Healthcare organizations and providers can also be trained in providing culturally competent care.

✚ **Increase access to mental health services.** According to our data, community members feel that existing mental health services are inadequate. Our findings also reveal that there continues to be significant stigma associated with accessing existing mental health services in the East and Central Harlem communities. Although the integrated care model at the FHCH alleviates some of the shame associated with receiving psychiatric care, a concerted effort to increase outreach and raise community awareness about mental health and available services may contribute to alleviating the hesitancy in seeking mental health care.

✚ **Asthma prevention and outpatient management.** Our survey data revealed that asthma is the top community health concern among participants. Beyond the primary care we are providing at the FHCH, other community organizations are working towards asthma control and prevention. The East Harlem Asthma Center of Excellence provides case management for children with poor asthma control while Little Sisters of the Assumption provides remediation of mold and pest infestation in the home. Ensuring that health care providers and community residents are aware of these resources could facilitate referrals and utilization of these services. However, in addition to raising awareness about existing resources, advocacy is necessary to bring about policy changes to prevent asthma in these communities (e.g. limiting through traffic of eighteen-wheel vehicles, controlling emissions, and limiting building of bus depots to help control air quality). Advocacy could also help to ensure repairs are made to the public housing developments that are rampant with mold and pest infestation contributing to uncontrolled asthma in our patient population.

✚ **Promote increased access to healthy foods to combat obesity and other diet-related diseases.** Participants voiced a need for increased access to healthy foods, especially considering the obesity and diabetes epidemics in Harlem. The residents of these communities live in “food deserts,” a designation defined by the U.S. Department of Agriculture’s Economic Research Service as a low-income area more than one-half mile from a supermarket or large grocery store. The East Harlem Neighborhood Initiative led by the New York Academy of Medicine, Mount Sinai Hospital and NYC Department of City Planning engages community stakeholders to increase access to healthy foods, decrease the availability and promotion of sugar-sweetened beverages, and improve the safety of and access to open space. More programs such as the East Harlem Neighborhood Initiative need to be developed. We recommend expanded availability of nutritious and affordable foods in Harlem communities. Additionally, the Institute could explore the possibility of expanding the Fruit and Vegetable Prescription Program (FVRx), established in some of our Bronx health centers, to the FHCH, thus providing assistance to overweight and obese children and families in the community. This program measures health outcomes linked to increased fruit and vegetable consumption and promotes innovative partnerships between

RECOMMENDATIONS

- ▲ Improve access to and awareness of culturally specific, affordable, and accessible primary care
- ▲ Increase access to mental health services
- ▲ Asthma prevention and outpatient management
- ▲ Promote increased access to healthy foods to combat obesity and other diet-related diseases
- ▲ Support advocacy for improved economic and housing security

healthcare providers, farmers markets and families with diet-related diseases. We also recommend continued collaboration with NYC DOHMH on healthy eating initiatives in bodegas to increase nutritious foods they carry, especially products for people with diabetes. The community can focus on advocacy efforts to change school lunches to be nutritious and tasty, expand the Health Bucks program which allows community members a two-dollar coupon for every five dollars spent in all farmers markets that accept Electronic Benefit Transfers, and look for other creative ways to increase the availability of affordable fresh fruits and vegetables for Harlem residents.

+ **Support advocacy for improved economic and housing security.** When we address social determinants of health, we help to alleviate added stress and improve overall health outcomes. The East Harlem Community Alliance, a consortium of non-profits, businesses, religious organizations, and government agencies, is aimed at enhancing the vitality and well-being of East Harlem by hiring and serving local residents and buying locally to keep funds in the community. Other community-based organizations and city agencies are working to address employment opportunities, housing, and community development. Continued efforts and collaborations will help address the underlying socioeconomic barriers identified in this needs assessment.

CONCLUSIONS

This CHNA has been invaluable in helping the Institute and the FHCH identify the most pressing health needs of the community, not just statistically, but according to patients and community members themselves. We will disseminate these findings to providers and staff at the FHCH, as well as to the CAB, partner community organizations and community residents, so that together we can learn from these findings and target our work towards these pressing needs. By working together, we will have expanded capacity to gather and disseminate knowledge, resources, and solutions to improve the overall health of the community we serve.

References

- ¹ Definitions of Community Health Assessments (CHA) and Community Health Improvement Plans (CHIPs). National Association of County & City Health Officials (NACCHO). Available at: <http://www.naccho.org/topics/infrastructure/community-health-assessment-and-improvement-planning/upload/Definitions.pdf>. Accessed February 2014.
- ² Find Shortage Areas. Health Resources and Services Administration (HRSA). June 2014. Available at: <http://www.hrsa.gov/shortage/find.html>. Accessed August 2014.
- ³ Community Facts. United States Census Bureau. 2010. Available at: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed October 2013.
- ⁴ ACS Demographic and Housing Estimates – NYC Community Districts. New York City Department of City Planning (NYC DCP). January 2014. Available at: http://www.nyc.gov/html/dcp/pdf/census/puma_demo_10to12_acs.pdf#mn10. Accessed February 2014.
- ⁵ Community Health Surveys. New York City Department of Health and Mental Hygiene (NYC DOHMH). 2013. Available at: <https://a816-healthpsi.nyc.gov/SASStoredProcess/guest? PROGRAM=%2FEpiQuery%2FCHS%2Fchsindex&year=2013>. Accessed June 2014.
- ⁶ Community District Needs, Fiscal Year 2012. NYC DCP. Available at: http://www.nyc.gov/html/dcp/pdf/pub/mnneeds_2013.pdf. Accessed June 2014.
- ⁷ National Vital Statistics System. May 2014. Centers for Disease Control and Prevention (CDC). Available at: www.cdc.gov/nchs/nvss.htm. Accessed June 2014.
- ⁸ District Profile: Manhattan Community District 10. NYC DCP. Available at: www.nyc.gov/html/dcp/html/neighborhood_info/mn10_info.shtml. Accessed June 2014.
- ⁹ District Profile: Manhattan Community District 11. NYC DCP. Available at: http://www.nyc.gov/html/dcp/html/neighborhood_info/mn11_info.shtml. Accessed June 2014.
- ¹⁰ Data and Reports. New York State Department of Health. Available at: www.health.ny.gov. Accessed June 2014.
- ¹¹ Explore Research. American Cancer Society. Available at: www.cancer.org. Accessed June 2014.
- ¹² Summary of Vital Statistics 2012, the City of New York Mortality. NYC DOHMH. 2012. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/vs/vs-mortality-2012.pdf>. Accessed July 2014.
- ¹³ Heart Disease Facts. CDC. Available at: <http://www.cdc.gov/heartdisease/facts.htm>. Accessed January 2014.
- ¹⁴ Community Health Profiles: Central Harlem. NYC DOHMH. 2006. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/data/2006chp-302.pdf>. Accessed October 2013.
- ¹⁵ Community Health Profiles: East Harlem. NYC DOHMH. 2006. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/data/2006chp-303.pdf>. Accessed October 2013.
- ¹⁶ Prevention Quality Indicators: New York County. New York State Department of Health (NYS DOH). 2011. Available at: https://apps.health.ny.gov/statistics/prevention/quality_indicators/start.map.jsessionid=B633670B9CF464F74747E1FA6B2FF6F2. Accessed November 2013.
- ¹⁷ High Blood Pressure. CDC. July 2014. Available at: <http://www.cdc.gov/bloodpressure/>. Accessed August 2014.
- ¹⁸ AHA Statistical Update: Heart Disease and Stroke Statistics – 2014 Update. American Heart Association (AHA). 2014. Available at: <http://circ.ahajournals.org/content/129/3/399.full.pdf+html>. Accessed August 2014.
- ¹⁹ Epi Data Brief: Diabetes in New York City. NYC DOHMH. April 2013. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/epi/databrief26.pdf>. Accessed August 2014.
- ²⁰ Kim M, Berger D, Matte T. Diabetes in New York City: Public Health Burden and Disparities. NYC DOHMH. 2006. Available at: http://www.nyc.gov/html/doh/downloads/pdf/epi/diabetes_chart_book.pdf. Accessed August 2014.
- ²¹ Ogden, C. Prevalence of Childhood and Adult Obesity in the United States, 2011-2012. *JAMA*. 2012; 307(5):491-497.
- ²² Bureau of Epidemiology Services. NYC DOHMH. 2012. Available at: <http://www.nyc.gov/html/doh/html/data/data.shtml>. Accessed June 2014.
- ²³ Health Disparities in New York City: Disparities in Breast, Colorectal and Cervical Cancers in New York City. NYC DOHMH. July 2011. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/episrv/disparitiestwo.pdf>. Accessed August 2014.
- ²⁴ HIV Epidemiology and Field Services: Semiannual Report. NYC DOHMH. October 2012. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/dires/2012-2nd-semi-rpt.pdf>. Accessed August 2014.
- ²⁵ Bureau of Sexually Transmitted Disease Control: Quarterly Report. NYC DOHMH. July 2014. Available at: <http://www.nyc.gov/html/doh/downloads/pdf/std/std-quarterlyreport2014-2.pdf>. Accessed August 2014.
- ²⁶ Asthma: Exposure and Risk. CDC. April 2012. Available at: <http://ephtracking.cdc.gov/showAsthmaExpRisk.action>. Accessed August 2014.
- ²⁷ SPARCS database. NYS DOH. 2009-2011. Available at: <https://www.health.ny.gov/statistics/sparcs/reports/>. Accessed August 2014.