Emergency Department Use: A Reflection of Poor Primary Care Access?

Daniel Weisz, MD, MPA; Michael K. Gusmano, PhD; Grace Wong, MBA, MPH; and John Trombley II, MPP

ABSTRACT

Objectives

To determine whether the use of the emergency department (ED) for nonurgent care reflects poor access to community-based primary care providers (PCPs).

Study Design

Using a survey of ED patients, insurance claims data, and administrative records identifying demographic factors, we analyzed the use of the ED in an impoverished area of Brooklyn, New York.

Methods

We examined original survey data to investigate the extent to which residents of northern and central Brooklyn use EDs for nonemergencies and whether these patients have access to PCPs. We used data from health insurers operating in northern and central Brooklyn, and New York state hospital ED visit data to investigate the factors influencing ED visits for ambulatory care–sensitive conditions (ACSCs). Logistic regression was used to identify characteristics that predict ED visits not resulting in admission for ACSCs.

Results

Of 11,546 patients that completed our survey, the presenting complaint was self-described as emergent by 57%, 30% had no PCP, and 19% reported no health insurance coverage. Using health insurance plan encounter data, only 15 % of patients had seen any provider within 1 week of the ED visit. Insurance type, age, gender, race/ethnicity, and socioeconomic status of area of residence influence the likelihood of these ED visits.

Conclusions

Correlating data from 3 sources, we suggest that the expansion of insurance under the Affordable Care Act may not be sufficient to reduce ED use for nonurgent conditions.

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The implementation of the Patient Protection and Affordable Care Act, with its expansion of public and private health insurance, raises questions about future use of the emergency department (ED), especially in deprived areas. There is evidence that, despite healthcare reform and the expansion of insurance coverage, there will be inadequate access to primary care for the newly insured. This, combined with a reduction in financial barriers to those using the ED, could increase demand for ED services.[1-3]

The ED is not an optimal site for nonurgent care. Nonemergent care delivered in the ED worsens overcrowding, reduces patient satisfaction, and is more costly than care offered in other settings.[4] Treatment is often delivered without the availability of the complete medical history and without the capacity to ensure follow-up, resulting in episodic, fragmented, low-value care.

Annual ED visit rates in the United States have increased more than would be expected from population growth.[5] An increasing number of uninsured and Medicaid patients contribute to rising ED visit rates.[6,7] Factors known to influence an individual's decision to visit the ED for nonurgent care have been reviewed.[8] The recent healthcare reform debates and the pressure to redesign Medicaid to reduce state budget deficits have prompted implementation of measures designed to reduce ED use, despite evidence that diverting low-acuity cases away from the ED results in smaller savings than strategies to reduce inpatient admissions.[9]

The areas of northern and central Brooklyn are deprived sections of New York City with a large percentage of minorities, high unemployment, poverty and crime rates, and a significant percentage of households on public assistance and receiving food stamps. There are known poor health outcomes, including high rates of inpatient stays for ambulatory care–sensitive conditions (ACSCs) and premature mortality.[10]

In this paper we investigate the extent to which ED visits in northern and central Brooklyn occur for diagnoses

that could have been treated in another setting, and we explore the reasons patients use EDs for the treatment of nonurgent conditions, including limitations in access to primary care. Preventable encounters with the healthcare system in the ED for ACSCs, a measure of limited access to quality primary care and poor care coordination,[11-13] should be responsive to system changes that direct patients to non-ED care settings.

Because there is no single database that allows us to explore these questions, we combine data from 3 different sources to help us develop and test hypotheses. To assess the extent to which patients are treated in EDs for nonurgent conditions, we employ the rates of ED visits for ACSCs not resulting in admission. Administrative data, from the New York Statewide Planning and Research Cooperative System (SPARCS), document the extent of this potentially preventable ED use, and we analyze associated factors including insurance status and demographic and neighborhood factors. To complement the administrative data, we report findings from an original survey describing Brooklyn patients' use of the ED. The survey allows us to explore whether patients believe their visit to the ED is an emergency and to identify other factors that may influence the use of EDs for nonurgent conditions. We use insurance data from plans operating in Brooklyn to investigate whether patients who have visited the ED for ACSCs have received outpatient care in the weeks before or after the ED visit. This information, with survey data, can help us understand whether patients who present in the ED for nonurgent conditions are receiving primary care.

METHODS

The Brooklyn Health Care Improvement Project (BHIP) (see **eAppendix** [available at **www.ajmc.com**] for additional information),[14] directed by researchers at the State University of New York–Downstate, includes a coalition of northern and central Brooklyn federally qualified health centers (FQHCs), hospitals, insurance plans, and community-based organizations. BHIP was funded by a 2009 New York State Health Care Efficiency and Affordability Law grant to develop a comprehensive health planning strategy for a designated area within northern and central Brooklyn covering more than 1 million lives. BHIP collected data to develop and evaluate strategies for reducing unnecessary ED visits.

We triangulated our analysis of ED healthcare-seeking behavior for primary care-treatable conditions (ie, ACSCs) by our study population. We examined original survey data from a large sample of ED patients to investigate the extent to which EDs are used for self-reported nonemergencies and whether these patients report having access to primary care providers. The survey, of a total of 11,546 patients or their representatives, was completed in 2 rounds (two 2-week spans, each week including its full 168 hours) and represents approximately one-third of individuals visiting the ED at any 1 of the 6 BHIP participating hospitals. The survey was completed during the last 2 weeks in January 2011 and the first two weeks of August 2011. (The survey instrument is available in the eAppendix.)

Encounter data from health insurers operating in northern and central Brooklyn is used to investigate the relation between ED visits and visits to other outpatient care sites by patients with Medicaid and commercial health coverage. We examined de-identified insurance claims data, institutional and professional files (which are the parts of the insurance claims data) from 2007 to 2009, from 8 insurers serving the study area. These data were pooled and classified as commercial (approximately 500,000 covered lives) or Medicaid (389,000 covered lives), and divided into children (aged <18 years of age and representing 47% of members with claims) and adults (aged 18 years and over) for analysis.

Finally, ED visits for ACSCs (Billings' definition[11]) that do not result in admission to the hospital are analyzed using SPARCS hospital ED visit data. This population-based administrative data set is used to conduct a logistic regression analysis (SPSS version 19, IBM, Amonk, New York). The ED visit data for years 2007 through 2009 included randomly generated personal identifiers and residence geo-coded to 2010 US Census Tract (CT) boundaries, to link the data to 2010 US CT-level variables. The dependent variable is an ED visit for an ACSC diagnosis that did not result in an inpatient stay. Individual-level independent variables include age, gender, race/ethnicity, and primary payer. The model controls for CT community-level variables (derived from US Census 2010, file SF-1) include median household income, education achieved, self-assessed English language competence, and area housing vacancy rates. As a proxy for primary care provider (PCP) availability, the model includes the CT age-adjusted rate of inpatient discharges for ACSCs, a better indicator of PCP availability than the number of physicians in the neighborhood.[15]

RESULTS

Survey respondents were 57% female and 64% native-

born, and 86% had lived in the same residence for more than 1 year (Table 1). Self-identified race and ethnicity reflect the population in the study area: 79% identified themselves as black, 3% as white, and 0.5% as Asian. Hispanics accounted for 20.5%. Of all respondents, 57% indicated that their visit was a medical emergency, 30% stated that they had no PCP, and 19% reported no health insurance coverage. Rates of coverage exceeded 90% in those younger than 18 years and older than 65 years, and averaged 76% for the 18- to 64-year-old age group. Medicare accounted for 10% of all payers, while 20% were covered by commercial insurance. Medicaid including Child Health Plus or Family Health Plus accounted for 51%.

Of those who stated that their visit was nonemergent, one-third used the ED for convenience or because it is their usual source of care; 29% could not schedule a PCP appointment, believed the wait for an appointment was too long, or were advised by their usual source of care to present to the ED. Lack of insurance or lower out-of-pocket cost accounted for 6% of visits. Of those survey respondents claiming to not have a PCP, 20% are covered by a Medicaid managed care plan.

Encounter data from the insurance plans reveal that most patients visiting an ED in northern and central Brooklyn for ACSCs do not make regular visits to community or institution based non-ED providers. Timing of visits made before and after an ED visit for ACSCs are presented in Table 2. Fifteen percent of the patients presenting to the ED with an ACSC had seen any covered provider within 1 week prior to their visit and 38% had seen a provider within 4 weeks. The percentage of patients seeing a provider prior to an ED visit for an ACSC varied little with type of coverage or age group. Follow-up visits with a non-ED provider after an ED visit for an ACSC diagnosis occurred in about 45% of patients for whom we have encounter data, despite the generic instructions to seek follow-up appointments with their PCP. These findings are consistent with self-reported information from the survey about access to primary care providers.

A summary of the characteristics of the patients residing in our study area visiting EDs as compared with the residents of all of Brooklyn is presented in Table 3. The odds of an ED visit for an ACSC diagnosis not resulting in admission is lower among younger people, women, and among those classified as Asian (Table 4). The odds of visits by Medicare beneficiaries and Medicaid clients are significantly higher than those for patients with commercial insurance. The odds of an uninsured patient visiting an ED for an ACSC are no different than the odds of a privately insured patient making such a visit. Residing in a census tract with the lowest quartile of household median income, with highest rates of those without at least a high school education, with the highest vacant housing rates, and with the highest rates of those who do not speak English well are all associated with statistically significant higher odds ratios of ED visits for ACSCs. There is almost no relationship between ED visits for ACSCs and access to local primary care as measured by area hospital discharge rates for ACSCs.

DISCUSSION

Patients who receive ambulatory care in safety net hospital EDs often have a high prevalence of chronic medical conditions and substance abuse and rarely attend a primary care clinic, preferring to return to the ED for subsequent care.[16,17] The analysis of ED visits for ACSCs not resulting in a hospital admission is helpful in understanding 1 use of EDs that could be avoided through availability and appropriate use of community-based primary care.[18] The Agency for Healthcare Research and Quality has verified reliability of ED visits for ACSCs in terms of precision, minimum bias, and construct validity.[12] Other factors outside the direct control of the healthcare system, such as poor environmental conditions or lack of patient compliance, can result in ED visits for ACSCs. However, our analysis, the first using 3 data sources, suggests that unsatisfactory access to health services in the community is an important factor. Rates of ED visits for ACSCs not resulting in admission can be used to provide a measure of unmet community healthcare needs, to monitor how well complications from a number of common conditions are being avoided, and to compare the performance of healthcare systems across communities.

EDs have long served as the safety net for medically underserved patients, particularly adults with Medicaid and patients without any health insurance.[5] Self-reported health status and rates of diagnosis of such chronic illnesses as hypertension or diabetes[19] suggest that our study population is sicker than the borough and city-wide averages, but this does not fully explain the high rate of ED use in this community. In contrast to a previous report from another state,[20] the uninsured were not responsible for the majority of primary care-treatable ED visits. Rather, the Medicaid population makes the largest percentage of these visits (40.7%), despite estimates that Medicaid clients represent only 15.2% of the study

area population.[19] Black patients are at higher risk for ED visits for ACSCs, but this is in proportion to racial demographics of the study area. Our findings of high ED utilization for chronic ACSCs by black persons and Medicaid patients does not differ significantly from data indicating that nationally, barriers to primary care contribute to higher ED and hospital utilization rates seen in these groups.[21]

Only about 57% of the patients we surveyed maintained that they were in the ED for a "medical emergency," and 30% claimed they had no primary care provider. Our findings from insurance claims data, showing that about 38% of patients presenting at the ED with ACSCs had been seen by a primary care provider during the preceding month, are consistent with the self-reported perceptions about lack of access to primary care captured by our survey. The fact that nearly two-thirds of the patients who required ambulatory care medical services appeared at the ED without seeking care from a primary care physician is striking, since many of these patients have Medicaid coverage and have been auto-assigned to a PCP even if they did not select one; this is true because of their mandatory participation in a Medicaid managed care organization.

These data suggest that plans operating in northern and central Brooklyn need to improve their primary care networks, work with the providers in their networks to improve their accessibility to patients, and/or do a better job of communicating with their clients about the primary care services to which they are entitled. We have no explanation for why admission rates for ACSCs measured at the census tract level do not have a significant influence on the odds of ACSC ED visits. Since the total number of PCPs generally appears to be adequate (based on a review of the lists of health providers provided by area insurers, hospitals, and clinics) and many of the patients using the ED for conditions that could be treated by a community-based PCP are covered by Medicaid, other factors must contribute to the gap in access. Inadequate PCP availability after usual working hours, the low rates of providers speaking languages other than English, a lack of cultural competence, and substandard customer service, on the one hand, combined with 24/7 ED availability, the perception of high quality of care in the ED, and the convenience of "one-stop shopping," on the other, may all contribute to patients choosing the ED as a source of primary care.[22]

Our survey findings, in which 29% reported having difficulty making an appointment with a PCP, are consistent with these explanations. Previous studies suggest that the use of an ED for primary care reflects the extent to which patients have a relationship with a PCP and the perception of the urgency of need. A program that provided an enhanced referral system to family medicine homes from the ED was associated with decreased subsequent ED utilization by uninsured patients.[23]

Although the number of primary care providers may not be a problem in northern and central Brooklyn, patient perception of access to these providers is. Survey responses show that many patients in Brooklyn, including a large number who have Medicaid coverage, are using EDs for conditions that can be treated in a primary care setting. Claims data from health insurers demonstrate that patients have often not contacted the provider designated to serve as their usual source of care prior to an ED visit. In our interviews, patients cite difficulties in getting appointments and a lack of "convenience" as barriers to the use of community-based primary care. Medicaid managed care plans are designed to provide early interventions and preventive care and to facilitate access to primary care in the attempt to provide a less expensive alternative to emergency care.[24] In northern and central Brooklyn, the Medicaid plans are not accomplishing this aim.

A range of factors contribute to ED visit rates for ACSCs; our evidence, however, suggests that a key determinant is not simply the number of PCPs in the area but the real or perceived convenience, quality, and effectiveness of local primary care. Universal strategies for reduction of ED overutilization by increasing access to, and timeliness and quality of, primary care for all patients likely to experience ACSCs are important.[25] Outpatient safety-net providers can help to reduce ED visits for ACSCs in the Medicaid population by making care more expedient.[26] If primary care providers in these areas of Brooklyn make it easier for patients to schedule appointments, offer convenient hours of operation, and provide a broad range of services in a dignified atmosphere, patients will be more likely to use this system for ACSCs. Furthermore, if the system can place such resources in proximity to an ED, patients would have the peace of mind that an ED is close at hand if there is the need for true emergency care. To decrease the reliance of this Brooklyn population on the ED as source of primary care, it is important to provide information regarding the accessibility of appropriate sources of care.

A community-based primary care program for uninsured low-income adults at Virginia Commonwealth University Medical Center in Richmond resulted in a decline in ED visits and inpatient admissions, while pri-

mary care visits increased.[27] When researchers followed uninsured Baltimore patients with no regular healthcare provider, they learned that improving access to primary care services by referral to a community health center was not sufficient to reduce visits to the ED.[28] This demonstrated that the characteristics of the source of care are important.

CONCLUSIONS

Most Medicaid clients in New York state are enrolled in managed care and have been assigned a PCP. In Brooklyn, Medicaid clients account for the largest share of patients using EDs for conditions treatable by community-based PCPs. State data suggest that adequate numbers of primary care physicians and clinics serve northern and central Brooklyn, but nonetheless, many Medicaid patients use the ED as their usual source of care and do not establish a relationship with a PCP. Educational efforts could improve the use of community-based PCPs among this patient population, but our findings suggest that it is a mistake to assume that people use EDs for non-emergency conditions simply out of ignorance. The primary care system in Brooklyn needs to do a better job of meeting patients' needs. Survey and insurance encounter data suggest that many Medicaid patients chose the ED because the healthcare system has failed to provide easily accessible, culturally competent, timely, quality primary care. Ideally, this would include urgent care appointments with PCPs during daytime hours, the availability of same-day appointments, access to after-hours care, a means for urgent communication with a PCP, and convenient access to laboratory and x-ray testing. The many cultures represented in our study area will require a variety of solutions to meet these demands.

New interventions should be data-driven in order to detect effective strategies and to understand where to dedicate scarce resources. By identifying the neighborhoods with the highest rates of ED visits not resulting in admission, we have identified several areas in Brooklyn where the evaluation of the success of pilot projects designed to encourage the use of sources of care other than the ED should be feasible.

Author Affiliations: State University of New York Downstate Medical Center (DW, GW, JT), Brooklyn, NY; International Longevity Center, Mailman School of Public Health, Columbia University (DW), New York, NY; The Hastings Center (MKG), Garrison, NY.

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Address correspondence to: Daniel Weisz, MD, MPA, 722 W 168th St, Room 1403, Mailman School of Public Health, Columbia University, New York, NY 10032. E-mail: dw2493@columbia.edu.

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Take-Away Points

We analyzed whether the nonurgent use of the emergency department (ED) in an impoverished area of Brooklyn, New York, is associated with poor access to primary care and other modifiable factors. We found:

- Insurance type, age, gender, race/ethnicity, and socioeconomic status of area of residence influence the likelihood of these ED visits.
- Medicaid clients, rather than the uninsured, account for the largest share of patients using EDs for nonurgent conditions.
- Nonurgent ED visits are rarely preceded by a visit to a primary care provider, and this circumstance was unrelated to the type of health insurance.

Table 1. Survey Results—Selected Questions

Age Group (years)	Do you have health insurance?	Do you have a PCP?
Under 18	93.4% (N = 2075)	86.3% (N = 1917)
18-24	76.3% (N = 954)	53.4% (N = 668)
25-64	76.0% (N = 4191)	60.1% (N = 3317)
65+	91.2% (N = 1063)	81.5% (N = 950)

Question	Patient Responses					
When did you last see a PCP?	47% within 1 month		35% within 2-6 months		16% not in 6 months or more	
Since you have a PCP, why did you come to the ED?	Present complaint an emergency = 38%		Office closed, wait is too long to see PCP, or "convenience" = ~25%		Referred by doctor or nurse, or desire another opinion = ~5%	
If you could not receive care in this ED, where else would you go?	Another ED = 65%		PCP = 12%		Other (including urgent care center or unknown) = 22%	
How long have you been ill before coming to the ED?	Less than 24 hours = 50%		1 to 7 days = 29%		More than 1 week = 20%	
Did you talk to a medical professional before coming here today?	No = 85.8%		Doctor = 10%		Other = 4.2%	
Where did you last get your care outside of an ER?	Private MD = 51%		Always use ED = 21%		Clinic/health center = 15%	
Why did you come to this ED?	Nearest ED to my home = 43.9%	Always come here/ my medical records are here = 28%	The ED has a good reputation = 9.7%	Had no choice, brought here = 6.2%	Shorter wait than other EDs = 4.2%	Referred here = 3%

ED indicates emergency department; PCP, primary care provider.

Table 2. Visits to a Physician Before or After an ED Visit for an ACSC Diagnosis (2008): Medicaid and Commercial Plan Encounter Data

	Medicaid							
	Saw MD prior to ED visit				Saw MD in follow-up after ED visit			
Patients seen in ED	1 week prior	2 weeks prior	3 weeks prior	4 weeks prior	1 week after	2 weeks after	3 weeks after	4 weeks after
All patients (N = 19,707)	16.7%	25.5%	32.0%	37.5%	27.4%	35.3%	40.8%	45.1%
Adults (n = 7156)	19.1%	28.0%	33.8%	38.4%	29.7%	37.4%	42.3%	45.8%
Children (n = 12,551)	15.3%	24.1%	31.0%	37.0%	26.0%	34.1%	39.9%	44.8%
	Commercial Insurance							
	Saw MD prior to ED visit				Saw MD in follow-up after ED visit			
Patients seen in ED	1 week prior	2 weeks prior	3 weeks prior	4 weeks prior	1 week after	2 weeks after	3 weeks after	4 weeks after
All patients (N = 2692)	12.5%	20.1%	26.5%	31.8%	24.6%	32.7%	37.2%	40.3%
Adults (n = 1596)	13.5%	22.1%	29.1%	34.3%	26.8%	35.9%	40.4%	43.5%
Children (n = 1096)	11.0%	17.2	22.8%	28.1%	21.5%	28.1%	32.6%	35.6%

ACSC indicates ambulatory care–sensitive condition; ED, emergency department.

Table 3. SPARCS Data Summary: Demographics

	All Brooklyn			15 zip code study areas		
Age group (years)	Population (percent of total population)	Annual average age-specific ED visits without admission per 1000 population for all Brooklyn (N)	Annual average age-adjusted ED visits without admission per 1000 population for all Brooklyn	Population (percent of total population)	Annual average age-specific ED visits without admission per 1000 population for 15 zip code study areas (N)	Annual average age-adjusted ED visits without admission per 1000 population for 15 zip code study areas
<18	594,378 (23.7%)	336.3 (199,860)		262,770 (25.0%)	465.7 (122,365)	
18-24	265,255 (10.6%)	366.8 (97,295)		120,178 (11.4%)	487.5 (58,590)	
25-44	767,245 (30.6%)	290.1 (222,592)		322,064 (30.7%)	399.6 (128,688)	
45-64	590,189 (23.6%)	234.8 (138,597)		242,208 (23.1)	329.8 (79,869)	
65+	287,633 (11.5%)	177.4 (51,028)		102,495 (9.8%)	225.4 (23,099)	
Total	2,504,690	283.2 (709,372)	279.5	1,049,715	393.1 (412,611)	383.0

Primary Reimbursement	All Brooklyn emergency department visits without admission (percent of total)	Study area emergency department visits without admission (percent of total)	Percent of population (estimated from CHS)
Medicare	125,309 (5.9%)	58,086 (4.7%)	10.9
Medicaid	776,829 (36.5%)	503,540 (40.7%)	15.2
Commercial plan	313,549 (14.7%)	162,815 (13.2%)	43.5
Uninsured (self-pay)	415,158 (19.5%)	263,758 (21.3%)	19.0

CHS indicates NYC Community Health Survey; ED, emergency department; SPARCS, New York Statewide Planning and Research Cooperative System.
Remaining patients are covered by other government programs or no payer is provided.

Table 4. Logistic Regression Analysis of Study Area ED Visits for ACSCs without Admission

Independent Variable[a]	B	SE	Wald	Sig	Exp (B)	95% CI for Exp (B)	
						Lower	Upper
Age	–.017	.000	18,117.076	.000	.984	.983	.984
Female	–.374	.005	6767.705	.000	.688	.682	.694
Latino	.075	.008	98.847	.000	1.078	1.062	1.095
Black	.056	.006	84.511	.000	1.057	1.045	1.070
Asian	–.067	.016	17.673	.000	.935	.906	.965
ACSC discharge rate by census tract	.006	.000	580.681	.000	1.006	1.006	1.007
Highest unemployment quartile	–.006	.005	1.449	.229	.994	.985	1.004
Lowest income quartile	.022	.005	20.260	.000	1.022	1.012	1.032
Quartile with highest rate of population without high school diploma	.101	.006	265.501	.000	1.106	1.093	1.119
Lowest rate of college graduates quartile	.004	.005	.814	.367	1.005	.995	1.014
Highest rate of vacant housing quartile	.064	.006	101.349	.000	1.066	1.053	1.079
Medicare	.358	.012	856.313	.000	1.430	1.396	1.464
Medicaid	.089	.005	286.603	.000	1.093	1.081	1.104
Uninsured	–.004	.007	.408	.523	.996	.983	1.009
Omitted is commercial insurance							
Quartile of households not speaking English well	.018	.009	4.284	.038	1.018	1.001	1.036
Constant	–.540	.010	2907.931	.000	.583		

ACSC indicates ambulatory care–sensitive condition; B, beta coefficient; ED, emergency department; Exp, the *P* value and the exponentiation of the B coefficient; Wald, Wald test of significance.
[a]Caucasian is omitted.

Appendix. Emergency Department Patient Survey

Who are you here for? (Tell us as many as apply.)

- ☐ Yourself
- ☐ Your child
- ☐ Your spouse
- ☐ A relative: cousin/aunt/uncle/parent/grandparent/niece/nephew
- ☐ Other; please explain _____

1. Do you have health insurance coverage?

   - ☐ Yes; please provide insurer(s) if known:
     - ☐ Medicare
     - ☐ Medicaid
     - ☐ Family Health Plus
     - ☐ Child Health Plus
     - ☐ Other insurer; please provide name:_____
   - ☐ No, I do not have health coverage. (Surveyor will have list to check)

2. Do you have a primary care physician (PCP)/family doctor?

   - ☐ Yes
     - Please tell us your PCP's name, if known: _____
     - Can you tell us where your PCP's office is located?_____
   - ☐ No
   - ☐ I don't know

3. Why did you choose to come to the ER for care?

   - ☐ This was an emergency
   - ☐ I could not reach my primary care physician/family doctor on the phone
   - ☐ It is cheaper than my primary care physician/family doctor
   - ☐ I couldn't get an appointment with my primary care physician/family doctor
   - ☐ I wanted a second opinion
   - ☐ Other: _____

4. If you didn't come to the ER, where else would you go?
   - ☐ Family doctor
   - ☐ Walk-in specialty clinic
   - ☐ Urgent care center
   - ☐ Ambulatory care center
   - ☐ Other; please explain: _____
   - ☐ No, I had no other places to seek care.
5. Why did you decide to choose this emergency room for care?
   - ☐ I had no other choice; ambulance brought me
   - ☐ Closest hospital to me
   - ☐ Good reputation/well-known
   - ☐ I came here because I have no health insurance
   - ☐ My medical records are at this hospital
   - ☐ My doctor told me to go to the ER
   - ☐ Need a prescription filled or refilled
   - ☐ Past experience with this hospital
   - ☐ Wait time here is shorter
   - ☐ Other; please explain: _____
6. How did you get to the emergency room?
   - ☐ Ambulance brought me
   - ☐ Walked here
   - ☐ Took public transportation (bus/train)
   - ☐ By car (includes: rides from family/taxi/car service/driving by themselves)
7. Where were you born: ☐ USA or other (country): ☐ _____
8. Sex: ☐ Female ☐ Male
9. How old is the patient?

☐ Under 18 ☐ 18-24 ☐ 25-44 ☐ 45-64 ☐ 65-75 ☐ over 75

10. Which of these groups does the patient belong to?

☐ Black ☐ White ☐ Asian/Pacific Islander ☐ American Indian

☐ Hispanic ☐ Other; please provide: _____

11. What is your native language (what language do you speak)?

☐ English	☐ Arabic	☐ Farsi	☐ Polish
☐ Spanish	☐ Bangla	☐ Greek	☐ Russian
☐ Haitian Creole	☐ Chinese-Cantonese	☐ Hindi	☐ Urdu
☐ French	☐ Chinese-Mandarin	☐ Korean	☐ Yiddish

12. What was the last grade in school you completed?

☐ None ☐ Grade school
☐ Some high school
☐ Finished high school/GED ☐ Some college
☐ 2-year Associate's degree
☐ 4-year Bachelor's degree/graduate study

13. Do you live in Brooklyn?

☐ Yes

☐ No. Please tell us where:_____

14. How long have you lived at your current address?

☐ Under 1 year

☐ 1 to 5 years

☐ More than 5 years

15. How many addresses have you lived at in the last 3 years? _____

16. What is your home zip code?_____

17. Can you share with me the main medical reason you chose to come to the emergency room? [They may choose up to 3.]

☐ Accident

☐ Alcohol/drug use

☐ Breathing problems

☐ Chest pain

☐ Toothache

☐ You were hurt by someone

- ☐ Fever
- ☐ Joint or muscle pain
- ☐ Headache, dizziness
- ☐ Maternity care
- ☐ Skin rash or skin problem
- ☐ Sore throat
- ☐ Stomach pains
- ☐ Surgery follow-up
- ☐ Other; please explain: _____

18. Is there a walk-in clinic in your neighborhood?
    - ☐ Yes; please tell us the name: _____
    - ☐ No
    - ☐ I don't know

Appendix. Additional Information

The study area consists of 15 zip codes: 11203, 11206, 11207, 11208, 11210, 11212, 11213, 11216, 11217, 11221, 11225, 11226, 11233, 11237, and 11238. Fourteen of these zip codes can be aggregated to 4 United Hospital Fund neighborhoods: Williamsburg/Bushwick, Flatbush, East New York/New Lots, Crown Heights/Bedford-Stuyvesant, which is the unit used by the NYC Department of Health and Mental Hygiene in the NYC Community Health Profiles in the zip code 11217 is located on the edge of the Park Slope neighborhood.

The institutions represented in the BHIP coalition include 2 federally qualified health centers—Bedford-Stuyvesant Family Health Center and Brownsville Multi-Service Family Health Center—as well as the following hospitals: Kings County, Woodhull, Downstate (University Hospital Brooklyn), Brookdale, Interfaith, and Kingsbrook Jewish. The insurance plans that shared data are HealthFirst, HealthPlus, Neighborhood Health Plan, MetroPlus, Union 1199NBF, and (via NYQA) Emblem HIP/GHI, United Health Care, and Aetna.

Additional coalition partners include:

Brooklyn Borough President's Office, Brooklyn Chamber of Commerce, Brooklyn Congregations United, Brooklyn Health Disparities Center, Brooklyn Perinatal Network, Caribbean Women's Health Association, Caribbean American Chamber of Commerce, Christopher Blenman Senior Center, Church Ave Merchants Block Association, Coalition of Behavior Health Agencies, Inc, Empire Health Insurance, NYC Department of Health and Mental Hygiene, Novartis Pharmaceuticals, Primary Care Development Corporation, St. Gabriel's Senior Center, SUNY Downstate School of Public Health, and the United Hospital Fund.