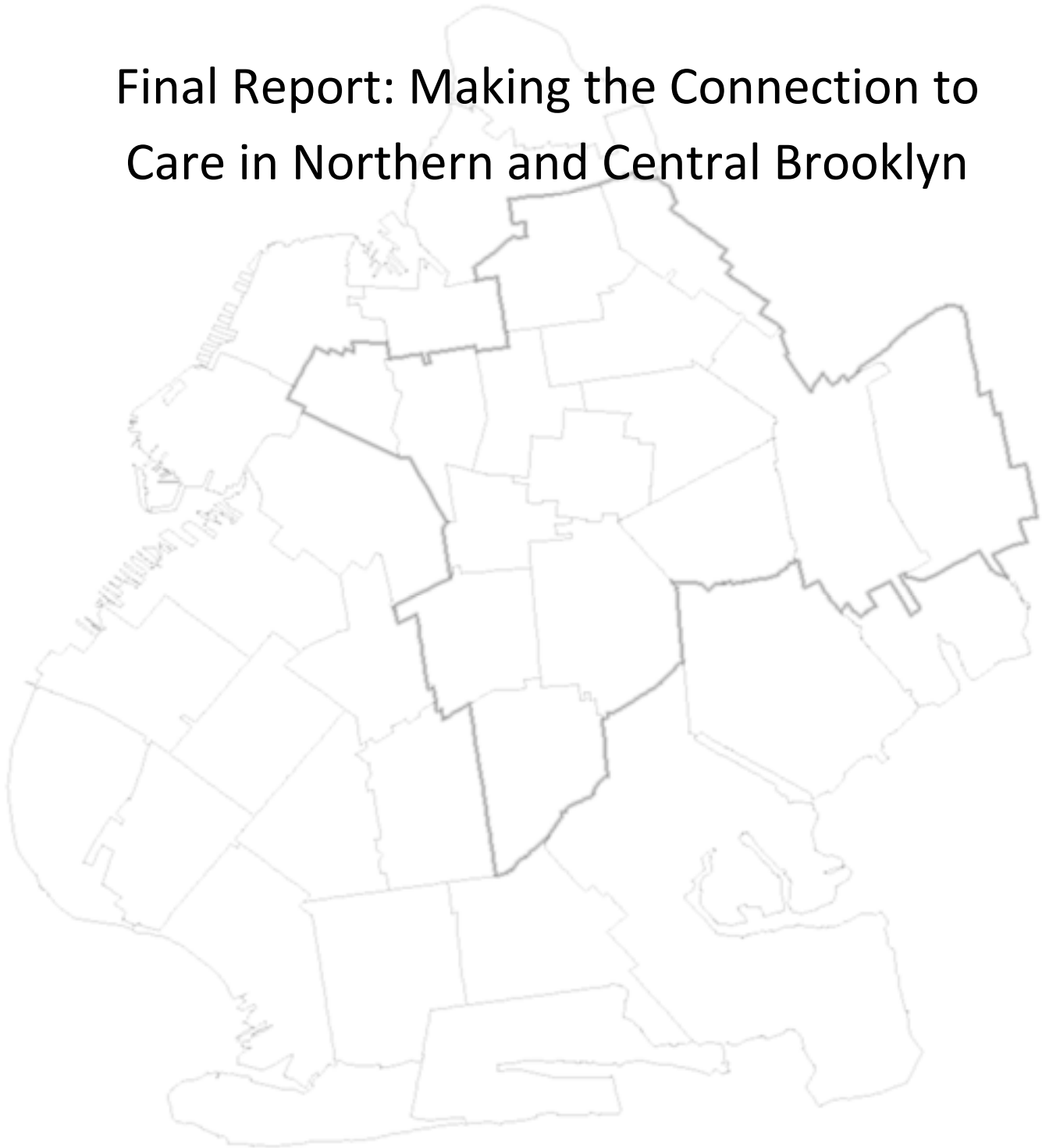


Brooklyn Healthcare Improvement Project (B-HIP)

Final Report: Making the Connection to Care in Northern and Central Brooklyn



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Executive Summary

I. Background

Population health and the healthcare system in Northern and Central Brooklyn are in crisis. Rates of chronic disease, premature mortality and avoidable Emergency Department visits and hospitalizations are far greater here than in the rest of Brooklyn, New York City, the State and the nation. Our communities are carrying an unacceptable burden of human suffering, system dysfunction and runaway costs to Medicaid and other public funds. In this time of dramatic change at all levels of the health insurance and care delivery system, it is imperative that the communities of Northern and Central Brooklyn join in the dialogue on reform and take ownership to ensure meaningful change happens where it is needed.

In 2009 multiple stakeholders formed the Brooklyn Healthcare Improvement Project (B-HIP) to examine healthcare availability, access and utilization in Northern and Central Brooklyn and ensure that planning and decision-making is based on up to date, detailed local data, in conjunction with meaningful community input. The B-HIP Coalition has brought together the full spectrum of interests comprising the healthcare landscape in Northern and Central Brooklyn. Our thirty-three members include six area hospitals, two federally qualified health centers, numerous community-based organizations, nine public and commercial health insurance companies, a pharmaceutical company, primary and behavioral healthcare advocacy groups, the New York City Department of Health and Mental Hygiene, the Brooklyn Borough President, local Community Boards, Chambers of Commerce, and more. The B-HIP is led by the State University of New York Downstate Medical Center, Brooklyn's only academic medical center, which has served the residents of Northern and Central Brooklyn and beyond for over 150 years. Project funding came from the New York State Department of Health's Healthcare Efficiency and Affordability Law (HEAL-NY) 9 grant program for local planning initiatives.

II. The B-HIP Activities

In the past two and a half years, the B-HIP Coalition members have collaborated through monthly plenary meetings and the work of multiple committees, workgroups, and the B-HIP core staff to:

- Develop a comprehensive community health planning process with diversified stakeholders to articulate a vision for health care in the communities of Central and Northern Brooklyn and how that vision will be accomplished;
- Through block by block canvassing and data collection from the B-HIP healthcare provider partners, to create a comprehensive health resources inventory for Northern/Central Brooklyn and a database/Geographic Information System mapping tool that enables community specific health information queries down to census tract level;
- Through surveys of nearly 11,400 patients and 400 employees at six area hospitals' Emergency Departments (ED) to conduct a study of issues influencing ED service utilization for conditions which are not "emergent" and/or for conditions which, if treated

by a primary care provider or specialist in an outpatient setting, could avoid the use of the ED for care; and

- Through collection and analysis of B-HIP partners health insurance plans' proprietary claims information and NYS DOH Statewide Planning and Research Cooperative System (SPARCS) data on in- and outpatient healthcare utilization, to analyze the B-HIP area population's patterns of "potentially preventable" ED usage and Ambulatory Care Sensitive Condition (ACSC) hospital admissions.

III. The B-HIP Community Health Needs Assessment Findings

The B-HIP studied a fifteen zip code contiguous area in Northern/Central Brooklyn that includes some of the borough's poorest and most medically underserved neighborhoods and has more than a million inhabitants.

A. Healthcare Resources in Northern and Central Brooklyn. *There appears to be a shortage of quality, accessible primary care throughout much of the study area coupled with challenges to full utilization of existing PCPs.*

- The B-HIP has estimated a total of 699 FTE Primary Care Providers (PCPs) or one PCP per every 1,502 persons, for the entire fifteen zip code area, which is just over the New York State limit set for Medicaid managed care plans for patient panel size, of 1 FTE per 1,500 patients. The area is experiencing increasing demand for primary care from the elderly population which grew 19% from Year 2000 to Year 2010.
- Of the 699 FTE PCPs, 434.7 belong to an Independent Practice Association (IPA), Federally Qualified Health Centers, or clinics/centers affiliated with hospitals.
- Distribution of PCPs and other healthcare resources varies in density across the 22.2 square mile/15 zip code area, which may correlate to the documented higher rates of potentially preventable ED visits and ACSC admissions in certain areas.
- The survey of area PCPs' opening hours indicates a shortage of PCPs that are accessible after hours. Out of the 11,623 total weekly operating hours for PCP locations in the B-HIP area, only 16% are on weekends or after 5:30 pm during the week. Cost, security and provider availability are major concerns for extended hours.
- It is possible that some area PCPs are operating under-capacity. Survey results suggest that PCP appointment slots in the community are available during working hours and providers are looking to serve more patients on the same day regardless of insurance.

B. ED Surveys. *Patients' perception of their own ED usage suggests that a significant number could be seen in a more appropriate venue but that available options are inadequate to address patient needs.*

- When ED waiting room patients were asked, "Why did you come to the ED today?" 43% responded that they had come for reasons other than what they considered an emergency. Primarily, they are coming to the ED for convenience and to circumvent the unavailability of PCPs.
- Among patients with insurance, (whether commercial, Managed Medicaid, or fee for service Medicaid or Medicare) 42-43% said they used the ED for non-emergencies. For

the 19% of respondents that lacked insurance, non-emergency ED usage rose to 48%, indicating that they may have more problems in accessing primary care and use the ED as an alternative.

- Strong relationships do not appear to exist between the PCPs and the patient population in the study area: 62% of the non-emergency patients said they have a family doctor but 11% of them do not access those services. Thirty-three percent of all respondents said they do not have a PCP and 5% said they do not know if they have a PCP.
- Managed care enrollees may not have a clear understanding of the managed care system. Of the respondents who indicated they are Medicaid managed care, Child Health Plus and Family Health Plus enrollees, 17% stated that they did not have a PCP or they did not know if they had a PCP, despite the fact that by regulation, these managed care participants either had to have chosen a PCP or have had one auto-assigned.
- The vast majority of ED patients surveyed wanted, or saw no other choice than, to go to an ED. When asked, “Where would you go if you could not be seen here (in this ED) today?” 65% of patients said that they would go to another ED and only 15% would have rather gone to see their PCP. A further 12% said they felt they had nowhere else to go or they were unaware of other options available to them.
- When asked why they preferred this particular ED, 18% of respondents used the ED because they found it to be convenient; 18% said their PCP office was closed; 15% said they had no PCP; and 17% stated that the ED is where they always get their care.
- Almost 50% of the ED staff respondents felt that on a daily basis, only 25% or less of the cases they see in the ED would be deemed “emergency” cases. Only about 19% of ED staff surveyed felt that 76% -100% of the cases seen in their ED would be deemed “emergency” cases.

C. Longitudinal Analyses of Health Insurance Encounters. *The majority of ED visitors are insured but are not well connected to primary or other ambulatory care.*

- The majority of the sample of insured ED visitors studied have not seen any providers within weeks to months prior to presenting in the ED, nor do they keep follow-up appointments with any providers within weeks to months after their ED visit.
- Commercially insured patients appear to have worse pre- and post-ED visit connection to outpatient care than patients with Medicaid.
- Medicaid, and not the uninsured, population made up the largest percentage of potentially preventable ED visits. African American/black patients as a group are also at higher risk for potentially preventable ED visits.
- A significant number of managed care plan enrollees in the study sample that visited the ED appear not to be properly linked to their PCPs and are not receiving necessary outpatient care related to their ACS conditions.

D. NYS DOH SPARCS Data Analysis. *The higher average rates of potentially preventable ED visits and ACSC hospital admissions in the 15 zip-code B-HIP correlate to certain demographic and insurance categories.*

- Mapping of the patterns of discharges for B-HIP area residents as compared to non-B-HIP area Brooklyn residents shows that B-HIP area residents tend to use Brooklyn

hospitals to a greater degree (79%) than residents of the non-B-HIP area (73%), who tend to use hospitals over a far wider area including Manhattan. Thus major changes to hospital systems in these areas will have a direct impact on local residents.

- Although the B-HIP area has 42% of Brooklyn inhabitants, it generated 48% of all discharges, 55% of all ACSC admissions and 61% of all ED visits without admissions in the borough.
- Population in Brooklyn grew 2% from Year 2000 to Year 2010 with a drop of 10% in the “Under 18” age group and a 16% rise in the “45-64” age group. The fluctuations in age groups among the B-HIP population were more dramatic, with a drop in the “Under 18” age group of 16% in a 10 year span and increases in the “45-64” and “65 and Older” categories by 18% and 19% respectively. Since more discharges and ACSC admissions came from the last two age categories (33% of the population attributed to 49% of all discharges and 61% of ACSC admissions), the sharp growth in the segment of socio-economically challenged elder population will certainly tax the healthcare infrastructure and increase the cost of care in this region.
- Regression analysis shows that:
 - The odds of having an ED visit for an ACS condition decreases with female gender and being Asian; it also decreases by a very small amount with each unit increase in age. The largest increase in the odds ratio occurs with Medicare coverage, as compared to those with commercial insurance. A smaller, but still statistically significant increase occurs with Medicaid coverage, while the uninsured are not significantly different from those with commercial insurance.
 - The odds of having an ACSC admission are highest for the uninsured and those covered by Medicare and lower for those on Medicaid. Females are less likely than males to be admitted for an ACSC, while blacks/African Americans and Latinos/Hispanics have higher odds than whites of admissions for an ACSC.
 - Residing in a census tract with the lowest quartile of household median income, highest rates of those without at least a high school education, highest vacant housing rates and highest rates of those who speak limited English are all associated with higher odds of ED visits for non-emergent care.

E. The B-HIP Area Hot Spots. *The most problematic health utilization is concentrated in three distinct places: 1) Brownsville/East New York, 2) Crown Heights North/Bedford Stuyvesant, and 3) Bushwick/Stuyvesant Heights.*

- The B-HIP defined the “hot spots” as groups of densely populated census tracts with the highest average annual rates of ACSC hospital discharges and ED utilization in the study area along with high incidence of chronic diseases
- Together, the three hot spots represent 9% of all potentially preventable ED visits, 6% of all discharges and 8% of all ACSC discharges in Brooklyn, but only 4% of the borough’s population.
- The top 20 ACSC diagnoses/discharges in the three hot spots alone amount to over \$31 million annually.
- Analysis of location of ACSC discharges of hot spot residents shows that they tend to use local hospitals.

- The hot spots vary widely in demographics, income and distribution/amount of PCPs.

F. Potential Savings. *Even modest reductions in potentially preventable ED visits and ACSC admissions will result in dramatic savings to the health system.*

- Reduction of the rates of ED visits not resulting in admission, hospital discharges and ACSC discharges in the B-HIP study area to the Brooklyn-wide levels, would conservatively result in about \$145 million in annual savings.
- Reduction of the rates of ED visits not resulting in admission, hospital discharges and ACSC discharges in the B-HIP study area to the levels of the non-B-HIP neighborhoods of Brooklyn would result in even higher annual savings of approximately \$465 million.

IV. Recommendations for Northern and Central Brooklyn

Any intervention in the B-HIP study area will need to address two distinct but fundamentally linked focus areas: 1) needed changes to the healthcare delivery system and 2) means of improving patients’ and the community’s engagement/empowerment in their own healthcare and the healthcare system. Equally as important, the community – meaning patients, their families and social networks – absolutely must be involved in the design of the new systems of care and care models. While patient engagement may not come naturally to policy makers, it will be essential to ensure the effectiveness of future interventions. This message came through loud and clear from the B-HIP Coalition member community-based organizations and during our community consultation activities.

A. Focus Goal #1 – *Develop a model of health care delivery that will support patients’ and community’s engagement/empowerment in their own healthcare, by:*

1. Increasing Medicaid and other payer reimbursement across the board for safety net hospitals and providers for medically underserved areas/populations;
2. Improving patient access to appropriate, cost effective care through:
 - Development of multi-specialty ambulatory care centers in walking distance of EDs, to address patient convenience in the near term
 - Funding/incentives for local providers to expand accessibility of operating hours, and increase walk-in and urgi-care models of access
 - Use of physician extenders such as Nurse Practitioners and Physician Assistants in retail locations with walk-in access, such as pharmacies
 - Making accuracy of insurance plan provider lists a core quality measure of access
 - Streamlining insurance plans’ provider credentialing requirements
3. Reducing system fragmentation and increase coordination of care through:
 - Funding care management/coordination services by safety net hospitals, through rate adjustment or shared savings incentive arrangements with insurers
 - Limiting managed care plan “carve-outs” and require assistance with carve-out navigation

- Capping pharmaceutical co-payments to allow low income patients to initiate needed care sooner
 - Creating additional Medicaid Health Homes in Northern and Central Brooklyn where many complex patients reside.
 - Establishing Health Navigation Centers in high need areas such as the B-HIP hot spots, offering free health education, health coaching, referrals and care navigation services
 - Establishing community-based disease-specific resource centers, in particular for diabetes/obesity
 - Continued consolidation of the Regional Health Information Organizations into the single statewide system (SHIN-NY) and provide funding and technical assistance to local providers to assure their participation.
 - Payer provision to patients of Smartcards/Biometric ID swipe cards containing individual health records
 - Reimbursement of primary care providers for tele-health care services
4. Improving the quality of patients' experience with local care providers through:
- Funding to train local provider staff on culturally relevant customer service and to make facility/equipment upgrades
 - Increased recruitment and retention of culturally and linguistically competent and representative practitioners
 - Supporting and strengthening continuity of provider-patient relationships
5. Increasing funding for preventive and wellness services, including disease management classes and wellness programs.
6. Improving SPARCS data quality to assist future planning and research projects.
- B. Focus Goal #2 – *Engage patients and the community in the health care system and their own care management by:*
1. Designing a strategy for education, outreach and marketing on healthy lifestyles, appropriate health system utilization and local healthcare resources and a plan to roll out the following recommendations:
- Train and deploy community health workers or advocates to conduct outreach, education, referrals and navigation services in local venues and through social networks, as well as local EDs
 - Tap into the great wealth of faith-based, civic and other groups present in every community, that can be powerful conduits for health messages
 - Identify and train local community leaders to champion health information throughout their networks and motivate others
 - Create a multi-media public education campaign with local TV/radio stations and through internet/social marketing

- Collect data and share periodic report cards on the local community's health, including rates of avoidable ED visits and hospitalizations, health provider quality scorecards, local focus groups and surveys results and more
 - Partner with local libraries to conduct health awareness events and connect residents to healthcare information and resources
 - Create an all-purpose health navigation hotline that residents can call to speak with a registered nurse and/or clinical care manager
2. Soliciting community input on how to engage and empower patients and their families to increase healthcare awareness, and what the community's needs, preferences and experiences with local care providers are, through:
- Competitions (with cash prizes and scholarships) for community residents to submit ideas for local media health campaigns
 - Walkathons in Northern and Central Brooklyn to promote healthcare awareness and healthy living
 - Multi-lingual focus groups and listening forums at local community meetings such as at churches and community boards
 - Regular surveys on patients' experiences with local care providers and publication of reviews
 - Further research into cultural beliefs and practices regarding alternative medicine and ways to improve physician-patient communication around the issue
3. Encouraging managed care companies to be more active in engaging enrollees in primary care and communicating with them about changes to benefits.

V. The Future B-HIP Role

The B-HIP Coalition members feel strongly that B-HIP has an important role both in designing and evaluating interventions for the B-HIP area hot spots and also in facilitating regional community health planning activities such as envisioned in the Medicaid Redesign Team (MRT) Report for Brooklyn and MRT Multi-Year Action Plan. Specific future projects may include:

- Replicating the B-HIP Coalition process and research studies for the remaining 32 Brooklyn zip codes.
- Collaborating with area organizations and stakeholders in the Northern/Central Brooklyn hot spots to develop, implement and evaluate pilot project interventions to improve the population's healthcare utilization and health status and to document cost savings. Improvement will be measured by the change over time in rates of potentially preventable ED use and ACSC admissions and primary care/outpatient utilization, among other measures) In this capacity the B-HIP would also serve as a clearinghouse for sharing of best practices and successful strategies for change.
- Supporting the work of collaborative regional health planning efforts such as the Brooklyn Health Improvement Board envisioned by the NYS DOH and MRT Action

Plan for Brooklyn. The B-HIP could function as a center of information and support, sharing its data reservoir with communities across Brooklyn to help develop local strategies for improving healthcare utilization and capacity. The B-HIP could also support the evolving care models such as the Medicaid Health Homes, for instance by using our analyses of local rates of ACSC discharges and potentially preventable ED use to measure the impact of this model over time.

- Seeking new institutional collaborations and “spin-off” projects, including predictive analytics modeling to further mine the B-HIP data, and working with HIT projects/companies to devise patient facing platforms and services tailored to Brooklyn’s low income and public insurance-enrolled populations.

The Brooklyn Healthcare Improvement Project (B-HIP) Final Report: *Making the Connection to Care in Northern and Central Brooklyn*

I. Introduction

This is the Final Report of the State University of New York Downstate Medical Center (“Downstate”) to the New York State Department of Health (“NYS DOH”) on the work of the Brooklyn Healthcare Improvement Project (“B-HIP” or “Project”) funded by the Healthcare Efficiency and Affordability Law (HEAL-NY) Phase 9 grant for Local Health Planning Initiatives.

Begun in 2009, the B-HIP is a unique and timely undertaking by healthcare providers, non-profit community and grassroots organizations, hospitals, insurers, government, industry and other groups concerned about health outcomes in the medically underserved neighborhoods of Northern and Central Brooklyn. In order to enhance the health of our population, the B-HIP has brought together these diverse stakeholders to enable informed decision making regarding the allocation of needed and appropriate healthcare resources to improve the access to and quality of healthcare for all residents of these communities.

We chose to address Northern and Central Brooklyn simply because these neighborhoods have the greatest need for improvement, as evidenced by poor health indicators (e.g., high prevalence of chronic diseases and rates of infant mortality) combined with acknowledged delivery system problems such as a shortage of accessible primary care providers as reported by the U.S. Health Resources and Services Administration (HRSA). High rates of potentially preventable Emergency Department (ED) use and avoidable hospital admissions have also been measured. A 22.2 square mile cluster of 15 contiguous zip codes, the study area of Northern/Central/Brooklyn is home to over 1 million people, a population greater than most cities in the United States, and representing about 42% of Brooklyn’s 2.5 million people. The vast majority of study area residents are enrolled in public insurance (Medicaid, Medicare and New York State supplemental coverage) or uninsured.¹ An additional, unknown number are undocumented immigrants who are ineligible for public health insurance, but receive medical care in local EDs regardless of their ability to pay. Yet neither the healthcare resources nor healthcare needs in this large and diverse area have been scientifically assessed.

The B-HIP’s primary goals are:

- Development of a comprehensive community health planning process with diversified stakeholders to articulate a vision for healthcare in the communities of Central and Northern Brooklyn and how that vision will be accomplished.
- Development of comprehensive health resources inventory involving data identification, collection, and a needs assessment for the Central/Northern Brooklyn community using state of the art Geographic Information System (GIS) software.

¹ Healthcare Association of New York State (HANYS) 2010 data.

- Study of issues influencing Emergency Department (ED) service utilization for conditions which are not “emergent” and/or for conditions which, if treated by a primary care provider or specialist in an outpatient setting, could avoid the use of the ED for care.
- Collection of relevant data from public sources and proprietary claims information from health insurance plans and hospitals to analyze primary care service model/capacity/availability/utilization, in Brooklyn neighborhoods with high rates of Ambulatory Care Sensitive Conditions (ACSC)² hospital admissions.

The mission and vision of the B-HIP Coalition are:

Mission: Our mission is to improve the wellness of our population by addressing issues of access, quality, and cost of healthcare in Northern and Central Brooklyn.

Vision: B-HIP seeks to ensure access to affordable, quality, and timely care for all residents in Northern and Central Brooklyn, effectively eliminating disparities in health outcomes, through a coordinated health systems planning process that engages and fosters collaboration among multiple stake holders.

This Final Report provides a description of the B-HIP collaborative planning process including its membership, activities, study findings, recommendations and how these are to be achieved, and lessons learned.

II. Brooklyn and the B-HIP Area

Any attempt to redesign the healthcare system must include an analysis of the population of healthcare users. The healthcare market is a complex one. Patients with divergent health needs can access the system in any number of ways at any time of the day, every day of the year. Healthcare users also tend to make decisions about utilization based on their perception of the acuity of the illness, historical/cultural patterns of care information gathered from social networks as well as realities of the availability of healthcare resources on the ground. The Brooklyn population presents further challenges due to its almost unparalleled mixture of ethnic communities, religious affiliations, cultural and linguistic heritages and educational backgrounds. Brooklyn is also very densely populated: **13% of the residents of the State of New York live in Brooklyn**, which, if it stood alone, would be the largest city in the state and the fourth largest in the country. The B-HIP study area of Northern/Central Brooklyn is even more densely populated. With a population of over 1 million, the area accounts for more than 5% of the State’s population, and is 83% more densely populated than New York City as a whole. An appreciation of the community’s wide diversity and geography is thus critical in designing an efficient and effective delivery system. Table 1 below sets forth basic demographic data allowing comparison of the B-HIP study area, Brooklyn, New York City and the State.

²The term “ACSC” admission is very close in concept to “Prevention Quality Indicator (PQI)” admissions, a term also used by the NYS DOH to denote hospital admissions for conditions that could have been avoided with appropriate and timely primary and preventive care or outpatient disease management, such as asthma, certain diabetes related complications and pneumonia.

Figure 1. Brooklyn with BHIP study area highlighted in blue



Various social, economic and cultural factors complicate the healthcare needs and utilization of the study area residents. Over 35 languages (not including dialects) are spoken here and more than two-thirds of the population speaks a language other than English at home.³ As a result, there are significant challenges in care coordination when language barriers present in the borough EDs and primary care offices and clinics. Establishing successful treatment regimens for diabetes or hypertension, for example, requires patient and provider to have a fluent level of communication regarding the importance of filling prescriptions in a timely way, diet and exercise plans as well as understanding the physical changes that will occur when these new plans of care are implemented. Further exacerbating health needs are the relative youth and the low educational attainment of the population. One in four persons in the B-HIP study area is under the age of 18, which is 13% higher than the state average. More than 23% of the study area population over the age of 25 has not graduated from high school, which is 44% higher than the state average. Health information is by its nature complex, and the younger, less educated and linguistically isolated remain at increased risk for conditions that should be treated in close coordination with primary care providers to avoid unnecessary ED usage and hospital admissions. This inefficient utilization imposes high costs in the long term on patients, their communities and the healthcare delivery system.

³Modern Language Association Map Data Center, using 2000 Census and 2005 American Community Survey data. http://www.mla.org/map_data&dcwindow=same

Table 1.⁴ Selected Demographics comparing State, City, Borough and Study Area

Select Demographic Characteristics				
	New York State	New York City	Brooklyn	BHIP Study Area
Total Population (MM)	19.4	8.2	2.5	1.0
<i>% of State</i>	<i>100%</i>	<i>42%</i>	<i>13%</i>	<i>5%</i>
Female Persons (%)	52	53	53	54
Age (%)				
Under 5	6	6	7	7
Under 18	22	22	24	25
Over 65	14	12	12	10
Over 25 Years Old (%)				
Non High School Grad	16	21	22	23
w/ Bachelors Degree	18	20	18	14
Race (%)				
White	66	44	43	19
Black & African American	16	26	34	62
Asian	7	13	10	3
Other	11	18	12	15
Persons of Hispanic or Latino Origin	18	29	20	24
With Food Stamp/SNAP benefits in the past 12 months	12	17	20	22
Per capita money income in past 12 months (5 Year Avg)	30,948	30,498	23,605	20,181
Median Household Income (\$'s)	55,603	50,258	43,567	42,188
Speaks Languages other than English at Home (%)	29	48	46	34
Persons per Sq Mile	411	27,013	35,369	49,509

Out of pocket healthcare costs continue to rise faster than incomes over time,⁵ placing even further pressure on lower income individuals who have been proven to ration care in response to budgetary constraints.⁶ Twenty two percent of the study area has received food stamps / SNAP benefits in the past 12 months, and has a per capita dollar income 35% lower than the state population and 34% lower than the New York City level. As the State of New York continues its plan to transition all Medicaid fee for service beneficiaries into managed care, even more cost sharing will be required from those affected.

⁴Source U.S. Census Bureau: State and County Quick Facts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, County Business Patterns, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report, Census of Governments.

⁵D. Auerbach and A. Kellerman. "A Decade of Healthcare Cost Growth has Wiped out Real Income Gains for an Average US Family." HEALTH AFFAIRS 30, NO. 9 (Sept. 2011).

⁶M. Solomon. "The Effect of Cost-Sharing on the Utilization of Prescription Drugs for Chronically Ill Patients." Ph.D. Diss., Santa Monica, CA: RAND Corporation, 2005. http://www.rand.org/pubs/rgs_dissertations/RGSD193.

The demographic and social realities in the B-HIP study area cry out for a new model of care. A system that engages patients in a culturally competent way and allows for strong bonds to be formed between patients and providers in a medical home-setting will be crucial to reducing the costly use of the ED and inpatient care. Delivering high quality care and presenting information in a way that is easily understood, while ensuring courteous customer service will go far in altering ingrained healthcare utilization patterns and improving population health and wellness.

III. Description of Planning Process

The impetus for the B-HIP originated from within the Downstate Medical Center's School of Public Health and its Planning Department. As Brooklyn's only academic medical center serving the residents of Northern/ Central Brooklyn and beyond for over 150 years, Downstate has a compelling interest and investment in studying and improving the health of Brooklyn neighborhoods. SUNY Downstate's Colleges of Medicine, Nursing, Related Health Professions, School of Graduate Studies and Public Health provide educational opportunities to nearly 1,700 students a year, including a large number from the surrounding area many of whom go on to work in Brooklyn or other urban settings. Downstate has graduated more doctors practicing medicine in New York City than any other medical school in the country. Downstate's Public Health program faculty has wide expertise in community health issues, planning, trends, epidemiology, research design, and data analysis.

The Downstate planning team for the B-HIP included Principal Investigator Grace Wong, MBA, MPH, Vice President of Managed Care and Clinical Business and Assistant Professor at Downstate School of Public Health, Co-Investigators Dorothy Fyfe, MPA, Assistant Vice President for Planning at Downstate, and Jeanne Stellman, PhD, (former) Professor and Chair of the Department of Environmental and Occupational Health Sciences and Associate Dean for Research in the School of Public Health, as well as other faculty and staff of the School of Public Health, Office of Planning, and Downstate's University Hospital of Brooklyn.

Downstate and its partners secured the HEAL NY Phase 9 grant award in March 2009. Although originally scheduled to proceed from March 2009 until February 2011, the Project has been extended through September 2012 due to delays in funding disbursement and data collection, among other issues, as discussed in Section VI. "Self Evaluation." A timeline overview of the B-HIP is included in Appendix 1.

A. Coalition Formation

The Downstate team understood from the outset that an effective local planning process could happen only with the participation of certain key players. Although such a coalition had never been created before, our goal was to bring the "industry," i.e., the major public and commercial health insurance plans, pharmaceutical companies and local businesses (as represented by the Chamber of Commerce), together with local government, the major area hospitals, and local health providers and community based organizations. Outreach to and recruitment of potential partners began months prior to applying for the HEAL NY grant, such that thirty-three organizations had committed by the time of the application.

The B-HIP Coalition membership has remained remarkably stable since inception and consists of the following organizations:

- Government: the New York City Department of Health and Mental Hygiene (NYC DOHMH) and the Office of the Brooklyn Borough President.
- Six hospitals: SUNY Downstate Medical Center/University Hospital of Brooklyn; Kingsbrook Jewish Medical Center; Kings County Hospital Center; Interfaith Medical Center; Brookdale University Hospital & Medical Center; Woodhull Medical & Mental Health Center.
- Nine health insurance plans: Healthfirst; HealthPlus (now part of Amerigroup/Wellpoint); Aetna; Empire Blue Cross Blue Shield; MetroPlus; Emblem-HIP/GHI; Neighborhood Health Providers; United Health Care; and 1199 NBF.
- Federally Qualified Community Health Centers: Bedford Stuyvesant Family Health Center and Brownsville Multi-Service Family Health Center.
- Local Community Boards.
- Community based organizations: Brooklyn Perinatal Network; Brooklyn Congregations United; Caribbean Women's Health Association; Brooklyn Health Disparities Center; Church Avenue Merchants Block Association (CAMBA); Christopher Blenman Senior Center; and St. Gabriel's Senior Center.
- Private sector/industry: Novartis Pharmaceuticals Corporation; Brooklyn Chamber of Commerce; Caribbean American Chamber of Commerce.
- Health policy non-profit organizations: The Primary Care Development Corporation; United Hospital Fund; and Coalition of Behavioral Health Agencies.
- SUNY Downstate School of Public Health.

Each Coalition partner has brought unique strengths and perspectives to the B-HIP. The hospital partners have provided access to hospital-based databases (e.g., on ED utilization, primary care visits, and affiliate provider locations), access to patients for on-site interviews relevant to ED and ambulatory/primary care utilization, and access to ED personnel and clinicians for related research purposes. The health insurance plan partners maintain large databases regarding their members, participating providers, services received and quality of care but these datasets have not historically been used to inform policy makers on community-wide needs. Through its relationship with the plans, B-HIP has been able to access some of these datasets to conduct statistical analyses aimed at identifying patients' patterns of primary care utilization and other characteristics that may be associated with potentially preventable ED utilization and hospital admissions. The insurance partners together with Novartis also contributed useful industry perspectives to the Coalition. The community health center partners have provided information on their providers, services and patients and have been instrumental in describing local community health resources. The local community based organizations, senior citizen centers and Community Boards have facilitated community residents' input into this initiative and provided neighborhood level assistance in conducting the project, for instance during the canvassing survey (discussed below), and through focus groups. The health policy organizations have contributed important information and context enabling the B-HIP to understand the broader framework for our work. Indeed, all of the Coalition partners have brought diverse and invaluable perspectives to the ongoing planning dialogue around our studies.

Profiles of the Coalition partners including Downstate are included in Appendix 2. The building of the unique B-HIP Coalition represents one of our earliest challenges and in many ways an enduring success, as discussed further in Section VI. “Self Evaluation.”

B. Coalition Structure and Processes

As noted, disbursement of funding was delayed until November of 2009. Lack of funding hampered certain core activities (i.e., staff hiring, acquisition of space and software licenses, etc.) yet the project was able to move forward during this time with developing essential project structures, processes and relationships. Initial leadership took the form of a Steering Committee comprised of the Downstate planning team, then Deputy Borough President Yvonne Graham, NYC DOHMH Assistant Commissioner Dr. K. Aletha Maybank, Debra Lesane, Associate Director, Kings County Hospital and representatives from the hospital, insurance company and community provider constituencies. Initial project objectives focused on finalization of the Coalition’s structure, function, operating procedures, committees/subcommittees, and protocols for consensus/decision making.

General meetings and/or teleconferences involving all Coalition participants occurred on a bi-monthly basis during the first year. Beginning in June, 2010, the Coalition began standing monthly meetings on the third Thursday of each month from 8-10 am at the Brooklyn Borough Hall in space made available for free to the group. Meetings were professionally facilitated and initially focused on project planning and implementation issues, as well as establishing B-HIP’s mission and vision. As results from the various Project studies became available, the Coalition meeting format evolved into an initial hour of presentation of data/findings/updated work product from the prior month; and the a second hour dedicated to group discussion and further analysis. The Coalition meetings will continue through September 2012 in order to plan for the next phase of the B-HIP (discussed in Section VI(C) “Sustainability”).

The Coalition chose a committee-based structure, as follows:

Executive Committee. The initial Steering Committee evolved into this elected committee, which includes the PI, Grace Wong and representatives from Bedford Stuyvesant Family Health Center, Kings County Hospital, Interfaith Medical Center, Healthfirst insurance plan, 1199 SEIU labor union, Novartis pharmaceutical company, and the NYC DOHMH Assistant Commissioner Dr. K. Aletha Maybank. Yvonne Graham (Former Deputy Brooklyn Borough President and currently an Associate Commissioner at NYS DOH) remains an ex-officio member.

Community Health Planning Sub-Committee. This committee was formed expressly to develop the B-HIP mission and vision statements, a key initial deliverable for the Project. After several months of intense discussions within the committee and the broader Coalition (a process which helped build consensus and trust among members) the final articulations of these statements were approved at the November 18, 2010 Coalition meeting. The mission and vision statements are set forth in the Introduction, above. Membership of this committee consisted of representatives from Kings County Hospital; Kingsbrook Jewish Medical Center; Bedford-Stuyvesant Family Health Center; Brownsville Multi-Service Family Health Center; Healthfirst, and other organizations. The Committee was also tasked with engaging partner organizations

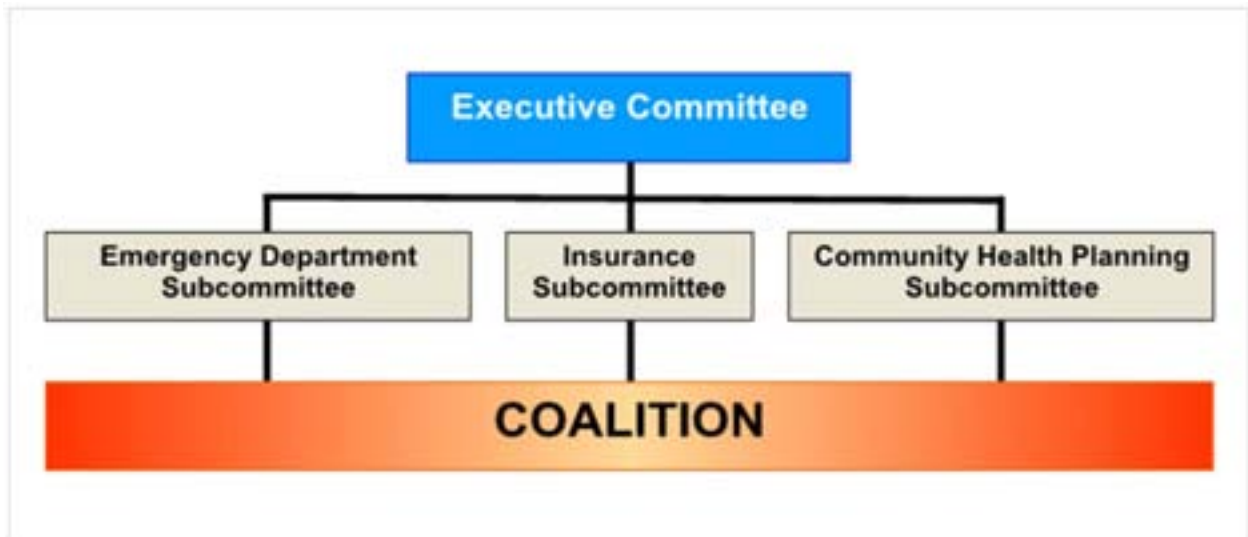
(from both within and beyond the B-HIP membership) to form a Community Advisory Work Group whose purpose was to elicit constructive community input based on members' experience with and ties to communities within the B-HIP study area. Formed in summer 2011, this work group includes community residents and representatives from various community based organizations, including Brooklyn Perinatal Network, Brooklyn Congregations United, as well as community liaisons from the hospital members. The group has been active in recent months, providing feedback on the Project findings and assisting with sharing of findings and consultation with community groups.

Research Sub-Committees. The B-HIP also formed sub-committees dedicated to developing and overseeing the key research projects. The research subcommittees met as necessary over the course of the project and devised their own meeting schedules.

- ED Study Committee. Headed by Dr. Michael Lucchesi, Chairman of Emergency Medicine at SUNY Downstate and Kings County Hospital, members included physicians and staff from all six hospital partners and the Primary Care Development Corporation.
- Insurance Study Committee. Chaired by PI Grace Wong, this workgroup had representation from each of the nine health insurance plans, as well as Novartis pharmaceutical company.

A third, ad-hoc committee was formed to structure the Global Information Systems mapping project which was primarily carried out by Dr. Daniel Weisz, B-HIP Senior Research Analyst and other B-HIP staff.

Figure 2. B-HIP Organizational Structure



C. Project Staffing

Staffing the B-HIP project was a major undertaking, requiring a broad range of academic, technical, clinical and operational skill sets, and a considerable amount of sheer manpower. In

addition to the PI, Co-PIs, in-kind Downstate project staff (including planners, researchers, analysts and administrative), and key staff positions of Project Coordinators, GIS Specialist/Database Manager, Senior Research Analyst and Administrative Assistant, the Project recruited over 100 part-time workers to assist with carrying out the canvassing study and ED surveys. Recruiting, training and managing the part time staff, most of which were students and other people recruited from the B-HIP neighborhoods and SUNY Downstate, was a massive operation and important lesson in the logistics of conducting community level research. A list of present and former staff is included at Appendix 3.

D. Studies and Projects

1. GIS Mapping and Comprehensive Health Resources Inventory

The purpose of this study was to inventory and geocode the addresses of all available health providers and resources within the B-HIP study area so as to create an up to date, accurate and holistic picture of local healthcare services. While various public sources of information on the local healthcare capacity exist, such as provider and facility directories and physician FTE counts per population by zip code, they are not sufficient to permit in-depth assessment of the capacity of the local health system. In particular we lack a consolidated information source showing hours of operation, languages spoken, accessibility, insurance and charity care policies, educational and professional qualifications, or referral networks, etc. in the community provider sites. In addition, no current information sources provide a census tract level of specificity. Therefore, in order to achieve the most accurate and comprehensive information possible with respect to quantity, type and accessibility of local health providers and resources, we decided to utilize on-foot canvassing, and subsequent geocoding of results for this project.

During an approximately one month period from July-August 2010, B-HIP's cadre of trained surveyors conducted a block by block canvassing survey to document provider sites in the study area, including hospitals, nursing homes, ambulatory clinics, pharmacies, dialysis centers, oral health centers, drug and alcohol treatment centers, mental health facilities and diagnostic and laboratory facilities. For each facility/site, we surveyed services offered, languages spoken, hours of operation, insurance and charity care policies, educational and professional qualifications, and linkages with other facilities). In advance of the on-foot survey, B-HIP project staff conducted a drive-by of every street in the study area, checking visible facilities against provider addresses supplied by the Coalition's insurance and health provider partners.⁷ We also notified the providers on our lists that the survey was taking place. Staff received in depth training on surveying, safety protocols and other matters and local police and civic officials were notified and consulted. A copy of the canvassing survey instrument is included in Appendix 5.

The study results were entered into a database containing a rich variety of information layers, including social services, employment, census statistics, housing, education, environmental and other data, as well as census tract specific rates of ED usage, hospital discharges and related

⁷ The insurance companies provided us with copies of their Health Provider Network (HPN) directories which they are mandated to provide to the state each quarter and Novartis provided a list of its pharmacy locations. Analysis of this data revealed a 19% variance in accuracy – 12% are abandoned/do not exist, 4% are other business and 3% are private homes.

diagnoses, and other healthcare utilization data.⁸From this database B-HIP's GIS specialist created an interactive mapping program allowing users to create customized maps and data reports. In just one example of the planning and analytic uses for the program, it has enabled the B-HIP to identify three clear geographic "hotspots" in the study area for combined ED utilization, Ambulatory Care Sensitive Conditions (ACSC) discharges and poor health indicators, among other issues, as further discussed in Section IV. "Community Health Needs Assessment Findings." The GIS database and map tool is loaded on a disc included in Appendix 4. With additional resources to cover server hosting, this tool could easily be made available to the public on the internet. It is intended and anticipated that Coalition members and other interested groups will make robust use of the GIS tool to assess local capacity, identify gaps and design solutions tailored to the unique needs of their localities. If the database tool is maintained on a website and its information updated regularly, users can automatically rerun community specific mapping and queries, having current access to information useful for both ongoing needs assessment and program development and evaluation.

The B-HIP has also compiled the provider information from this study into a comprehensive directory, included with the GIS data warehouse on the compact disc in Appendix 4. A snapshot of the directory cover page is at Appendix 6A. The directory includes hours of operation, insurance taken, languages spoken, accessibility, provider credentials, directions and other information. It will be posted on the B-HIP website and copies will be sent to all of the providers that participated in the survey, B-HIP members, local churches, social services organizations and other groups in Northern and Central Brooklyn.

2. ED Utilization Studies

The purpose of this project was to investigate the reasons why patients visit EDs in the B-HIP study area for non-emergent conditions, as well as the attitudes and perceptions of ED staff regarding their patients' ED use. It is generally accepted that EDs are designed to provide emergency care and are poorly suited to handle non-emergent conditions because treatment in the ED is often provided without a complete medical history, resulting in episodic, fragmented care, with little to no follow-up. Non-emergent care may also contribute to over-crowding in the ED. ED studies have been carried out in other communities in New York City and elsewhere, but not in Northern/Central Brooklyn. From this study we hope to better understand the unique characteristics and needs of patients and the local healthcare system that are associated with non-emergent (and therefore potentially avoidable) ED utilization in this area.

Two types of surveys were conducted, with different targeted respondent groups – patients and staff.⁹ The first involved a face to face survey of approximately 11,400 patients who visited the six Coalition member hospitals' EDs (about 1/3 of the total patients presenting to the EDs during the survey). Multi-lingual interviews were conducted in the ED waiting rooms, fast-track

⁸The data ultimately entered into the GIS database reflects rigorous auditing by the Downstate School of Public Health, including telephone calls to a randomized sample of surveyed locations. This process determined data accuracy at approximately 85%.

⁹A pilot to use Milliman/InterQual Care Guidelines-trained case managers to review ED admissions for ACS conditions was also developed but ultimately not pursued.

sections and holding areas by trained medical students, hospital staff volunteers and other staff. Patients were asked a series of questions including the complaint that brought them to the ED that day, their insurance status and whether they had a primary care doctor. Due to seasonal variations in ED use, two rounds of survey efforts took place, one in winter 2010-2011 and another in August 2011. The form used in the second round of patient surveys was revised to include additional questions developed by the B-HIP Coalition after initial review of results from the first survey. The ED provider staff survey was conducted in early 2011 using the SurveyMonkey online survey tool to query approximately 400 employees (including doctors, nurses, medical assistants and front desk staff) about their perceptions regarding patients' ED usage. Both surveys received the required approval by the Institutional Review Boards (IRB) of all six hospitals. The survey instruments are attached in Appendix 5.

3. Analyses of NYSDOH SPARCS Data

The purpose of this study was to examine healthcare utilization through analysis of state gathered inpatient and ambulatory care data sets, including charges in order to further understand the B-HIP study area's patterns of "potentially preventable" ED usage and Ambulatory Care Sensitive Condition (ACSC) hospital admissions.¹⁰ Additionally we sought to compare healthcare utilization patterns in the B-HIP study area with the rest of Brooklyn, New York City and the State.

The raw data for this analysis comes from the NYS DOH's Statewide Planning and Research Cooperative System (SPARCS), which includes information for all New York residents discharged from all non-Federal hospitals and seen in EDs and ambulatory surgery facilities in New York State, excluding the population cared for in Veterans Administration hospitals. SPARCS captures data on patient gender, age, race and ethnicity, primary and secondary insurance status, International Classification of Disease (ICD) version 9 codes for primary and secondary diagnoses, all procedure codes and associated charges.¹¹ It is important to note that the SPARCS datasets are gathered for administrative purposes, and are effective for investigating a population's use of services, but they do not provide sufficient clinical information to allow researchers to meaningfully assess the quality of care.

An initial analysis was conducted using de-identified patient data with patients' residence available by zip code (3 years, 2007-2009). During Coalition meeting discussions it became apparent that the zip code is too large a geographic unit for analysis in this densely populated urban area where public housing projects may be located literally across the street from highly priced private residences. Based on these discussions, the B-HIP researchers requested and received a second dataset with randomly generated unique personal identifiers and with patient addresses of residence linked to U.S. Census Tracts (CT). It was necessary to re-geocode the

¹⁰The B-HIP defines "potentially preventable" ED use as ED visits not resulting in admission, especially those for ACS conditions (which, as noted, are diagnoses where hospitalization is believed to be preventable in most cases by timely, quality primary care). We used the ACSC classes of diagnoses published by John Billings, et al, and used by the Institute of Medicine, the U.S. Agency for Healthcare Research and Quality and several states.

¹¹While the SPARCS inpatient file contains an almost complete record of individual discharges, the requirement for hospital reporting ED visits is not as stringent, and therefore it is possible that SPARCS ED visits may be under-reported.

SPARCS data upon release of the 2010 census data for Brooklyn, which revealed some significant shifting in population demographics across the study area.¹²As discussed further in Section VI. “Self Evaluation,” significant challenges attended both obtaining the data release and the cleaning and standardizing of the raw data in order to make it fit for analysis. The study received the required approval of the Downstate IRB and all data releases underwent review and approval of the New York State Data Protection and Review Board.

4. Longitudinal Analyses of Health Insurance Plan Encounter Data

The purpose of this study was also to examine local healthcare utilization, in particular to:1) analyze the primary care, ED, and hospital utilization of insured populations in the B-HIP study neighborhoods, and 2) compare rates of ACSC hospital admissions by health plan type (i.e., Medicaid vs. private)as well as other benchmarks. Distinctive to the B-HIP has been its partnership with the major public and commercial insurers in the community, which has afforded unprecedented access to proprietary encounter/claims data. Insurance plans have extensive data on healthcare utilization, but these data have not yet been used to inform policy makers on community-wide needs. The datasets contain detailed patient and provider information for many key variables including: diagnosis/service visit information, use of emergency services, duration of inpatient stays, ambulatory care utilization, specialty care, reimbursement/payment histories, and client/provider address.

The B-HIP researchers worked directly with all nine health plans on the study design and implementation. The plans were requested to provide all claims/encounter data (professional as well as institutional) for dates of service provided from January 1, 2007 through December 31, 2009 (three years). Data for some of the plans had to be acquired from the New York Quality Alliance (NYQA). The plans were also asked to furnish their Health Provider Network (HPN) lists which are submitted quarterly to NYS DOH. The researchers used the claims and HPN data to extract:

- Outpatient primary and other care encounters
- ED encounters, including diagnosis codes indicating ACSC
- Hospital admissions, including diagnosis codes indicating ACSC
- Counts of providers identified as “primary care” in the HPN files
- Counts of specialist providers (by specialty) as identified in the HPN files
- Utilization by age groups and specific health insurance program (Medicaid, Family Health Plus, Child Health Plus, and Medicare) and summarized by type of plan for “members/patients” who resided in the B-HIP study area.

A primary focus of the research was to examine the patterns of patients’ primary care/outpatient utilization in various classes of insurance during the month before and after ED visits and hospitalizations. Multiple analyses of these data were also performed to help identify significant

¹² Notable is the trend of African American/black residents moving out of gentrifying areas such as Bedford Stuyvesant and Crown Heights and into the poorer neighborhoods of East New York and Brownsville, which has generated some news coverage, see, e.g., J. Tepper and E. Durkin. “Black population surges in East New York even as it falls across the borough and city.” New York Daily News, May 20, 2012.

trends, patient diagnoses and other factors associated with potentially preventable ED visits and ACSC admissions.

Similar to the experience with the SPARCS study, the insurance data study involved many challenges related to navigating the legal and logistical issues with the health plans for the release of the data (which occurred in multiple rounds), obtaining approval from the Downstate IRB, and the cleaning or processing of the raw data to render it fit for analysis.¹³

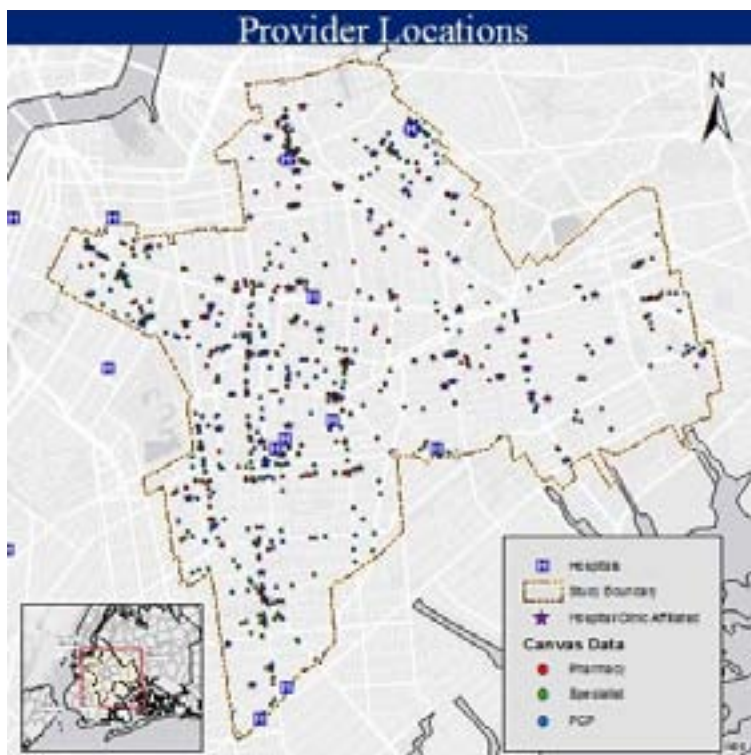
A timeline of the work of B-HIP, from notification of the initial award through the present is attached in Appendix 1.

IV. Community Health Assessment Findings

A. Healthcare Resources in Northern and Central Brooklyn

The canvassing survey and resulting GIS database supported mapping tool has enabled the B-HIP to put together a fairly detailed picture of the healthcare resources across the study area, for the first time at the census tract level. Figure 3 below depicts the distribution of health resources across the entire fifteen zip code B-HIP area.

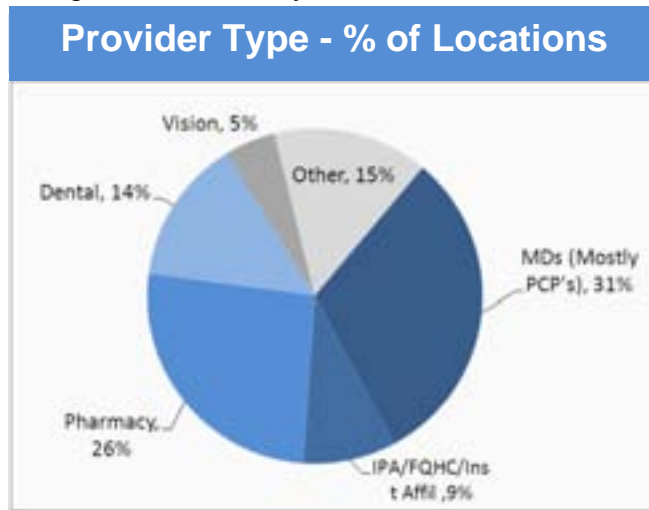
Figure 3. Distribution of B-HIP Area Healthcare Resources



¹³ In fact the difficulty and delay in obtaining the plans' data and failure to receive certain requested data, largely related to patient and business privacy concerns, prevented us from conducting pertinent analyses such as whether ACSC admissions are associated with specific primary care providers or provider groups and investigation of reimbursement payment structures that may promote emergency service use or discourage ambulatory care visits.

The range of provider types identified through the canvassing study is indicated in Figure 4 below.

Figure 4. Percentage of Locations by Self Described Provider Type



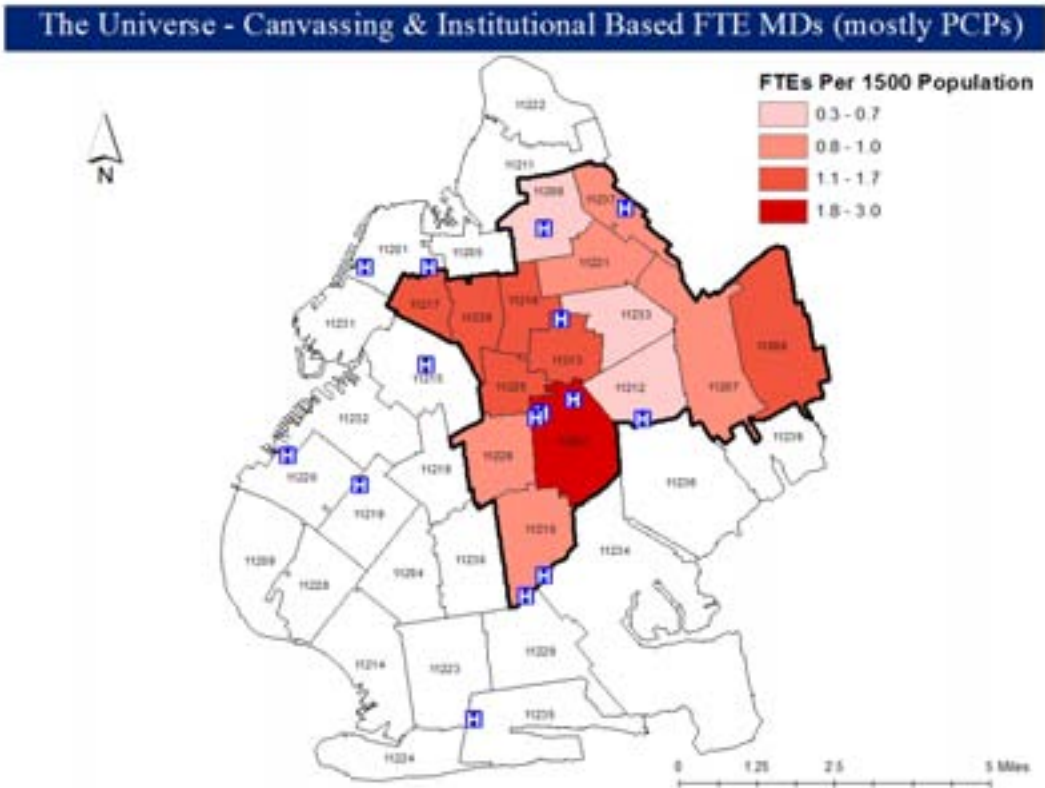
The B-HIP area contains several Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas (MUAs) designated by the U.S. Health Resources and Services Administration (HRSA), denoting an insufficient supply of primary care services serving the local population. Through the provider canvassing survey and institutional data collection the B-HIP documented 699 Full Time Employed (FTE) PCPs serving a population of over 1 million across the study area, a ratio of one PCP per 1,502 lives which is just over the limit set by New York State regulations whereby a PCP cannot enroll more than 1,500 lives to its panel for Managed Medicaid plans. We also documented a total of 24 behavioral health services provider locations for the study area.¹⁴

It should also be noted that the distribution of PCPs and other providers across the B-HIP neighborhoods is uneven, with large sections that are sparsely served, as can be seen in the maps above. In addition, there has been a 16% growth rate of the elderly population (65 and older) in this area which require more frequent PCP visits. With the anticipated increase in insurance coverage brought about by healthcare reform under the ACA, there will be more demand for PCPs in this community. [Table 2](#) below sets forth the PCP count and provider breakdown in total and by zip code within the study area, with correlating data on annual average ED visits, admissions through the ED and hospital discharges (during the period from 2007-2009).

The distribution of primary care providers across the B-HIP area, based on the canvassing surveys and data provided by the Coalition's institutional healthcare provider members, is set forth in [Figure 5](#) below.

¹⁴ We were not able to estimate the actual FTE count for behavioral providers as many were located within settings combined with other types of health services.

Figure 5. Canvassing and Institution Bases FTE Map



As indicated in the [Table 2](#) below, even within the 22.2 square miles of the B-HIP area, there is glaring disparity in healthcare utilization among the neighborhoods. For example, for zip code 11217 (Gowanus/Park Slope), a relatively well-off neighborhood with one PCP per 1,287 residents, there were 258 ED visits per thousand and 46 discharges per thousand people from 2007 to 2009. By comparison during the same period of time, in zip code 11212 (Brownsville Area), a mostly underserved population with one PCP per 2,203 residents, there were 478 emergency visits per thousand and 210 discharges per thousand people. While we are unable to control for the underlying health of the populations under discussion, the apparent correlation between fewer PCPs and higher ED usage within certain zip codes suggests that there may not be sufficient availability of PCPs in some areas and residents have chosen to use the EDs as a primary care resource, a possibility that finds some reinforcement in the responses in our 11,000+ patient survey, discussed in the next section.

Table 2. Selected zip code characteristics. PCP / Discharges / ED Visits and Admissions¹⁵

ZipCode	Community at 85% **	PCP FTEs*		Per Thousand Population				
		Inst. Based***	PCP FTEs	Population	Per PCP	Disch.	ED Visits	ED Admits
11203	20.8	126.2	147.0	76,174	518	151	351	76
11206	7.2	30.2	37.4	81,677	2,181	210	478	48
11207	17.8	33.5	51.3	93,386	1,820	177	444	89
11208	7.3	60.3	67.6	94,469	1,398	163	407	88
11210	18.6	12.3	30.9	62,008	2,004	113	223	43
11212	13.1	25.3	38.4	84,500	2,203	181	527	92
11213	22.5	18.4	40.9	63,767	1,560	174	384	89
11216	12.2	22.7	34.9	54,316	1,557	162	388	74
11217	18.8	9.0	27.9	35,881	1,287	46	258	70
11221	16.4	25.5	41.9	78,895	1,882	198	487	78
11225	17.9	26.7	44.6	56,829	1,273	133	340	60
11226	34.2	9.5	43.7	101,572	2,322	139	370	65
11233	10.2	3.2	13.4	67,053	5,016	183	435	79
11237	25.8	2.0	27.9	49,896	1,791	174	469	78
11238	21.3	29.8	51.2	49,262	963	152	273	66
Total	264.3	434.7	699.0	1,049,685	1,502	164	400	75

* 1 FTE = 40 hours/week

** Unable to obtain a firm count of PCPs since some practitioners did not specify their specialties when surveys were administered. 85% accuracy was used based on audit result.

*** These are PCPs belong to IPAs, FQHCs or affiliated with hospital satellites and clinics.

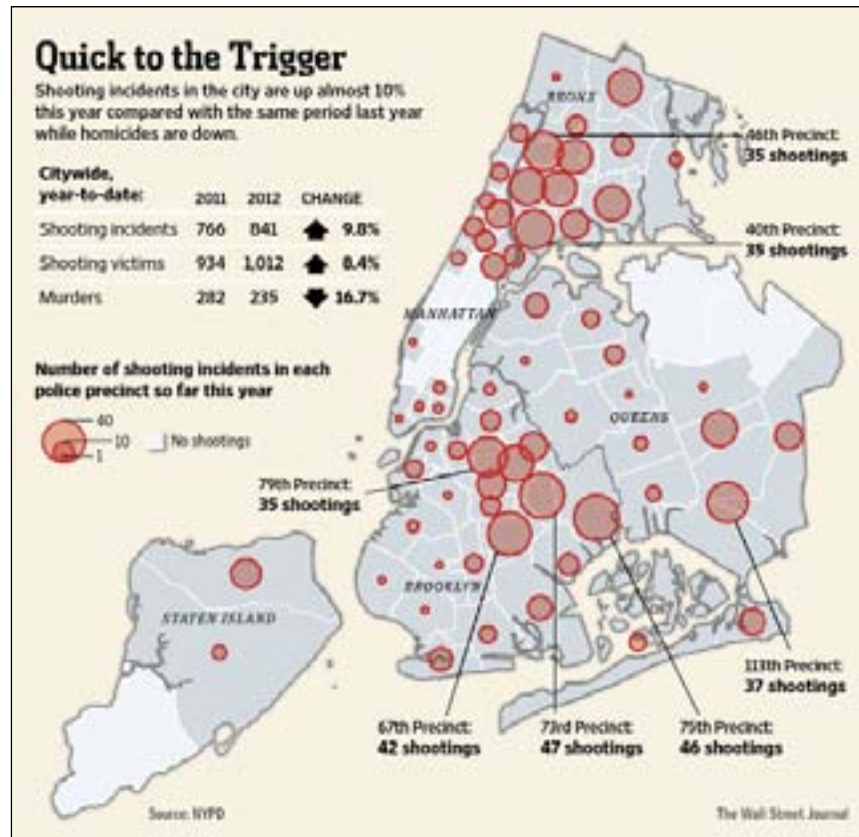
Addressing the supply and distribution of primary care providers in Northern and Central Brooklyn will be challenging. The data suggests that here, as in many other localities where low income and Medicaid populations are concentrated, primary care is increasingly associated with institutions (including hospital clinics or satellites, Federally Qualified Health Centers (FQHCs) or FQHC look-alikes, school-based clinics or voluntary clinics, i.e., where doctors are salaried and not in private practice). So long as the insurance mix in the area remains heavily weighted towards public plans, it seems unlikely that the private provider community will be able to expand to fill gaps in primary care needs. Most uninsured can only access care through FQHCs or the ED as they cannot pay out of pocket. Furthermore, the continuing low levels of Medicaid and Medicare reimbursement for primary care is unlikely to encourage growth in the private sector.

Our survey of the opening hours of primary care locations in the area also indicated a shortage of primary care providers that are accessible after hours. Out of the 11,623 total weekly operating hours for primary care locations in the B-HIP area, only 16% (1,892 hours) are on weekends or after 5:30 pm during the week. Lack of primary care that is accessible in the evenings and weekends is a well-known contributor to ED use associated with ACSC conditions, and was confirmed by the patient ED survey responses citing PCP offices being closed as one of the primary reasons they came to the ED for non-emergency services. Unfortunately meaningful

¹⁵ Source of data for Discharges, ED visits and ED admits: NYS DOH SPARCS in and out-patient files, Year 2007-2009; PCP counts from canvassing and institutional data, population figures from Census.

expansion of provider hours may be difficult in light of certain realities. As shown in Figure 6 below, the B-HIP neighborhoods suffer from higher than average incidence of shooting, rivaling only the South Bronx for shooting incidents, which appear to be rising this year.

Figure 6. Shooting incidents in New York City¹⁶



In order to operate later in the evening, community based providers must incur additional expenses related to security staffing and other safety measures, and to compensate staff for working during later, more dangerous hours. Given the predominantly public payor mix in the area, reimbursement rates are simply not adequate to support such extra costs.

Access during regular business hours appears to be another story. The canvassing survey results show that 49% of primary care locations accepted walk-in patients and 92% said they could accommodate a patient within one week. Eighty three percent of these locations said they would accept a patient regardless of their insurance type and 50% of those (133 locations) would accept a patient within one day. Ninety three percent (247 locations) were able to accept a patient within a week. An interesting pattern emerges here. Survey results suggest that PCP slots in the community are available during working hours and private doctor locations are looking to bring more patients into their waiting rooms on the same day regardless of insurance held by the patient. Yet, based on the ED patient survey responses (and our informal discussions with

¹⁶ T. El-Ghobashy and J. Maloney. "Mayor Worried about Gun Crime." Wall Street Journal, July 30, 2012. <http://online.wsj.com/article/SB10000872396390444860104577559402185384374.html>

Coalition members and community groups) there is reason to believe that residents in the B-HIP area are not fully utilizing the primary care that is available in the community. Seeking primary care in the ED, while structurally inefficient and costly, and by no means a “patient-centered” experience, seems to be preferred by many residents of the B-HIP study area. While we did not investigate the extent to which primary care resources in Northern and Central Brooklyn are operating under capacity, the reasons for the apparent under-utilization of local primary care are complex and need to be better understood through further community level consumer research as discussed in the “Recommendations” section below.

B. ED Surveys

The Emergency Department (ED) is an integral part of the social safety net in communities across the country. This is most stark in urban centers across the country and New York City and Brooklyn are no exception. The Federal EMTALA regulation requires that any patient who presents in the ED must be treated and stabilized before discharge regardless of ability to pay. Though detailed numbers are not available, New York City is estimated to have approximately 1.2 million uninsured residents and 535,000 undocumented persons.¹⁷ This puts unprecedented pressure on area hospitals, especially safety net providers, to effectively treat these and other vulnerable populations across the densely populated boroughs.

Demographics	
Total Valid Surveys	11,351
Female Persons	57%
Age	
Under 18	21%
18 - 24	13%
24 - 35	30%
45 - 64	25%
65+	12%
Race	
American Indian or Native Alaskan	0%
Asian Indian or Southeast Asian	1%
Black or African Am	84%
Mixed	3%
Other	8%
White	4%
Foreign Born	36%
Self Described Uninsured	19%

BHIP conducted a survey of patients in the EDs of each of our six partner hospitals in order to assess patient perception of the EDs as well as to ascertain the type of care they seek and their reasons for patronizing the ED. BHIP staff conducted 2 rounds of surveys, each over a two week span, 24 hours a day, to capture a representative sample of ED patients. We chose this approach because the coalition felt it important to be able to capture the wide variety of patient sentiment/choice that drives ED use. Preliminary results from the first round of the survey pointed to the need for more follow-up information during the second round of surveys. While the questions used in the first round were not changed, questions were added to the second round surveys for completeness. Certain analyses reflect this difference. It is also important to note that this instrument surveys patient perception rather than objective fact. When looking at measures such as insurance status or whether the patient is presented for an emergency condition we are not determining if the ED is in fact being used properly but rather whether patient perception drives potentially avoidable usage.

¹⁷ Report: “Health Insurance Coverage in New York, 2009.” United Hospital Fund and Urban Institute. Nov. 2011, <http://www.uhfnyc.org/assets/936> and Report: “Working for a Better Life: A Profile of Immigrants in the New York State Economy.” Fiscal Policy Institute, Nov. 2007. http://www.fiscalpolicy.org/publications2007/FPI_ImmReport_WorkingforaBetterLife.pdf.

Demographics

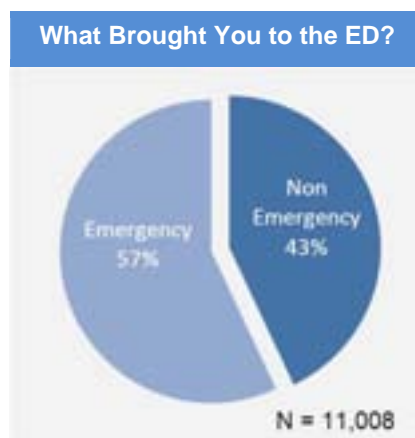
Table above shows basic demographic statistics from the sample population. The survey ED population demographics differed from the Brooklyn averages in several ways. The study population was more likely to be female (57% vs. 54%) than the BHIP study area population, and less likely to be under the age of 18 (21% vs. 25%). This is in line with many of the studies that have been completed in the New York City pertaining to ED usage.¹⁸ Users of the ED also tended to be predominantly Black or African American. New York City and Brooklyn have a very high proportion of foreign born residents; this is also borne out in our study population and presents a possible layer of difficulty where effective communication could lead to better outcomes.¹⁹

Inappropriate ED Utilization?

Patients were asked a series of questions about primary care provision and insurance status, as well as their preferences for care seeking. Below is a summary of major findings along with a brief analysis, focused on those patients who came to the ED and claimed they were not there for what they considered an “Emergency.” This constitutes a considerable percentage of the surveyed population.

Non-Emergency Population

Patients were asked, “Why did you come to the ED today?” Fifty seven percent of the respondents stated that they were there for an Emergency. Forty three percent (4,680 patients) had come to the ED for reasons other than what they considered an emergency. This presents an opportunity to identify a large cohort of patients who may be in need of a quality primary care alternative to the ED.



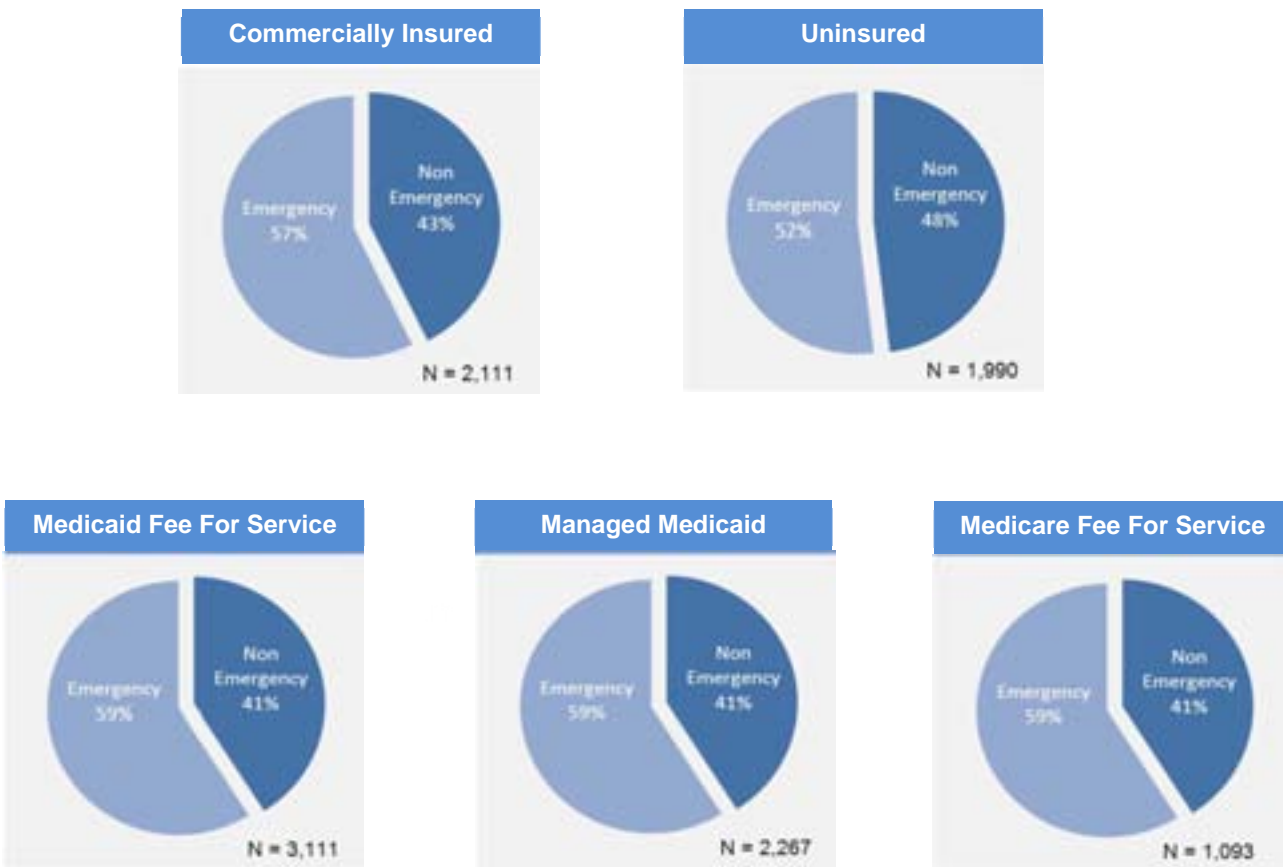
So then why would these patients utilize the ED instead of accessing other options? We hypothesized that there could be several reasons for this pattern of ED use. First, is it possible that lack of or underinsurance could play a role in these activities? Do these patients have a relationship with a family doctor/PCP? Other factors such as timeliness of care, individual historical patterns of healthcare utilization should also be examined. Out of 10,572 patients who answered the insurance question and the emergency question, 21% were enrolled in Managed Medicaid, Child Health Plus and Family Health Plus. Of those, 42% used the ED for non-emergency purposes. Of the 20% of respondents carrying commercial insurance, 43% used the ED for non-emergencies. Medicaid and Medicare Fee For Service covered respondents also followed the same trend as the Medicaid Managed Care and commercially insured patients (within 1%). For the 19% of patients that lacked insurance, the rate of ED usage for non-

¹⁸ J. Billings, N. Parikh and T. Mijanovich. “Emergency Department Use: The New York Story.” Issue Brief. The Commonwealth Fund, Nov. 2000.

¹⁹ W. Thompson Jr. “Getting in the door: Language Barriers to Health Services at New York City Hospitals.” NYC Office of the Comptroller, 2005.

emergencies rose to 48%, indicating that the uninsured may have more problems in accessing primary care and use the ED as an alternative. These findings are set forth in the charts below.

Figure 7. Patients self-described reason for presenting in ED by insurance type



Other “attractive” features of EDs in Brooklyn are their apparent “affordability” and “convenience.” The belief that EDs allow for “free” (or extremely low cost) care and “one-stop-shopping” are pervasive among hospital staff and the coalition partners. While charity care procedures vary from site to site it is clear that uninsured patients utilize some hospitals more than others. The uninsured surveyed population from site to site ranged from 12% to 33%. Self reported insurance status is slightly higher in the non-emergency population than that of the survey population as a whole. Approximately 1 in 5 patients presenting in the ED in the B-HIP study area is an uninsured or self pay patient. As shown in the charts above findings suggest that patients use the ED as a supplement to their primary care situationally regardless whether they have commercial or government insurances.

Examining the relationship between patients and their PCPs, an interesting picture develops. Sixty-two percent of the non-emergency patients have a family doctor but 11% of these 62% do not access those services. Thirty-three percent of all respondents say they do not have a PCP and 5% say they do not know if they have a PCP. As noted above, 43% of ED respondents presented for non-emergency

Do you have a PCP / Family Doctor?		
Response	% Non Emergency Respondents	% All Respondents
I don't know	5%	5%
No	33%	31%
Yes	55%	55%
Yes - But Do Not Use	7%	8%
Total	100%	100%

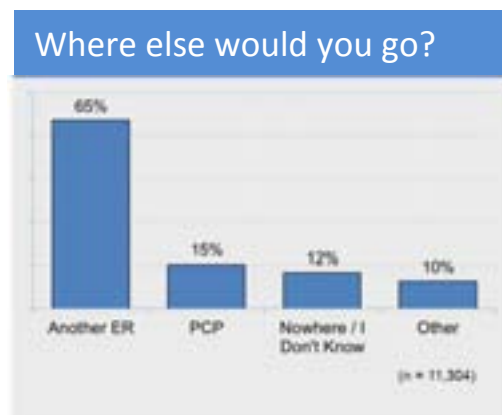
conditions, from which it can be presumed that strong relationships do not appear to exist between the primary care system and the patient population in our Brooklyn study area.

Managed Care Education

Responses to the question “Do you have a PCP/Family Doctor?” suggest that many patients do not have a solid grasp of the managed care environment concerning their enrollment with providers and the benefits to which they are entitled. Medicaid managed care plans are required by law to assign every beneficiary to a PCP. When asked if they had insurance, 21% of respondents claimed they had Child Health Plus, Family Health Plus, managed care or stated the name of an insurance company explicitly related to Medicaid managed care. Of these, 17% responded they did not have a PCP or did not know if they had a PCP, despite the fact that as managed care participants they either had to have chosen a PCP or have had one auto-assigned. This demonstrates a failing of the patient/provider/managed care continuum and begs other questions concerning managed care enrollees’ ability to access necessary benefits. This information may be inaccessible to a large proportion of those surveyed or it was not conveyed in a manner that was at the appropriate level of understanding. Suggestions for improvements in managed care education can be found in the “Recommendations” section.

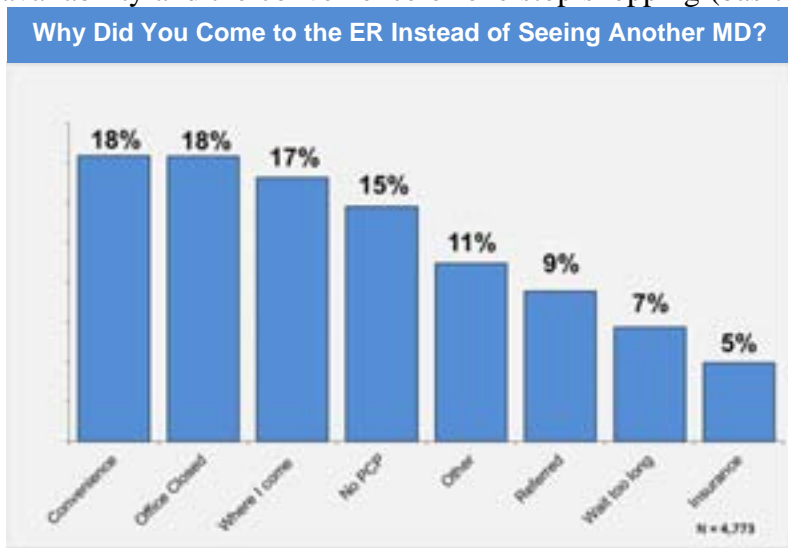
Patient Decision Making

In order to redirect patients it is critical to know what options are perceived as available to them when choosing a healthcare provider for an episode of care. Patients in the study who indicated that they were in the ED for a non-emergency purpose were asked, “Where would you go if you could not be seen here (in this ED) today?” Across both rounds of the survey patients wanted, or saw no other choice than, to go to an ED. Sixty-five percent of non-emergency patients said that they would go to another ED to be seen and only 15% would have rather gone to see their PCP. A further 12% said they felt they had nowhere else to go or they were unaware of other options available to them. We further examined if a difference existed for these patients who presented in the ED during business hours and the answers were similar: 55% would go to another ED, 22% would go to the PCP and 13% said they had nowhere else to go (See slides in Appendix 6B).



Futher, when asked why they preferred this particular ED, several important trends appeared. Eighteen percent of patients used the ED because they found it to be convenient. Also cited were issues around their PCP not being available (18% said the office was closed and 15% said they had no PCP). Another 17% stated that the ED is the place they always get their care.

Viewing the ED survey results in conjunction with the NYS DOH SPARCS ED data (discussed in the next section), we have confirmation that in the B-HIP study area patterns of ED use are less than ideal. ED visit rates without admission are too high and a significant proportion of patients questioned directly admit they are presenting for complaints they know are not an emergency. Employing survey response, it is clear that many of the reasons given for using the ED relate to “convenience.” Many respondents mentioned the advantages of 24/7 service availability and the convenience of one stop shopping (basic laboratory, x-ray and EKG on site)



as well as the difficulties in scheduling appointments with PCPs (patients are not uncommonly referred to the ED by doctor’s offices related to office scheduling issues). Respondents from an informal community focus group²⁰ also perceived some of the local healthcare resources to be of poor quality in terms of aging equipment, facilities condition, disrespectful service and long wait times. Certainly such “convenience” and customer

service/quality factors are contributing to under-utilization of the existing primary care resources in the B-HIP area and a preference for or over-reliance on the ED. Any targeted intervention to reduce ED utilization therefore must include strategies not only to increase the supply of primary care, with attention to care beyond usual business hours, but also to make it more accessible and attractive to local consumers. Patient and community education, empowerment and engagement will also be instrumental. These elements of a proposed strategy for intervention are discussed further in Section VI. “Recommendations.”

Provider ED Survey

The ED staff survey was conducted at all six B-HIP Coalition Member hospitals. About 40% of the 1,030 ED staff who were approached responded, including doctors, nurses, medical assistants and front desk staff. One of the reasons for this low response rate may be that the staff were pulled into new activity even when they were reminded about the survey. Doctors and nurses had the highest response rate among all ED staff types.

²⁰ A June 16, 2012 Tenants Association meeting at the Van Dyke New York City Housing Authority project in Brownsville, Brooklyn.

The aim of the ED staff survey was to examine the attitude and overall culture of the staff toward the patients, in addition to improvement of service. During the Coalition’s review of the data analysis of the ED staff survey, the following points were noted and discussed:

- Almost 50% of the ED staff respondents felt that on a daily basis, only 25% or less of the cases they see in the ED would be deemed “emergency” cases. Only about 19% of ED staff surveyed felt that 76% -100% of the cases seen in their ED would be deemed “emergency” cases.
- The majority of the staff respondents believe their patients do not have education beyond high school and also, that the majority do not have private insurance. This last perception is in contrast to the findings from the ED patient survey and internal hospital data whereby the majority of ED patients do have some sort of insurance. This gap between ED staff perception and reality might point to an educational training need on the providers’ side.
- The majority of ED staff surveyed (84%) perceived that less than 25% of their ED patients consulted with a provider prior to coming to the ED. This finding is corroborated by the ED patient survey result that shows less than 25% of ED patients surveyed cited “told by my doctor/nurse” as a reason for going to the ED.
- Not surprisingly, only 28% of ED staff surveyed felt that a private PCP was an option for their ED patients for primary care services. The options most ED staff felt was available to their ED patients were the “institution” based options – i.e., a hospital clinic or walk-in clinic. This also may point to an educational training need on the providers’ side or they know there are not enough PCPs available outside of institutional settings.
- Finally, the main “issue” for providing care to ED patients identified by the majority of the ED staff responders seems to be related to the inadequate staffing of the ED with transporters, nurses and technicians, respectively.
- The gap between ED staff perception of ED visits being for lack of insurance and the reality (based on the ED survey and internal hospital data) that the majority of their patients do have some sort of insurance might point to an educational training need on the providers’ side.

Various slides related to the staff ED study can be found in Appendix 6C.

Additional findings of the ED surveys

- Transportation
 - 42% of patients surveyed came to an ED by car, 51% of whom stated that they were there for an emergency.

- 21% of patients came to an ED via ambulance, 67% of whom stated that they were there for an emergency.²¹
- 20% of patients came to an ED via public transportation, 40% of whom stated that they were there for an emergency.
- 16% of patients walked to an ED, 46% of whom stated that they were there for an emergency.
- The longer a respondent stays in one residence, the more likely he/she has (self-reported) insurance coverage – 83% of respondents residing at the same address for more than five years are covered versus 75% coverage for respondents living at their current address for less than a year. However, both groups have similar patterns of ED usage for emergencies.

In sum, patients' perception of their own ED usage suggests that a large proportion of the population could be seen in a more appropriate venue but that available options are inadequate to address patient needs. While it will continue to be a struggle to quantify usage of the uninsured population, the survey responses indicate a significant population of insured patients who are not accessing primary care in an appropriate fashion. With the impending influx of new patients to Medicaid that the Affordable Care Act will provide and New York State moving the vast majority of Medicaid beneficiaries to managed care, there will be a substantial increase in the insured population and many of these will find their way onto managed care rolls. The insurance plan encounter study findings on healthcare usage patterns of the insured (e.g., do commercially insured patients behave differently than those in Medicaid Managed Care?) are discussed in the next section and may provide insight into future utilization.

C. Longitudinal Analyses of Health Insurance Encounters

In this study of the health utilization patterns of the insured population in the B-HIP area, claims/encounter data was analyzed using four patient groupings: adults (18 and over) on public insurance (primarily Medicaid and Family Health Plus), children (aged 0-17) on public insurance (Medicaid and Child Health Plus), adults with private insurance and children with private insurance.²² Unfortunately, with the data sources available, we know little about the uninsured (and even less about the uninsured, undocumented population) in our study area.

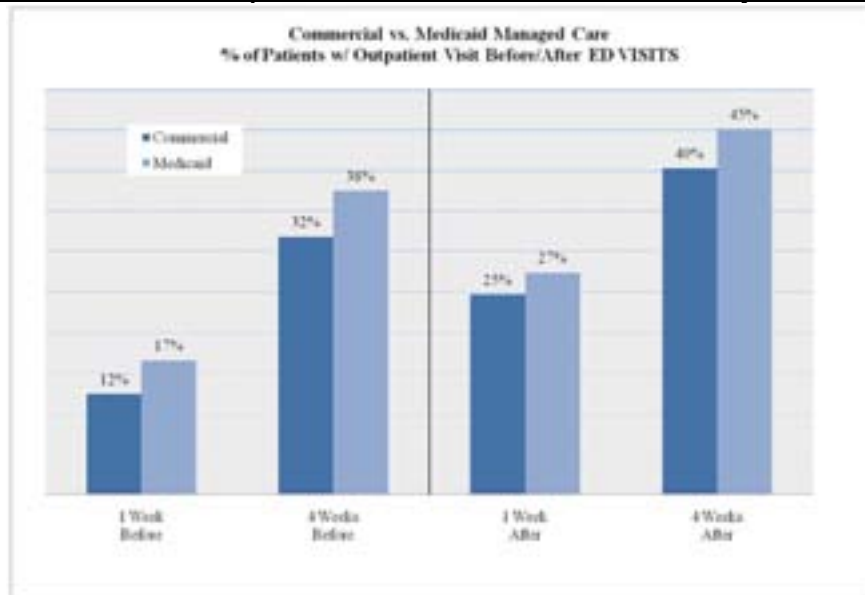
Internal financial data captured during the survey period by our hospital partners confirms the ED survey data showing that most of the ED visitors in our study do in fact have insurance. (See Appendix 6D). The information regarding PCPs or a usual source of care is more difficult to ascertain. The encounter data, because it allows tracking of individual behavior longitudinally,

²¹ Use of ambulances by patients with non-emergent conditions is a clear waste of resources and may stem from economic or "convenience" factors. Some localities with high rates of repeat ambulance usage by certain individuals are experimenting with using Emergency Medical System personnel to provide pro-active preventive health services and care coordination to individuals in their homes, at homeless shelters and other community settings. Such programs have been proven to save costs to the emergency system yet are currently unworkable under existing EMS reimbursement rules. See K. Johnson. "Responding Before a Call is Needed." New York Times, Sept. 18, 2011.

²² We did not include Medicare data as Medicare Advantage plans had few enrollees during the years of data we were able to access.

reveals that regardless of the type of insurance, the majority of insured ED visitors for medical diagnoses (excluding injury, primary behavioral health issues and substance abuse) have not seen their PCP within weeks to months prior to presenting in the ED (although they will have had a PCP visit within a year), nor do they keep follow-up appointments. For all four population groupings (adults and children, private and public) less than 17% had any physician/outpatient visits during the week prior to the ED visit (increasing to roughly 38% if the time is increased to four weeks). Similarly, follow-up visits after an ED visit for an ACSC diagnosis occurred in only about 45% of patients for whom we have encounter data despite the generic instructions to seek follow-up appointments with their usual source of care. These findings are set forth in [Figure 8](#) below. Also, commercially insured patients appear to have worse pre- and post-ED visit connection to outpatient care than patients in Managed Medicaid.²³

Figure 8. Difference in Outpatient Utilization Pre/Post ED Visit by Insurance Type²⁴



Although the uninsured without a regular source of primary care have long been believed to be frequent users of the ED, both administrative and survey data reveal that the uninsured are not responsible for the majority of primary care-treatable or potentially preventable visits in the B-HIP area EDs.²⁵ Rather it was the Medicaid population that made up the largest percentage of these visits. Whether this is simply the result of the predominance of Medicaid coverage in the area or a reflection of the ease of seeking such care with this form of insurance is unknown. African American/black patients as a group are also at higher risk for ED visits for ACSC (84% of surveyed patients were African American/black but only 62% resided in the study areas). Our findings do not differ significantly from the national studies finding disproportionate ED

²³Pediatric and adult data were combined for these charts because the findings for the two categories were not statistically different.

²⁴ The data in this chart is based on encounter data from eight out of the nine plans.

²⁵ Since the 1986 enactment of the Emergency Medical Treatment and Active Labor Act (EMTALA) mandating treatment in ED regardless of ability to pay or insurance, EDs are increasingly serving as the safety net for uninsured and otherwise medically underserved patients.

utilization for chronic ACS conditions by African Americans/blacks and Medicaid patients.²⁶ These studies observed that follow-up arrangements for African American/blacks, Medicaid, and uninsured patients suggest that they are less likely to have ongoing primary care, concluding that barriers to primary care contribute to the higher ED and hospital utilization rates seen in these groups. However, with our inability to link data sources, related to privacy concerns, we cannot determine if ED visitors for ACS conditions are also frequent users of primary or other forms of healthcare.²⁷

Given the timing of when various insurance plans submitted their claims data to B-HIP and the limited resources available for B-HIP to analyze the data, an in-depth analysis of claims data for 3 years of services was conducted for only four of the nine health plan Coalition members, (although we did belatedly obtain data from all nine plans). A sample of this analysis is shown in Appendix 6D. B-HIP staff found that 43.3% of plan enrollees (for the four plans analyzed) who utilized healthcare services utilized the ED; and approximately 14% of those who used the ED (6% of all enrollees who used services) did not have any Physician encounters during the time period for which claims data was provided. There was also a relatively high rate of enrollees who used the ED but did not have any claims for other outpatient services during a three year period. B-HIP also found that 5.8% of enrollees admitted to hospitals had an ACSC admission (primary diagnosis is an Ambulatory Care Sensitive Condition) and approximately 31% of these (2% of all enrollees admitted) did not match to any professional encounter claim (excluding ED). Such findings seem to suggest that many enrollees of the managed care plans are not being properly linked to their PCPs and are not receiving necessary outpatient care related to their ACS conditions. Failure to link to care outside of the ED can have costly implications: at an average cost of \$5,782 per ACS admission for the 1,135 enrollees of these four plans who had an ACS admission and did not have any outpatient health services in three years, and assuming one admission per enrollee, the total costs of these ACSC admissions amounts to over \$6.5 million.²⁸

D. NYS DOH SPARCS Data Analysis

Review of the SPARCS data at the census tract level confirmed the prevalence of poor health indicators and sub-optimal healthcare utilization (high rates of potentially preventable ED visits and ACSC admissions) within the B-HIP study area, while enabling us to describe these problems with much greater geographic specificity than in the past. Appendix 6E contains GIS maps for the area showing 1) population density (2010 census), 2) distribution of potentially preventable or ACSC ED visits (i.e., those visits that did not result in admission to the hospital, indicating that the complaint could have been addressed in ambulatory care), and 3) distribution of ACSC admissions (i.e., hospital admissions for conditions that could have been avoided through timely and appropriate treatment in primary and preventive care or ambulatory disease management). Other data sources (e.g. NYC Bureau of Vital Statistics and the NYC DOHMH Community Health Survey) confirm the high concentration of poor health indicators in the study

²⁶ A. Oster A. and A.B. Bindman. "Emergency department visits for ambulatory care sensitive conditions: insights into preventable hospitalizations." *Med Care*, 2003; 41(2):198-207.

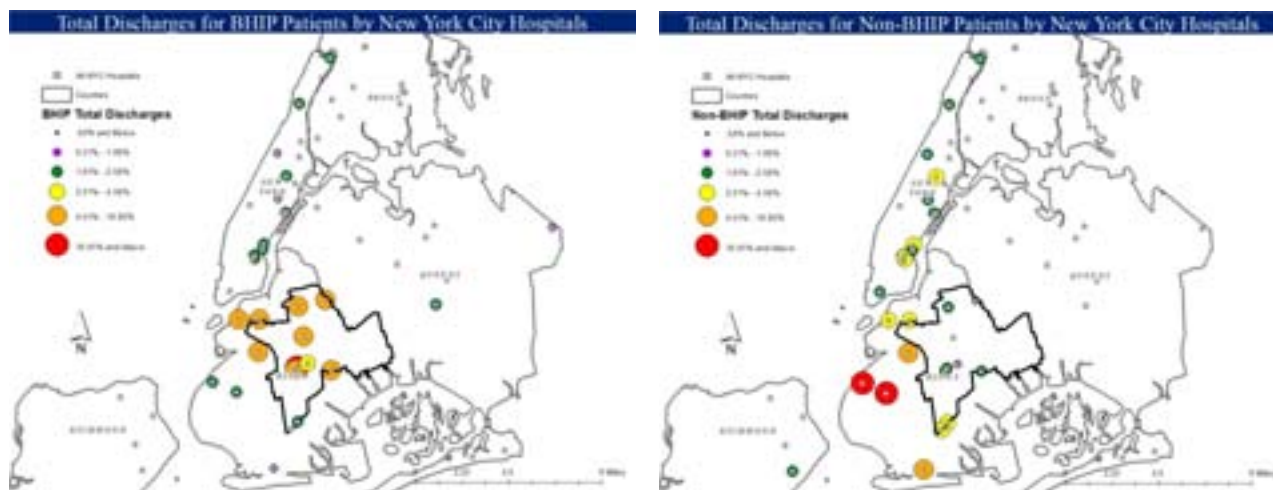
²⁷ Protection of individual privacy in compliance with the Health Insurance Portability and Accountability Act (HIPAA) law prevents us from matching SPARCS utilization data with the insurance encounter data. Without the ability to link SPARCS and insurance data, we cannot differentiate between primary and specialty care in the insurance plan encounter datasets.

²⁸ Average cost / ACS admission is based on average payment from three managed Medicaid plans data

area including high rates of premature mortality (age less than 75 years), prevalence of many chronic diseases including asthma, hypertension and diabetes among others, and elevated rates of infant mortality and preterm births.²⁹ Through GIS mapping of the SPARCS data, the incidence of inappropriate health utilization and poor health status are revealed very clearly to be concentrated in certain geographic “hotspots,” as discussed further in Subsection (E) below.

Mapping of the ACSC discharges for B-HIP area residents as compared to non-B-HIP area Brooklyn residents also reveals an interesting pattern whereby the B-HIP area residents seem to use nearby hospitals to a greater degree than residents of the non-B-HIP area, who use hospitals over a far wider area including Manhattan. As illustrated in the maps in Figure 9 below, a greater percentage of discharges of B-HIP area residents come from Brooklyn hospitals (79%) than those of residents of the non-B-HIP area (73%).

Figure 9. Percent of Total Discharges by Hospital for BHIP and Non-BHIP Brooklyn residents.



Appendix 6E contains maps that further illustrate the differences in distances traveled for healthcare by B-HIP area residents as compared to residents of the rest of Brooklyn. The apparent tendency of Northern/Central Brooklyn residents to utilize (at least hospital care) relatively close to home should be taken into account in the design of future localized interventions and resource allocation decisions.

As shown in the table below, although the B-HIP study area represents 42% of the total population in Brooklyn, it attributed to 48% of all discharges and 55% of all ACSC admissions in the borough. Comparison of the 2000 and 2010 census revealed that Brooklyn population increased by 2% whereas the “Under 18” age category dropped by 10%, the “45-64” age group increased 16%, and “65 and Older” increased by 2%. The fluctuations in age groups among the B-HIP population were more dramatic, with a drop in the “Under 18” age group of 16% in a ten year span and increases in the “45-64” and the “65 and Older” categories by 18% and 19% respectively. Since more discharges and ACSC admissions come from the last two categories

²⁹ The NYC DOHMH Community Health Profiles for the 42 UHF neighborhoods of NYC contain local data on these and other health indicators, including rates of smoking, obesity, HIV, cancers, and behavioral disorders. <http://www.nyc.gov/html/doh/html/data/data.shtml>

(33% of the population attributed to 49% of all discharges and 61% of ACSC admissions), the sharp growth in this segment of socio-economically challenged older population will certainly tax the healthcare infrastructure and increase the cost of care in this region.

Table 3. ACSC Discharges and ED Visits Comparing Brooklyn and the BHIP Study Area

Brooklyn - Census Tract Basis	Population					Average Annual 2007 - 2009					
	Year 2000		Year 2010		Growth	Discharges		ACSC Disch		ED Visit w/o Adm	
	Persons	% of Total	Persons	% of Total		% of Total	% of Total	% of Total	% of Total		
Total	2,465,326	100	2,504,700	100	2%	318,161	100	50,052	100	719,937	100
Under 18	662,499	27	594,378	24	-10%	60,500	19	7,870	16	208,172	29
18 to 44	1,011,455	41	1,032,500	41	2%	90,593	28	8,141	16	321,237	45
45 to 64	508,714	21	590,189	24	16%	72,211	23	13,549	27	138,119	19
65+	282,658	11	287,633	11	2%	94,857	30	20,492	41	52,410	7
BHIP StudyArea											
Total	1,037,404	100	1,049,685	100	1%	153,388	100	27,380	100	439,292	100
Under 18	314,128	30	262,700	25	-16%	30,418	20	5,314	19	132,675	30
18 to 44	432,397	42	442,242	42	2%	47,423	31	5,208	19	197,129	45
45 to 64	204,589	20	242,178	23	18%	38,257	25	8,071	29	83,891	19
65+	86,290	8	102,495	10	19%	37,290	24	8,788	32	25,597	6
Compare to Brooklyn	42%		42%			48%		55%		61%	

The SPARCS data was also analyzed using logistic regression models in an effort to identify factors (including age, gender, race/ethnicity and primary payer as well as a few community level variables available from the U.S. Census) that might influence the rates of both potentially preventable ED visits and ACSC admissions.

The odds of an ED visit for an ACS condition decreases with female gender (as compared to male) and being Asian (as compared to other racial categories). The odds ratio also decreases by a very small amount with each unit increase in age. The largest increase in the odds ratio occurs with Medicare coverage, as compared to those with commercial insurance. A smaller, but still statistically significant increase occurs with Medicaid coverage, while the uninsured are not significantly different from those with commercial insurance. Residing in a census tract with the lowest quartile of household median income, highest rates of those without at least a high school education, highest vacant housing rates and highest rates of those who speak limited English are all associated with higher odds of ED visits for non-emergent care.

Binomial regression analysis of the SPARCS inpatient discharge data using discharges for ACSC as the dependent variable reveals increased odds ratios for those who are uninsured and covered by Medicare and a decreased odds ratio for those with Medicaid coverage. Females are less likely than males to be admitted for an ACSC, while blacks/African Americans and Latinos/Hispanics have higher odds than whites of admissions for an ACSC. Those living in census tracts with high rates of individuals without a high school diploma and with the lowest incomes also have increased odds of an ACSC admission. On the other hand, poor English language skills are not statistically significant.

Charts setting forth the regression analyses discussed above for both potentially preventable ED visits and ACSC admissions are set forth at Appendix 6E.

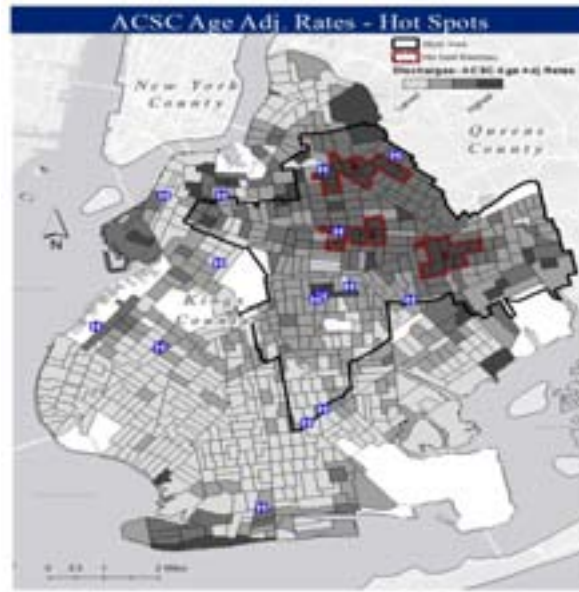
Analysis of both total hospital admissions and of ACSC-only hospital admission rates for the B-HIP study area also reveals higher values than the NYC or Brooklyn average. (See [Table 3](#), in the next section). Since it is widely accepted that healthcare is only one of many contributors to overall population health, the major determinants of the need for total hospital admissions lie beyond the B-HIP capacity and mission. To address these issues requires dealing with the social and economic determinants of health. The public health education efforts of the NYC DOHMH related to efforts to address nutrition/obesity, tobacco and behavioral disorders are laudable as are the disease specific education programs for diagnoses such as diabetes and asthma as well as efforts to extend cancer screening to underserved populations, but their effectiveness remains unproven. Continued work to decrease environmental pollutants, improve air quality, improve the quality of housing stock and other aspects of the built environment are clearly indicated. The Community Health Survey, fielded annually, continues to yield valuable information although at the United Hospital Fund (UHF) neighborhood level. In contrast, ACSC admissions are attributable to lack of timely, quality primary care and lie within the purview of the B-HIP mission.³⁰

E. [The B-HIP Area Hotspots](#)

The GIS mapping of the SPARCS data by census tract has enabled viewers to discern that a pattern of problematic health utilization is concentrated in three distinct places in the B-HIP study area, displayed in [Figure 10](#) below. For the purposes of this study, these “hot spots” are geographic areas consisting of groups of densely populated census tracts with the highest average annual rates of ACSC hospital discharges in the study area. We chose this methodology in order to identify areas in which a targeted intervention could have the greatest possible impact on population health. Perhaps unsurprisingly, in the hot spots the rates of potentially preventable ED visits and indicators such as premature mortality, pre-term births, chronic disease are also among the highest in the study area.

³⁰ A pertinent area for further study of ACSC admissions would be to what extent and why patients coming through the ED at area hospitals are being admitted for socio-economic reasons (e.g., homelessness, lack of caregivers, undocumented) and not in accordance with accepted admission guidelines (Milliman InterQual Clinical Care Guidelines). Based on informal discussion among the B-HIP hospital partners this phenomenon could account for a significant portion of ACSC admissions.

Figure 10. B-HIP Hot Spots. From SPARCS 2007-2009 inpatient data file



The three B-HIP “hotspots” are located in communities with healthcare problems (and other challenges) that are already well-known to local residents and in Brooklyn: 1) Brownsville/East New York, 2) Crown Heights North/Bedford Stuyvesant, and 3) Bushwick/Stuyvesant Heights. Together, these hotspots represent 9% of all potentially preventable ED visits, 6% of all discharges and 8% of all ACSC discharges in Brooklyn, but only 4% of the borough’s population. [Table 3](#) below illustrates the pronounced disparities in utilization for these hotspots, as compared to the rest of the B-HIP study area, the non-B-HIP study area, Brooklyn, New York City, and the State. The rate of ED visits without admissions (or ACSC) of 463 per thousand in Hot Spot #1 is more than double the Brooklyn wide rate, and more than triple the non-B-HIP study area rate. Similarly the ACSC discharge rate of 42 per thousand in that hotspot is more than double the Brooklyn-wide rate.

Table 4. Hot spot utilization comparisons

	Hot Spots			BHIP Study Area	Non-BHIP Study Area	Brooklyn	New York City	New York State
	#1	#2	#3					
Population	30,319	21,392	49,669	1,049,685	1,455,015	2,504,700	8,175,133	19,378,102
<i>% of Brooklyn Population</i>	1.2%	0.9%	2.0%	44%	58%	100%		
SPARCS Data 2007 - 2009								
Avg Annual ED Visits ¹	18,959	11,075	30,279	439,292	280,646	719,937	2,407,739	5,440,859
Age Adj. ED Visits / 1,000	612	504	594	387	200	284	294	282
% of Brooklyn ED Visits	2.6%	1.5%	4.2%	61%	39%	100%		
Avg Annual Disch	6,068	4,105	9,001	153,388	164,773	318,161	1,213,492	2,854,965
Age Adj Disch Rate / 1,000	225	235	211	147	100	132	152	146
% of Brooklyn Disch	1.9%	1.3%	2.8%	48%	52%	100%		
Avg Annual ACSC Disch	1,281	865	1,851	27,380	22,672	50,052	188,236	411,724
Adj ACSC Rate / 1,000	50	44	46	28	17	21	24	21
% of Brooklyn ACSC Disch	2.6%	1.7%	3.7%	55%	45%	100%		

¹ ED Visits w/o admission

A table showing the age adjusted rates of ED visits and total and ACSC discharges in the hot spots is contained at [Appendix 6F](#).

ACSC admissions in the three hot spots alone take a heavy financial toll on the health system, as demonstrated in [Table 5](#) below, which tabulates the average cost of the top twenty ACSC admissions. At \$9,833 per case, these amounted to over \$31 million annually. Appendix 6F contains tables breaking out the top 20 ACSC discharge diagnoses separately for each hot spot.

Table 5. Top 20 ACSC discharges by diagnosis grouping - aggregate three hotspots

Dx Grouping**	Disch	Total Charges	Cost*
CHF	1,814	48,937,465	25,991,565
Asthma	2,245	28,656,087	15,585,528
Pneumonia	1,313	22,455,401	12,588,985
Diabetes	919	20,571,454	10,921,677
COPD	1,248	20,535,209	10,888,424
Epilepsy	1,120	18,184,738	9,452,142
Cellulitis	883	16,037,871	8,394,193
Subtotal	9,542	175,378,227	93,822,514
Annual Avg	3,181	\$ 58,459,409	\$ 31,274,171
\$/case		\$ 18,380	\$ 9,833

* Using hospital specific inpatient Cost / Charge Ratios

** Top 20 Pri Diagnoses summarized into general groupings

As shown in [Table 6](#) below, the ratio of PCP FTE's per 1,500 persons for all three hot spots are significantly higher than that of the BHIP area as a whole. In Hotspot #1 there are 1.6 PCP FTE's per 1,500 persons, the ratio is 1.5 for Hotspot #2 and 2.0 for Hotspot #3, which is more than three time above the BHIP average of 0.9 PCP FTE's per 1,000. Lack of supply of primary care then, may not be the key driver of the healthcare crisis in some of the hot spots.³¹ It will be essential, through further research into community level consumer behavior and the accessibility and quality of local healthcare options to investigate the reasons why the hot spot residents are relying so heavily on the ED for non-emergent conditions.

Table 6. Health resources in hot spots

Health Resources	Hot Spot #1 Brownsville / ENY	Hot Spot #2 Crown Heights North	Hot Spot #3 Bushwick / Stuy Heights	BHIP Study Area	Brooklyn Totals
Unique Health Care Locations	17	10	40	744	NA
PCP FTE's*	32	21	65	699	2,097**
FTE's / 1,500 Population*	1.6	1.5	2.0	0.9	1.3
Institutional Locations	5	4	5	34	NA
Drug Treatment Facilities	1	1	3	34	77
Pharmacies	10	7	18	231	NA
Specialist Locations	8	2	19	323	NA

* Data from Canvassing and Institutional Data from Provider Survey

** From Workforce Development Study 2009

³¹Designation or identification of health professional shortages within relatively small sections of urban settings using population to FTE ratios is not an exact science given the high population density and mobility in such areas.

The B-HIP Coalition feels strongly that any intervention to reduce ACSC related ED visits and hospitalizations in the hot spots must be carefully tailored to the unique needs, resources and preferences of the local communities. As seen in [Table 7](#) below, the demographic profiles of the three hot spots vary significantly.

Hot Spot #1 is clearly the poorest area, with substantially lower household income and higher rates of unemployment and public benefits enrollment than the other two hot spots. Seventy-two percent of the inhabitants are African American/Black. Total population in this area grew 5% from 2000 to 2010 but the “Under 18” age group (about a third of inhabitants) dropped 13%, whereas the “45-64” and “65 & Older” age categories went up by 28% and 29% respectively. Although only 27% of the population, these two age groups accounted for 47% of all discharges and 61% of all ACSC admissions.

Hot Spot #2 has experienced a population growth rate of 9% from 2000 to 2010. Eighty-four percent of the inhabitants are African American/Black. While the “Under 18” age group decreased from 31% to 28% (a negative growth rate of 2%) and the “65 & Older” decreased from 13% of the population to 10% (a 10% decline), the combined “18-44” & “45-64” age groups grew from 56% of the population to 61%, a combined growth rate of 20%. Income level is much higher than the two other hot spots. The 10% “65 & Older” group contributed to 27% of the discharges and 30% of ACSC admissions.

Table 7. Utilization by hot spot

	Population					Average Annual 2007 - 2009					
	Year 2000		Year 2010		Growth	Discharges		ACSC Disch		ED Visit w/o Adm	
	Persons	% of Total	Persons	% of Total		% of Total	% of Total	% of Total	% of Total		
Hotspot #1											
Total	28,923	100	30,319	100	5%	6,068	100	1,281	100	18,959	100
Under 18	11,384	39	9,956	33	-13%	1,172	19	218	17	5,895	31
18 to 44	10,780	37	11,679	39	8%	2,006	33	276	22	8,770	46
45 to 64	4,589	16	5,876	19	28%	1,542	25	411	32	3,392	18
65+	2,170	8	2,808	9	29%	1,348	22	376	29	902	5
HotSpot #2											
Total	19,604	100	21,392	100	9%	4,105	100	865	100	11,075	100
Under 18	6,148	31	6,022	28	-2%	672	16	182	21	3,312	30
18 to 44	7,121	36	8,405	39	18%	1,242	30	182	21	5,007	45
45 to 64	3,874	20	4,760	22	23%	1,095	27	243	28	2,133	19
65+	2,461	13	2,205	10	-10%	1,097	27	257	30	624	6
HotSpot #3											
Total	45,382	100	49,669	100	9%	9,001	100	1,851	100	30,279	100
Under 18	15,904	35	13,222	27	-17%	1,834	20	402	22	10,256	34
18 to 44	18,845	42	23,040	46	22%	2,812	31	358	19	13,116	43
45 to 64	7,657	17	9,497	19	24%	2,214	25	536	29	5,287	17
65+	2,976	7	3,910	8	31%	2,141	24	554	30	1,621	5

Hot Spot #3 is heavily Latino/Hispanic (63%) when compared to the other areas, with less than a third of residents being African American/Black as compared to much higher rates in Hot Spot #1 (72%) and Hot Spot #2 (84%). Population grew in this area by 9%. Its median income level is 39% higher than Hot Spot #1, and there are 5% less people receiving Food Stamps. Similar to

the B-HIP area as a whole, the “Under 18” group dropped 20% in a 10 year span but other age groups experienced rapid growth: 22% for the “18-44” age category, 24% for the “45-64” group and a dramatic jump of 31% for the “65 and Older” age group. Notably, the “65 & Older” group, while only 8% of the area’s population, represented 24% of all discharges and 30% of ACSC admissions.

Beyond statistics, the history, institutions and cultures of these communities are also unique and must be considered when tailoring targeted healthcare interventions.

Table 8. Hot spot demographics

	<u>HotSpot #1</u>	<u>HotSpot #2</u>	<u>HotSpot #3</u>	<u>BHIP Study Area</u>	<u>Brooklyn</u>
Population - 2010 Census	30,319	21,392	49,669	1,049,685	2,504,700
% of Brooklyn	1.2%	0.9%	2.0%	42%	100%
<u>Race (as a % of Area Pop)</u>					
White	10	5	30	21	43
Black or African American	72	84	29	61	34
Asian	1	2	3	3	10
Other	18	10	38	15	12
<u>Ethnicity</u>					
Hispanic or Latino	32	15	63	24	20
<u>Age (as a % of Area Pop)</u>					
Under 18	33	28	27	25	24
18 to 24	14	12	14	11	11
25 to 34	13	14	19	17	17
35 to 44	12	13	13	14	14
45 to 64	19	22	19	23	24
65+	9	10	8	10	11
<u>Other Census Information</u>					
Median Household Income	18,953	27,056	26,392	42,188	43,567
% Unemployed 5 Year ACS	20	9	11	10	9
% Area w/ Public Assistance Income	13	8	11	6	5
% of Area w/ Food Stamp Last Year	44	28	39	22	20

Appendix 6F contains additional detailed maps and tables for each of the three hotspots, showing local health resources, transportation, housing and other information.

F. Potential Savings

While abysmal, the healthcare utilization trends in the hot spots and the B-HIP study area as a whole can also be viewed as an opportunity for significant cost savings. As demonstrated in Table 7 below, even modest reductions in ACSC ED visits and admissions will result in dramatic savings to the health system. Two scenarios are presented. In the first, the rates of ED visits without admission, hospital discharges and ACSC discharges in the study area are reduced to the Brooklyn-wide levels. This would result in \$145.3 million in annual savings. The second scenario, reducing the B-HIP area rates to the level of the healthier non-B-HIP neighborhoods of Brooklyn would result in even higher annual savings of \$465.1 million. Given that Brooklyn,

New York City and New York State, for that matter, have some of the higher utilization rates in the country, these goals should be attainable with the right remedies.

Table 9. Cost savings projections

	BHIP Study Area	Non-BHIP Study Area	Brooklyn	Encounters Saved @ Non- BHIP Brooklyn Rates	Potential Savings / Year	Encounters Saved @ Brooklyn Rates	Potential Savings / Year
Population	1,049,685	1,455,015	2,504,700				
% of Total Population	44%	56%	100%				
SPARCS 2007 - 2009							
Avg Annual ED Visits ¹	439,292	280,646	719,937		@ \$125/Visit		@ \$125/Visit
Age Adj ED Visits / 1,000	387	200	284	196,291	\$24,536,387	108,118	\$13,514,694
% of Brooklyn ED Visits ²	63%	37%	100%				
Avg Annual Disch	153,388	164,773	318,161		@ \$10,000/DC		@ \$10,000/DC
Age Adjusted Disch / 1,000	147	100	132	49,725	\$383,888,834	16,376	\$99,729,820
% of Brooklyn Disch	48%	52%	100%				
Avg Annual ACSC Discharges	27,380	22,672	50,052		@ \$5,000/DC		@ \$5,000/DC
Age Adjusted ACSC Disch / 1,000	28	17	21	11,337	\$56,682,990	6,403	\$32,015,393
% of Brooklyn ACSC Disch	55%	45%	100%				
Potential Yearly Savings					\$465,108,211		\$145,259,907

¹ ED Visits w/o admission

It is important to note that the costs per visit and admission used here are conservative and are based on three of our insurer partners' encounter charge data and internal cost data from one of our hospital partners. The real costs are in many cases much higher.

As shown, while reducing ED visits without admission will save a significant amount, curbing hospital admissions will result in more substantial savings due to the much higher relative costs of hospital admissions.

It is understood that the savings presented here cannot be viewed in isolation given that new funding will be required to develop and implement the interventions needed to reduce the utilization rates. However, it is anticipated that such costs would amount to far less than the resulting savings. The B-HIP data can be used to measure both the effectiveness of any future interventions on reducing ACSC ED visits and admissions (by comparing rates before and after the intervention), and the amount saved through the reduction in ED visits and ACSC admissions.

V. **Recommendations for Northern and Central Brooklyn**

Early on as the B-HIP Coalition members reviewed the incoming study results, we realized that any intervention to improve the health status and health system utilization issues in the study area would need to address two distinct but fundamentally linked focus areas: 1) needed changes to the healthcare delivery system and 2) means of improving patients' and the community's engagement/empowerment in their own healthcare and the healthcare system. The B-HIP studies have demonstrated that for a variety of reasons still to be better understood, residents choose not to fully utilize the available community-based care options and are instead using the ED and being hospitalized for health conditions best addressed with timely, quality outpatient care. Thus, improvement must proceed on two fronts: making the local healthcare system more conducive to appropriate healthcare utilization and simultaneously building patient and community engagement/empowerment, i.e., health awareness and skills in navigating the system.

The B-HIP Coalition supports, and the recommendations below are intended to be generally consistent with, the New York State Medicaid Redesign Team (MRT) Final Report and Multi-Year Action Plan as well as the savings reinvestment initiatives sought to be achieved through amendment of the State's Section 1115 Medicaid waiver.

A. **Focus Goal #1 – Develop a model of healthcare delivery that will support patients' and community's engagement/empowerment in their own healthcare**

If care systems better meet the patients' needs, they will use them. Based on the B-HIP ED survey findings, ED use is clearly related to the perception that it is more convenient and of equal or better quality than is available in the community. There is no reason to believe that if alternative sources of care are made available that do not require delays in getting appointments, have convenient hours of operation and provide a broad spectrum of services in a respectful atmosphere, at least the insured patients could be persuaded to seek care outside of the ED for non-emergent complaints.

1. **Ensure adequate Medicaid and other payer reimbursement for safety net providers for medically underserved areas/populations**

Although these are fiscally austere times for healthcare, it must still be said that basic investments need to be made first in order to achieve better care, better health and expected cost savings. Reimbursement needs to be aligned with the true cost of providing care in underserved areas such as Northern and Central Brooklyn where the population faces disproportionate socio-economic hardship and prevalence of chronic illnesses when compared to more affluent neighborhoods. The reality is that these patients require more care coordination and social service assistance, and are dealing with more security concerns than other populations, yet Medicaid and other payer reimbursement is not sufficient to cover the costs of the extra effort and resources expended by safety net providers. Indeed, the B-HIP Coalition member hospitals and health providers have been forced to absorb these unfunded costs for years even as Medicaid and Medicare rates have been repeatedly cut. So long as the payer mix in areas like Northern and Central Brooklyn remains predominantly Medicaid/Medicare (with a significant uninsured/uninsurable contingent) local providers will struggle financially. Lack of resources has

undoubtedly contributed to much of the system dysfunction that has made it unattractive to patients in the B-HIP study area. Without increased support, safety net providers cannot realistically achieve the level of quality, coordinated outpatient care intended under new care models such as the Patient Centered Medical Home (PCMH).

While the B-HIP commends the State's planned increase in Medicaid primary care rates to Medicare levels by 2013 (and the other MRT proposals to strengthen safety net providers), more is needed. Therefore, among other payment reforms, the B-HIP recommends that reimbursement rates be increased across the board for safety net health providers and hospitals serving federally designated Medically Underserved Areas and/or Populations (or the functional equivalent) to adjust for care coordination.³² The status quo of rate setting, regardless of the needs of the population and area served, should not continue. Indeed most of the following recommendations for system changes cannot be accomplished without more support. Going forward, we need a formula to channel some portion of the expected savings to the system from reduction of preventable ED visits and hospital admissions back to the safety net providers.

2. Improve patient access to appropriate, cost effective care. It is recommended that we:

- Address patient “convenience” by encouraging development of “one-stop shop” ambulatory care centers in walking distance of EDs. A top reason for coming to the ED that emerged from the B-HIP’s ED survey and community group discussions was the convenience of “one stop shopping,” where medical attention, labs, imaging pharmacy services and specialty care can be had in one place, in one visit, without the need to schedule multiple appointments. Since it is unlikely that patients’ behavior of coming to the ED for non-emergent conditions can be changed dramatically in the near term, it may be effective to meet them halfway. A nearby ambulatory center that provides multi-specialty care on an urgent or walk-in basis, with late night and weekend hours could be an effective way to relieve the ED overcrowding. Many of the hospitals in the B-HIP study area could potentially convert their underutilized in-patient space to this type of ambulatory care, utilizing funding for such restructuring proposed in the MRT Multi-Year Action Plan. The recommendation is not for the “one stop shop” centers to compete with or replace local primary care providers, but to create an appropriate, cost effective alternative that is likely to be effective in the near term, as well as expand access to appropriate care during the hours when primary care providers are closed. Development of easy to access multi-specialty centers in areas where such resources are scarce, regardless of proximity to hospitals, is also recommended.
- Improve accessibility to community-based primary care providers. Local providers should be incentivized to extend their operating hours to include more evenings and weekends, as well as to improve coverage for patients needing to contact providers after hours for prescriptions, with questions or even to make appointments, e.g., via telephone, email or patient web portal. They should also expand open access/walk-in slots and use

³² MUAs/MUPs are designated by the U.S. Health Resources and Services Administration using a set of criteria including geographic distribution of FTE medical providers, percent of the population living below the poverty line and over the age of 65, infant mortality rates and other factors.

of the “urgi-care” model, as well as develop robust systems of coordination with local EDs for diversion (including transportation) and referrals. The B-HIP acknowledges the State’s and insurers’ financial support to date for implementation of the PCMH model (which has enhanced access and communication features) among primary care practices. Additional support could come from the across the board enhanced reimbursement for safety net providers as recommended in 1 above, and/or special funding initiatives (e.g., grants, managed care incentives)for technology acquisition, extra staff time, extra security and other resources needed to expand access.

- Use physician extenders such as Nurse Practitioners and Physician Assistants in “retail” locations such as pharmacies, or in mobile units/clinics, which have walk-in access. A system must be implemented to ensure that these providers report updated treatment information back to patients’ regular providers, potentially through the Regional Health Exchange (RHIO).
- Hold insurance companies accountable for improving the accuracy of their health provider network (HPN) lists. The B-HIP canvassing project determined that 19% of HPN locations provided were inaccurate. The State should make accuracy of the provider lists a core quality measure of access for New York health plans under NY Quality Assurance Reporting Requirements (QARR), linked to financial incentives. To monitor accuracy the State should conduct more auditing or fund periodic canvassing.
- Seek to have insurance companies streamline the provider credentialing requirements and process to ease the administrative burden on local primary care providers and expedite patients’ access to care.

3. Reduce system fragmentation and increase coordination of care. It is recommended that:

- As discussed in (1) above, funding be made available to cover the cost of care management/care coordination services by safety net hospitals. This can be achieved through rate adjustment or through shared savings incentive arrangements with insurers. Support is specifically needed to cover the addition of care managers in hospital EDs for patient diversion to more appropriate sources of care, and outpatient case managers to coordinate the care of discharged patients (who are socio-economically challenged) outside of the hospital to reduce readmissions. Currently, hospitals lacking gain-sharing agreements with their insurers are not compensated for such staffing. At the same time hospitals are losing money on the admissions/readmissions that are successfully prevented through such care management. Unless the financially strapped hospitals of Northern and Central Brooklyn can be compensated for the extra care management costs and decreased revenue from admissions, more of them will fail and be forced to close.³³

³³ Use of care managers and care management strategies has been proven to improve health and cut costs. Some providers have achieved striking outcomes through care management strategies, for instance the WellPoint-owned CareMore health system for elderly Medicare Advantage patients has achieved a hospitalization rate 24% below average, hospital stays 38 % shorter, and an amputation rate among diabetics 60 % lower than average. Through

- Managed care plans simplify their offerings by limiting “carve-outs.” Many precious hours are wasted by providers and patients navigating multiple sources of carved out care, such as physical therapy, labs, dental, radiology, psychiatry, rehabilitation, and specialty care. Behavioral health services in particular should be consolidated with primary care coverage. It is widely accepted that mental health and addictions are inextricably linked to physical health and that integration of these areas (not only through expanded insurance coverage but rate reimbursement parity and care delivery co-location) is better for patients and more cost effective. At the very least the State should require the plans to provide more assistance to patients and providers with transitions across carved-out services.
- Payers cap pharmaceutical co-payments. Studies by RAND Health and others have shown that out of pocket costs such as drug co-pays can discourage lower income patients from filling their prescriptions and also reduce patients' willingness to start treatment for newly diagnosed chronic illnesses. As a result, these sicker patients utilize more costly and expensive treatments down the line.³⁴ The B-HIP member hospitals have also identified a phenomenon of individuals making frequent visits to their EDs, and also going from ED to ED in order to obtain free prescriptions. High co-pays may contribute to this behavior among low income patients in Northern and Central Brooklyn, and should be further studied.
- The State consider creating additional Medicaid Health Homes to coordinate care for high cost/high risk patients in Northern and Central Brooklyn. Currently there may not be adequate Health Home capacity to handle the B-HIP study area, where a large number of medically and behaviorally complex patients reside.
- Funding be provided to establish local Health Navigation Centers in high need medically underserved areas such as the B-HP hotspots. These centers would offer free health education, health coaching, referrals and care navigation services for local residents and the community. Services could be accessed during business hours, evenings and weekends, in person or by telephone, and also through outreach by staff directly into the community. The Center would have current information and contacts at all of the local healthcare providers so that they can assist patients with access and scheduling of appointments. The Center would also develop relationships with the local pharmacies to facilitate patient connection to pharmacy drug discount programs and medication compliance education. Staff would be expected to work closely with area EDs and inpatient case managers to link patients to local ambulatory care providers and other community resources, as well as assist with coordinating discharge follow up and other

investment in care coordination staff, daily check-ins, wireless scales and free rides to medical appointments, among othercare management strategies, CareMore’s overall member costs are actually 18 percent below the industry average. T. Main and A. Slywotsky. “The Quiet Healthcare Revolution.” The Atlantic, Nov. 2011.

³⁴ M. Solomon, D. Goldman, G. Joyce and J. Escarce. “Cost Sharing and the Initiation of Drug Therapy for the Chronically Ill.” Archives of Internal Medicine, v. 169, no. 8, Apr. 27, 2009, pp. 740-748; and D.P. Goldman, G.F. Joyce, and P. Karaca-Mandic. “Varying Pharmacy Benefits with Clinical Status: The Case of Cholesterol-lowering Therapy.” The American Journal of Managed Care, Vol. 12, No. 1, January 2006, pp. 21–28.

care transitions, if requested by individual clients. Staff would also liaise with the Medicaid Health Homes to help identify and link local residents who may be assigned to the Health Homes.

- New reimbursement categories/codes and grant funding for start up and operations be made available to support the establishment of community-based disease -specific resource centers, in particular for diabetes/obesity. These centers would offer culturally and linguistically appropriate consultation/evaluation, treatment plan development and oversight, education on diet, healthy lifestyles and disease self-management, coaching, and referrals to needed support and social services. The centers would also provide some on-site labs and diabetic supplies. The B-HIP zip codes, like many other low income, urban areas, have some of the highest rates of diabetes in the nation. Yet to date, few institutions in New York City have been able to create self-supporting diabetes care centers. A few centers in Manhattan are supported primarily through philanthropy, which is not a viable funding source in Northern/Central Brooklyn. Investment in neighborhood level diabetes care centers could go far in stemming the exploding costs of diabetes to the system and human quality of life.
- The State continue consolidation of the Regional Health Information Organizations (RHIOs) into the single statewide system (SHIN-NY) so as to facilitate the flow of information needed for effective care coordination. Funding and technical assistance should be provided to local providers in order to assure their access to and participation in SHIN-NY.
- Payers provide enrollees with Smartcards / Biometric ID swipe cards containing their personal health records. These cards should be able to interface with common electronic medical records systems and with SHIN-NY.
- Payers reimburse primary care providers for tele-healthcare services.

4. Improve the quality of patients' experience with local care providers. It is recommended that:

- The State make periodic grant funding available for training of local provider staff on culturally relevant customer service and for upgrades to providers' facilities. Respondents in the ED survey and community focus groups have repeatedly voiced dissatisfaction with local care providers on issues such as treatment by staff, long wait times and shabby facilities. Investment in non-clinical interventions such as customer service and making spaces more attractive could improve patients' experience of local care providers and thereby attract more volume. Health insurance companies could also provide free customer service training and other customer service resources to local health centers. Any customer service training provided must include special attention to enhancing sensitivity to patient confidentiality concerns which may be heightened in densely populated communities like many of the B-HIP neighborhoods.

- Programs to encourage recruitment and retention of culturally and linguistically competent and representative practitioners in underserved areas like Northern and Central Brooklyn be expanded, particularly in light of the expansion of the insured population under the ACA. In addition more efforts (such as high school/college pipeline and mentoring programs and financial assistance) should be made to increase enrollment of medical students from the local area, who may be more inclined to practice in this community after graduation. In this regard, the B-HIP supports the various health workforce initiatives in the MRT Multi-year Action Plan for training, recruitment and retention of physicians and non-physician clinicians in medically underserved areas and expansion of programs pertinent to the B-HIP populations such as the Nurse-Family Partnership which has been demonstrated to prevent pre-term births. Some of the responses from the ED staff survey reveal a disconnect between providers' perceptions of patients and reality with respect to patients' levels of insurance and education, among other issues, which also suggests a need for more training to foster a culturally competent workforce.
- Continuity of the provider-patient relationship be supported and strengthened, consistent with the PCMH practice of patient empanelment, whereby effort is made to ensure that the patient sees his or her selected PCP at each visit. Medicaid managed care plans should be required to re-assign members who have failed to timely re-enroll to the PCP to whom they were previously assigned in order to protect this relationship.

5. Increase funding for preventive and wellness services. It is recommended that:

- Payers reimburse providers for “non-medical” interventions that promote health and prevent illness. For example, providing education on healthy diet and free scales to new parents to monitor their children’s weight can help address pediatric obesity and diabetes. Health providers should also receive compensation for developing wellness and disease management classes and programs for their patients.
- The State and local health agencies conduct additional public marketing and literacy campaigns on the importance of primary and preventive/well care.

6. Improve SPARCS Data Quality. For the sake of future local research and planning projects the State may want to consider incorporating the SPARCS data cleaned by B-HIP into its own system, and to impose stricter data quality measures on Hospitals going forward.

B. Focus Goal #2 – Engage patients and the community in the healthcare system and their own care management

We need multi-pronged strategies aimed at increasing general knowledge in the B-HIP communities of the importance of primary and preventive/well care for optimal health and management of common chronic health conditions. We also need to empower residents’ by building their navigation skills and knowledge about the healthcare system, including how

managed care insurance works and what health services are available locally. It is hoped that such education and engagement will encourage a change in the behavior of visiting the ED when alternatives for more appropriate care are available. Following are the B-HIP Coalition's recommendations for patient and community engagement strategies.

1. Design a strategy for education, outreach and marketing on healthy lifestyles, appropriate health system utilization and local healthcare resources and a plan to roll out the following recommendations

- Train and deploy community health workers or advocates (CHWs) to conduct outreach, education, referrals and navigation services in local venues and through social networks. CHWs are lay and para/clinical individuals from the local area who are culturally/linguistically competent and familiar with the local cultures and institutions. They can include 1) Healthcare Navigators, who can help patients identify and access appropriate community based healthcare resources, and 2) Health Coaches, persons with some clinical training who can assist patients with chronic disease in managing their specific conditions and in accessing appropriate care. The CHWs can target their outreach to people from their own social networks and home communities, for instance within public housing projects, church congregations or even local barbershops, beauty salons and businesses. The CHWs could also work on site or closely with the local EDs to help inform patients about and redirect them to nearby ambulatory care facilities accepting patients on a walk in basis. There are several Community Health Worker initiatives that have been started by local health organizations in various B-HIP study neighborhoods that could potentially be engaged and expanded upon.
- Tap into the great wealth of local faith-based and other community groups as conduits for health messages. Every community has houses of worship, Community Boards, civic and cultural associations, community action/organizing groups, and other groups often with their own health committees, which can be enlisted to help tailor and then disseminate health information throughout their constituencies and social networks. There are numerous initiatives in the B-HIP neighborhoods and Brooklyn that have engaged local pastors and health ministries to spread healthcare education and messages among their congregations. Multi-faith community organizing groups such as Brooklyn Congregations United have also mobilized many religious institutions around healthcare awareness and to perform community outreach via door-to-door surveys, interviews and educational/social visits with local residents including those who are house or bed-bound. Still other groups have organized health fairs, mobile van visits and the provision of free health services at churches.
- Identify and train local community leaders to be “champions” for community healthcare education. Each community has respected gatekeepers and natural leaders, whether religious, youth, parents, senior citizens, or other local figures. These leaders can be engaged to spread health information throughout their formal or informal networks and motivate others by example.

- Create a multi-media public education campaign with the community divisions of local TV/radio stations such as WCBS and through internet/social marketing. The aim would be to build awareness and behavior change around preventive health, healthy lifestyles and health system utilization, while informing residents about local healthcare providers and resources like pharmacy benefit programs, etc. To engage younger residents (25% of B-HIP population is under 18 years old and another 42% are from the 18-44 age group) it will be critical to utilize technology and social media as educational and marketing resources, e.g. text messaging, phone “apps,” G-chat (Google instant messaging), YouTube, Facebook and Twitter.
- Collect and share localized data on community health indicators, rates of ACSC ED visits and hospitalizations, health provider quality scorecards, the results of local focus groups and surveys and more. The data could be presented in the form of periodic report cards on the state of the community’s health.
- Partner with local libraries to conduct health awareness events and connect residents to library informational resources on healthcare.
- Create an all-purpose health hotline similar to the United Federation of Teachers’ “Dial-a-Teacher” homework assistance service that residents can call to speak with a registered nurse and /or clinical care manager about health questions and for referrals to appropriate health resources. Depending on available funding, the service could be provided on a 24 hour basis or limited to the evening hours.

2. Solicit community input on patient engagement/empowerment, healthcare awareness, needs and preferences, as well as to collect feedback on their experience with local care providers.

- Hold competitions for local residents to submit ideas for media health campaigns. The top ideas would be rewarded with cash prizes and utilized in the public campaigns, with credit given to the authors. In addition to cash prizes, local businesses or foundations could donate scholarships for youth contestants. Through the mechanism of the competition, multiple aims can be achieved simultaneously: ideas directly from the community can be mined and utilized, while the process of idea generation itself will serve to engage contestants and the community further into healthcare issues. Competitions can also be held to design engagement efforts around other selected healthcare issues that are relevant to the community.
- Spearhead an annual walkathon in Northern and Central Brooklyn to campaign and create dialogue around better care and better health and to empower the community to engage in healthy living.
- Hold multi-lingual focus groups and listening forums at local community meetings (churches, community boards) to share the B-HIP and other community-specific health data and elicit feedback and ideas for community engagement.

- Establish a system to regularly survey patients on their experiences with local care providers and disseminate the reviews. Create an interactive website through which the public can submit email inquiries, take surveys, post feedback and reviews on local providers and facilities, and access a wide variety of health information.
- Conduct further research into the various cultural beliefs and practices around alternative medicine and ways to improve physician-patient communication around this issue. The B-HIP Coalition has heard a substantial number of anecdotal reports from providers of foreign-born patients and their families substituting herbal teas and other alternative remedies for their medically prescribed regimens. The extent and nature of these practices needs to be better understood by the medical provider community and culturally relevant communications strategies developed.

3. Managed care companies should be more active in engaging enrollees

- Redirect state funding for managed care advertising to developing a program/bridging system to identify and help enrollees link to their assigned or selected providers. Currently the burden of engaging enrollees falls disproportionately on community providers, who have scarce resources for outreach. Often the contact information on the rosters provided by insurance companies is invalid. Some B-HIP insurance members have provided patient outreach resources to participating hospitals. Such assistance should also be made available to community level providers.
- The managed care plans should also communicate more effectively with enrollees about the frequent changes to benefits. Explanations should be simplified and a telephone number with a live person provided to the enrollee for questions.

The patient engagement recommendations described above could be tested in pilot level interventions in the three identified hot spots, with roles for the B-HIP, NYC DOHMH and local hospitals, health providers and community groups. Assuming that the B-HIP receives the requested state funding for another two year phase, within 3-6 months of the award we will prepare a strategic action plan for intervention in each hot spot. The action plan will contain specific, time-framed and measurable goals for the interventions, including reduction of potentially preventable ED utilization and ACSC admissions, as well as estimated cost savings.

In the B-HIP Coalition's view, no intervention will succeed in Northern/Central Brooklyn without in-depth consultation and collaboration with local communities. The Coalition members fundamentally believe that localized initiatives for change cannot be launched from the top down. Rather, such projects must incorporate each area's local health resources and engage with existing initiatives, rather than duplicate efforts or introduce individuals and agencies that are unfamiliar to and with the local communities. In order to be culturally relevant and attractive to the targeted community, the intervention absolutely must reflect the input and preferences of the local community partners and collaborators, and most importantly, residents themselves.

As groundwork to inform the intervention design, the B-HIP will consult extensively with the community through focus groups, listening forums and even door-knocking and one on one

interviews. Many Coalition members are ready and eager to conduct such outreach. The B-HIP also anticipates conducting the data collection, project monitoring and internal evaluation of the hot spot interventions. The B-HIP together with SUNY Downstate Medical Center (in particular the School of Public Health, School of Graduate Studies, and affiliates Arthur Ashe Institute for Urban Health and the Brooklyn Center on Health Disparities) could also assist with intervention design, predictive analytics studies of residents' healthcare usage and other related projects as discussed further in Section VI(C), "Sustainability."

C. Other Policy Changes Needed to Advance the B-HIP Recommendations

In addition to the various policy and payment reforms suggested above, the B-HIP recommendations and hot spot interventions will be assisted on the federal policy level by the continued expansion of insurance coverage under ACA (NYS DOH predicts that a million more residents will be covered under Medicaid), and follow through on the ACA's commitment to spend \$11 billion through 2015 on expanding and strengthening the Federally Qualified Health Center Program. The new ACA-driven models including the Medicaid Health Homes and Medicare ACOs, and its support for public-private partnerships, HIT implementation and other innovations, will also help spur the changes needed in Northern and Central Brooklyn.

On the State and local level, many of the triple-aim focused initiatives outlined in the MRT Multi-Year Action Plan and the proposed Section 1115 Medicaid waiver amendment will promote the B-HIP's recommendations by enhancing residents' access to higher quality primary and outpatient care while reducing costs. The B-HIP also supports the recommendations made by Coalition member Primary Care Development Corporation (PCDC) and the Community Health Center Association of New York (CHCANYS) in their joint white paper "Achieving the Triple Aim of Better Health, Better Care and Lower Costs in New York State: Using the 1115 Medicaid Waiver to Develop Integrated Systems of Care." We would like to draw special attention to the report's key principles of the need to assess local populations' health needs on an ongoing basis and to do a better job of engaging patients and their families. B-HIP's work investigating health utilization and other data at the neighborhood level across Northern and Central Brooklyn will be key to designing solutions that meet the unique needs and characteristics of each neighborhood. And, as CHCANYS and PCDC advocate, patients and their families must be engaged and empowered to maximize their own health and should be involved in the design of the new systems of care and care models. While patient engagement may not come naturally to policy makers, it is of the utmost importance in these fast-changing times when so much is at stake for healthcare reform.

VI. Self Evaluation

The B-HIP Coalition came together over two and a half years ago and has accomplished a tremendous amount in that time while learning many lessons along the way. Our successes and challenges are discussed below.

A. Successes

1. Coalition Building

The B-HIP Coalition itself represents a quite remarkable and uniquely successful exercise of cooperation and trust building by entities and sectors among which there has historically been, and in the general scheme remains, intense competition, non-alignment of interests, or at best, lack of familiarity and understanding of each other's spheres. Many observers have noted the pronounced competition among Brooklyn's hospitals, most of which are overleveraged and struggling to maintain occupancy levels amidst a steady stream of bankruptcies and closures. Thus it is notable that the six member hospitals, all competitors with overlapping service areas, were able to collaborate together to carry out the ED studies and data exchange, notwithstanding the many logistical, legal and bureaucratic hurdles, and not to mention the thousands of donated man hours.

Competition similarly defines the relationship of the nine health insurance plan members, which collectively make up over 75% of the health insurance market share in New York City. As such they were reluctant to share their proprietary claims data, and were more accustomed to sitting across rather than around the table with hospitals and other health providers. Likewise many of the other Coalition members, including the community based organizations and health providers must compete for scarce resources to carry out their programs and services. Yet without any compensation, the members of this diverse group contributed their time, ideas and resources generously to the B-HIP, and over time built a collegial and highly productive collaborative.

During self evaluation discussions, the members acknowledged that the Coalition has functioned as an innovative knowledge exchange, allowing them to use data, strategies and ideas from the meetings, and frequently collaborate, for the benefit of their own constituencies. For instance, the data findings inspired Downstate and other hospitals to enhance their care coordination and management processes, for instance bringing health plan care managers onsite to the hospital to assist with care coordination, placing case managers in the ED, and developing new care management discharge protocols for congestive heart failure patients. The FQHC providers too have reported fruitful collaborations with other Coalition members. For example, Brownsville Multi-Service Family Health Center has partnered with a managed care plan to implement shared savings based strategies to reduce ED use and ACS admissions, a collaboration only made possible by the B-HIP data on ACS rates and potential savings in the Brownsville area. Bedford-Stuyvesant Family Health Center has also worked on improving patient flow and access to services with the help of Coalition member, the Primary Care Development Corporation. On a more nuts and bolts level, the canvassing project's verification of provider addresses and other data enabled the B-HIP insurance partners to correct their Health Provider Network lists for which 19% of locations listed were determined inaccurate. Thus, while not the main objective of the B-HIP, its unique process has directly benefited the members' own organizations and services and created some strong, innovative partnerships.

2. High Quality, Innovative Data and Analysis for Northern and Central Brooklyn

The Coalition members are proud to have carried out such a comprehensive and large-scale study of healthcare in Central and Northern Brooklyn, an area sorely in need of intervention, but which lacked the necessary data upon which to base new strategies for change. We are now equipped

with a rich reservoir of local data and sophisticated tools that are enabling us to perform nuanced analysis of these communities' health needs. Indeed, we have only begun to mine the data we have collected, a task which we hope to continue in B-HIP Phase II.

B. Challenges

The project encountered numerous challenges along the way, some unforeseen, but all of which resulted in significant lessons learned.

1. Funding.

As noted earlier, the initial funding disbursement to the project occurred eight months after the official start date of March 2009. Lack of funding during this period slowed planning efforts and some staffing of the project had to be deferred. Several substantial, unforeseen expenses arose, for instance, in conjunction with the staffing of the canvassing project. After an unemployment suit, a court deemed the entire canvassing staff to be “employees” and not independent contractors, which required B-HIP to make retrospective payments of fringe and other expenses to all. This could have been avoided by using temporary staff agencies, which are expensive but not more so than the back payments the B-HIP had to make. At one point the project was also compelled, after extensive delays, to purchase encounter data for some of the commercial insurance plans from New York Quality Alliance, at considerable (unbudgeted) expense. Lastly, to date the B-HIP is 100% funded by the DOH NY HEAL grant and substantial in-kind contributions by SUNY Downstate. Funding from more than one external source would have been preferable in order to buffer the project against uncertainties in the timing of funding disbursement and unforeseen costs, as described above. The sustainability strategy discussed below takes into account the need for multiple funders.

2. Data

Accessing and working with the data presented a far tougher challenge than anyone involved in project anticipated and was perhaps the greatest obstacle to timely completion of the studies and efficient use of staff time. Obtaining complete data from the three major sources – insurance companies, hospitals and the NYS DOH – took much longer than expected. The B-HIP staff had to navigate an extensive legal, administrative and technical process for each source. In addition, delays occurred on many fronts, including at the information sources and because of the need to undergo a lengthy IRB review process for each study and at each of the hospitals. Coordination for release of the SPARCS data also required extensive dealings with the State Data Review Board. Even after receipt of the data, the staff faced the enormous task of cleaning and putting the data into a consistent file format so that it could be analyzed.

Additional, to some extent unavoidable, delay was caused by the advent of the 2010 census and the need to update the maps to correspond to the new census tracts and population figures. The B-HIP initially had no choice but to utilize the 2000 census data, as it was the only data available at project inception, and the timing of release of the 2010 census data too far away to wait. In addition, the SPARCS ED visit data lacked detailed clinical information sufficient to accurately determine which ED visits really represent inappropriate of the ED. Consequently, we had to use

ED visits not resulting in admission for ACS diagnoses as our measure for potentially preventable ED usage. (To better study the inter-relationship between ED care and care offered in other outpatient settings, we would have liked to link health insurance claims data with SPARCS data, however, no way to accomplish this without violating patient privacy concerns is apparent). Lastly, there has been some concern that preliminary data shared by the B-HIP has been utilized in other public settings and not always with full acknowledgement of its preliminary nature.

3. Coalition Process/Dynamics

While the breadth and diversity of the Coalition membership is one of our great strengths, it is not necessarily the most efficient or straightforward structure for making decisions or taking action. In addition, due to the data release and processing delays, results were at times slow in coming, which unfortunately has left minimal time for the sharing of findings with the Coalition, community groups and local residents themselves. As noted, the Coalition plans to conduct extensive community consultation in B-HIP “Phase II.” As one member put it, the B-HIP needs to develop more effective mechanisms in the next phase for involving the community (by which it meant individual consumer level perspectives and contributions) and closing the “feedback loop” so that results are shared with the people actually living in the affected communities.

Other significant challenges included some initial B-HIP project leadership changes as well as staff turnover at several of the Coalition member organizations. Fortunately such discontinuities did not ultimately compromise the integrity of the studies or the group’s cohesion.

C. Sustainability

The future work of the B-HIP has been a priority and discussion topic since the first Coalition meetings. The Project recently submitted a proposal to the NYS DOH for funding to replicate the studies and Coalition process for the remaining 32 Brooklyn zip codes.³⁵ Consistent with the B-HIP Phase I, the primary goals of the next phase will be: 1) through research and data, to obtain a clear understanding of the health system challenges in the expanded study area (and Brooklyn as a whole), particularly around the population’s primary care access and preventable ED usage and hospital admissions; and 2) to develop an effective, participatory planning process to review the findings and formulate recommendations for improving service allocations and overall healthcare utilization in Brooklyn. Additionally, through pilot project interventions in the Northern and Central Brooklyn hotspots, as described above, our goal will be to demonstrate improvement in the population’s healthcare utilization and health status (as measured by the change over time in rates of ACSC ED use and admissions and primary care utilization, among other measures) and demonstrable cost savings.

The B-HIP also intends to widely seek funding and new institutional collaborations for “spin-off” projects, for instance to conduct sophisticated predictive analytics modeling to further mine the B-HIP data and refine our understanding of the population’s healthcare consumption patterns. Other potential projects include collaborating with health information technology

³⁵At this time the B-HIP is unfunded.

companies to devise patient facing platforms and services tailored to lower income and Medicaid-enrolled populations.

Looking ahead, the B-HIP also hopes to support the work of regional health planning efforts envisioned by the NYS DOH. The B-HIP's work in this regard was cited approvingly in the MRT Report for Brooklyn,³⁶ and recently, in its overview of its request for a Medicaid Section 1115 waiver the State reiterated a "need to strengthen collaborative, regional health planning. Under this planning model, multi-stakeholder collaboratives will engage in data-driven planning activities that bring together consumers, payers, providers and public health officials to build community consensus around the alignment of healthcare resources with community needs and around strategies for promoting patient engagement, coordinated care, appropriate healthcare utilization and healthy communities."³⁷ In their joint whitepaper, PCDC and CHCANYS also recommended ongoing assessment of populations residing in a defined geography, including investigation of community demographics and trends, utilization patterns (including preventable ED use visits and ACSC admissions), health status and conditions, and gaps in care and access.³⁸ The B-HIP Coalition is eager to continue our role in this regard in Brooklyn, and as described in the next section, we are ideally positioned to move forward. B-HIP could function as a center of information and support, sharing its data reservoir with communities across Brooklyn to help develop local strategies for improving healthcare utilization and capacity. The B-HIP could also support the evolving care models such as the Medicaid Health Homes, for instance by using our analyses of rates of ACSC discharges and ED use to measure the impact of this model over time.

Importantly, the Coalition members feel strongly that not only should the B-HIP continue its data driven planning activities, but that it should also serve as a research and development lab and think-tank where members can come together to develop and incubate innovative interventions such as the hotspot pilot model intervention proposed herein, or specialized analytics projects. In this capacity, the B-HIP would also be a clearinghouse for sharing of best practices and successful strategies for change that member organizations have made as a result of what they have learned through B-HIP.

D. Scalability

Brooklyn is home to 2.5 million residents, the majority enrolled in Medicaid and/or Medicare and all of whom stand to benefit from an informed and inclusive healthcare policy-making process. The B-HIP is exceptionally well-positioned to scale up to conduct Borough-wide, in-depth healthcare research and data-driven, collaborative healthcare planning. In the course of implementing the ambitious "Phase I" agenda over the past two and a half years, the B-HIP has laid the groundwork necessary to extend the project seamlessly to the rest of Brooklyn. For example, as noted, supervising a large team of hospital surveyors and community canvassers has provided us with important lessons in terms of logistics, staff training, testing the integrity of

³⁶ "At the Brink of Transformation: Restructuring the Healthcare Delivery System in Brooklyn. A Report of the Brooklyn Health Systems Redesign Work Group." Nov. 2011. The MRT Final Report and Multi Year Action Plan incorporates findings and recommendations of the Brooklyn MRT Report

³⁷ "Medicaid Waiver: Tool to Fully Implement the MRT Action Plan." Document Summary. NYS DOH. May 2012. http://www.health.ny.gov/health_care/medicaid/redesign/docs/2012-05-14_mrt_waiver.pdf.

³⁸ "Achieving the Triple Aim of Better Health, Better Care and Lower Costs in New York State: Using the Section 1115 Medicaid Waiver to Develop Integrated Systems of Care. White paper. Community Health Center Association of New York (CHCANYS) and Primary Care Development Corporation (PCDC). May 2011.

survey instruments, and more. In addition, the B-HIP researchers are now adept in securing, “scrubbing” and analyzing large data sets from health insurance companies, hospitals and the State, work that involves numerous legal, bureaucratic and other challenges. Staff has also succeeded in securing approval for our research activities from no less than six hospitals’ IRB committees.

The B-HIP Phase I achievements in relationship building will also go far in ensuring the success of B-HIP Phase II. We have forged critical new ground in bringing the major area hospitals and insurers to the table with government, civic groups, community-based health providers and more. Such a breadth of membership has enabled substantive and dynamic dialogue among public and private sector interests and perspectives. In addition, the high level of trust and communication achieved among the B-HIP coalition members has yielded unprecedented access to proprietary insurance claims, hospitals’ internal encounter data and NYS DOH utilization information, all of which has enabled us to create a data reservoir and tools of unusual sophistication and depth.

In sum, the B-HIP’s key protocols, systems and relationships are now well-established, and we now have a rich data warehouse for new studies, projects and collaborative decision-making processes around any number of public health issues in Brooklyn. Given the continuing health crisis in Brooklyn (and beyond), B-HIP Phase I may be just the beginning of a long-term planning process around our community’s health challenges. We also believe the B-HIP also has strong potential for replication at the state and national level in other urban contexts.