The Primary Care Delivery System in New York's Low-Income Communities: Private Physicians and Institutional Providers in Nine Neighborhoods

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ABSTRACT *Despite a recent policy emphasis on managed care as the preferred method of financing and delivering care to Medicaid beneficiaries and other indigent populations, there is little information on the availability or the characteristics of primary care providers in low-income neighborhoods.*

Data from two independent surveys of primary care were analyzed. A 1998 street canvass of each of nine neighborhoods identified 367 primary care offices and 567 private-practice primary care physicians. Survey data on primary care were collected from a total of 280 ambulatory care sites across the city in 1997 and 1999. Information on services, hours, and other data on primary care offered at sites in these nine neighborhoods was compiled to develop a profile of the primary care delivery system.

There are relatively few private practice physicians providing primary care in these neighborhoods. While there are considerably more primary care physicians at the ambulatory care sites, there is a wide variation in supply across neighborhoods, driven largely by the presence of sizeable safety-net facilities in several of the neighborhoods. Several indicators of access to primary care across these neighborhoods show similar neighborhood variations. Without primary care availability, managed care's promise of greater access to quality care for low-income populations may fall short.

KEYWORDS *Primary care, Access, Ambulatory care, Safety net.*

Primary care services are an integral part of the health care delivery system. The shift to managed care for most Americans has only intensified the importance of access to primary care. With its emphasis on preventive care, continuity, and coordination of services through individual primary care providers, managed care provides a framework for improving health care delivery and health outcomes. In addition, the managed care model holds out the promise of greater access to populations that heretofore have lacked a regular source of care.

The shift to Medicaid managed care offers an important opportunity to improve the health and health care of many low-income populations. As in many other markets, this transition to managed care in New York City offers low-income

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families the opportunity to enter the mainstream of medical care, with access to a primary care provider and basic health care and preventive services. This presumes, however, that the necessary infrastructure for primary care delivery is in place. This promise of greater access is especially important in poor, inner-city neighborhoods, where care has long been fragmented, largely dominated by institutional providers, and characterized by frequent use of emergency departments.¹

The path leading from traditional Medicaid fee-for-service to Medicaid managed care has not been free of roadblocks, and similar obstacles may confront other programs seeking to adopt the managed care model for low-income populations. In particular, the existing system of fragmented primary care in poor, inner-city neighborhoods poses major obstacles to implementing fully the managed care model. Primary care providers working in New York's medically underserved communities face a new set of challenges and opportunities to deliver quality care as managed care becomes the predominant mode of primary care service delivery.

Despite the importance of primary care for Medicaid and other low-income patients, health services researchers and policymakers know relatively little about the nature of primary care delivery systems in neighborhoods characterized by high levels of poverty and low levels of access. The conventional wisdom in the Medicaid program holds that very few private office-based physicians are available to provide care for Medicaid patients. Moreover, the evolution of the Medicaid program in New York has been characterized by a substantial reliance on institutionally based providers for most services.²

We attempt to bridge this gap in knowledge by describing the primary care delivery system in nine of New York's poorest and most underserved neighborhoods. We take a direct approach to the task, examining the primary care delivery system at the zip code level in these neighborhoods. We compare the relative importance of private office-based physicians and a variety of institutionally sponsored ambulatory care settings in delivering primary care to families in these neighborhoods. In short, we seek to develop a basic profile of the primary care delivery system in a typical group of low-income, underserved neighborhoods.

METHODS

This article combines the results of two independent research efforts by the Community Service Society of New York (CSS) and the United Hospital Fund (UHF) to understand the organization and structure of the primary care delivery system in New York City. We use a straightforward definition of primary care, relying first on physicians who self-identified as primary care physicians. We also employ standard categories of primary care services, including general internal medicine, pediatrics, family practice, and obstetrics and gynecology, to identify primary care providers.

In an effort to assess the primary care delivery system, CSS conducted a street canvass of nine New York City neighborhoods in the summer of 1998 to identify and survey office-based primary care physicians in private practice.³ The survey instrument was organized into two parts: one concerning the practice, including hours, provider roster, payer mix, and language capability; the other was physician-specific, asking about the doctor's training, at what other sites (if any) the doctor(s) saw patients, and future plans. Four community-based organizations conducted the street census. (We are grateful to Committee for the Heights-Inwood Homeless,

Bronx Perinatal Consortium, Brooklyn Perinatal Network, and Bushwick Resource coalition for their assistance.)

Surveyors canvassed every block in their neighborhoods looking for physician offices and conducted the first part of the survey (usually with the office receptionist). In addition, a copy of the physician survey was left for each physician that practiced at that site. Follow-up on the physician survey was intensive, utilizing the American Medical Association directory, the New York State Education Department Office of the Professions, and the Medical Directory of New York State. CSS staff contacted doctors' offices to complete surveys over the phone, calling each physician up to four times if necessary. In all, 367 primary care offices were located in the survey neighborhoods, of which 17 (5%) refused to participate. The remaining 350 answered all or part of the practice section of the survey. A total of 567 primary care physicians were identified from the canvass; 341 surveys were completed by physicians or their staff (65%), and an additional 104 (21%) with physician information obtained from secondary sources. In some cases, the same physician worked at more than one office, and the remaining 76 (13%) physicians refused to participate or could not be contacted.

The United Hospital Fund's Ambulatory Care Provider Survey (ACPS) supplied the other data source on primary care services in the nine survey neighborhoods. In 1996, 1997, and 1999, UHF conducted a survey of institutionally based ambulatory care providers in New York City to assess the impact of the shift to managed care in Medicaid on these providers. The survey covered a broad range of items on institutional policies and practices, and included questions on clinic capacity (visits and exam rooms) and clinic staffing, including primary and specialty care physicians, residents, and nonphysician primary care providers. Data reported here are drawn from the 1997 iteration of the survey, and reflect 1997 structure and practices at the primary care sites in order to maintain comparability with the data from the CSS canvass. The unit of analysis for the ACPS is the specific primary care site, as opposed to the institution sponsoring the site. Findings from the 1999 version of the survey were compared with those presented here, and there are no notable differences on most of the measures presented.

The ACPS instrument was mailed to 280 ambulatory care sites that provided primary care to the general population in New York City for the full calendar year in 1997. The overall response rate for the survey was 82.6%; response rates for specific survey questions may be lower. Response rates also vary across the nine study neighborhoods, ranging from 62 to 100% (Table 1). Inspection reveals no evidence that response bias might influence our results. For the missing sites, data from other survey years or secondary sources were used to check our results and to test for selection bias, and we found no evidence of systematic bias in the data. More important, every major ambulatory care site in these neighborhoods responded to the survey and is included in the analysis.

These two independent research projects gathered detailed information about different components of the primary care delivery system in the study communities. The data from the CSS street canvass and the UHF ACPS were combined at the neighborhood level by zip code. We present some basic findings from each project separately in order to provide a basic profile of primary care in low-income neighborhoods, and then combine the two for a more complete picture. Data for both private physicians and institutional providers of primary care were then analyzed to examine basic issues of access, availability, and capacity in each of the nine study neighborhoods.

TABLE 1. Institutional sites in the ACPS, 1996–1999 in the nine study neighborhoods

	Sites Surveyed			Sites Responding 1997	Response Rate (%)
	1996	1997	1999		
Mott Haven/Hunts Point	7	6	14	6	100
Highbridge/Melrose/Morrisania	13	13	18	8	62
Morris Heights/Tremont	12	12	17	11	92
Soundview	2	3	9	2	67
Fort Greene/Prospect Heights/South Williamsburg	12	16	19	14	88
Bedford-Stuyvesant/Crown Heights	12	11	18	10	91
Brownsville/East New York	14	15	16	13	87
Kensington/Flatbush	10	11	13	10	91
Harlem	15	17	21	15	88
Total	97	104	145	89	86

FINDINGS: PRIMARY CARE SERVICES

Private Office-Based Physicians: The CSS Street Canvass

Private physician practices in low-income communities do not resemble the typical image of a New York City doctor's office. Many of the practices are located in store-front offices, often shared with dentists and podiatrists. They are small and typically do not provide ancillary services such as laboratory or diagnostic equipment. Moreover, nearly 7 out of 10 of the private practices surveyed had only one physician. To more fully understand the nature of these settings, the survey examined a number of the characteristics of the physicians, including their hospital admitting privileges, physician training, and certification, as well as when they graduated from medical school (a rough proxy for the age of the physician), and implications for the future supply of providers.

A large majority of the office-based physicians identified by the CSS canvass are foreign born and/or foreign trained (international medical graduates): almost 80% attended medical school outside the United States. In spite of the large number of academic medical centers in New York City, only 33 (9%) attended a New York City medical school. Their graduate medical education is different, due to the opportunity offered by New York City teaching hospitals for residency training. While only 7% of responding physicians graduated from New York City medical schools, 84% completed their residencies in New York City, and 41% of these physicians did so at facilities close to where they now have offices.

Board certification is a recognized proxy for quality of care. While 316 (71%) of the physicians reported that they were board certified, we were able to independently verify only 274 of those (through the New York State physician registry available on the Internet, as well as through the Web sites of individual specialty boards). Of the 521 doctors about whom we gathered information on admitting privileges, 81% had privileges at one or more hospitals. However, 19% of these physicians were affiliated with hospitals in distant parts of the borough (i.e., beyond the zip code in which the office was located and all adjacent zip codes as well) and another 8% were affiliated with hospitals outside the borough where their office was located.

The most difficult issue to investigate was the future supply of private office-

based physicians and the likelihood that physicians would remain in the survey neighborhoods, maintaining a continued supply of primary care and long-term continuity of care for individual patients. Over half (53%) of respondent physicians had been in their present locations for a decade or more. As a group, the physicians in these neighborhoods are older than the national average. Across the United States, 54% of all physicians are 45 or older, compared to 73% in the study areas. Only 4.4% of the CSS physicians graduated from medical school within the past decade.

Institutionally Based Primary Care: The Ambulatory Care Provider Survey

A large proportion of the primary care delivered in low-income communities occurs in institutionally based ambulatory care sites: hospital outpatient departments, community health centers, and hospital satellite clinics. Analysis of state Medicaid data by UHF reveals that approximately 75% of adult Medicaid fee-for-service visits for primary care in 1997 and 50% of children's visits occurred at an ambulatory care site.⁴

These ambulatory care sites can range in size from small clinics with only two or four full-time primary care physicians to large hospital outpatient departments with several dozen providers and a large number of exam rooms. These sites often serve as the core of the safety net, providing a substantial amount of primary care and ancillary services. According to data from ACPS, the sites in the nine study neighborhoods deliver a substantial number of primary care visits. In five of the nine neighborhoods, at least one site provided between 50,000 and 100,000 primary care visits in 1997. The study sites range substantially in size; the mean number of clinic doctors delivering primary care in these neighborhoods ranges from 4 to 18 doctors per site, with an overall neighborhood mean of 6 full-time primary care physicians per site (Table 2). Neighborhoods are rather mixed, however, in the proportion of large and small sites in their areas. As might be expected, some neighborhoods have a collection of health centers as their major source of primary care, while others are dominated by a large safety net hospital, and still others have a mix of health centers and hospital sites delivering primary care.

The ACPS also surveyed the types of primary care services available at the sites. General internal medicine and pediatrics were the most common categories, followed by family practice and obstetrics/gynecology. Sites vary in their use of residents and physician extenders as well (Table 2). As might be expected, the use of residents varied substantially, based largely on the presence of a large hospital-based site in the neighborhood. At least one site in each neighborhood employed physician extenders, though there is substantial variation in the number of physician extender full-time equivalents (FTEs).

The ACPS survey did not examine the education or training of the primary care physicians providing care at these sites. However, 92% of the sites responding to the survey reported that their physicians were board eligible or certified, in accordance with the basic requirements of Medicaid managed care (MMC), and about 88% of sites reported their physicians had hospital admitting privileges in at least one MMC network hospital. Finally, nearly all of the sites said they paid their primary care physicians via salary (instead of direct capitation or fee for service).

PRIMARY CARE AVAILABILITY

The number of physicians in private practice in these neighborhoods is relatively small. While this is perhaps not surprising, two findings on physician availability

TABLE 2. A profile of primary care in nine low-income New York City neighborhoods

	Mott Haven/ Hunts Point	Highbridge/ Morrisania/ Melrose	Morris Hts./ Tremont	Soundview	Central/ West Harlem	Ft. Greene/ Prospect Hts. S.Williamsburg	Bedford- Stuyvesant Crown Hts.	Brownsville/ East NY	Kensington/ Flatbush
<i>Ambulatory sites</i>									
Primary care									
Hours open									
Mean	46.2	43.38	49.04	46	39.66	36.89	40.75	39.15	48.12
Median	42	40	40	46	37	36.25	38	40	47
Maximum	65	54.5	68	52	68	68	58	53	80
Physician FTEs									
Mean	18.1	6.1	4.3	4.5	3.6	12	3.29	4.3	3.8
Median	3.5	3.1	2	4.5	3.6	2	2.5	3.1	2
Minimum	1	0	0	1	0.2	0.1	1	0.6	0.05
Maximum	75.3	23.5	17	8	15.4	78.3	8.5	14.2	26.2
Total exam rooms	172	143	122	23	182	88	98	139	223
Exam rooms in use									
Mean	28.6	15.8	12.2	11.5	12.1	7.3	9.8	10.7	31.3
Median	8.5	5	4	11.5	5	2.5	5	7	8
Minimum	2	1	2	1	1	1	2	2	1
Maximum	102	67	50	22	41	30	31	33	89
Total resident FTEs	137.00	11.55	0.00	0.00	0.00	236.96	0.32	5.07	5.59
Nonphysician provider FTEs	20.10	16.19	42.60	4.00	25.50	61.75	3.26	14.76	26.19
Visits per week									
Mean	47.48	57.78	36.92	*	96.87	70.28	67.39	89.21	130.63
Median	44.29	49.60	42.54		73.61	36.23	67.39	88.75	113.54
Minimum	27.30	48.41	0.33		51.83	10.67	62.31	59.47	20.77
Maximum	70.85	75.32	62.28		219.80	214.42	72.46	111.82	391.46

Physician practices									
Hours open									
Monday–Friday	91.7%	93.8%	94.1%	78.6%	68.0%	64.4%	68.1%	81.6%	63.0%
Some weekend hours	41.7%	62.5%	64.7%	78.6%	60.0%	24.2%	83.0%	68.4%	91.3%
Some evenings	8.3%	6.2%	17.6%	35.7%	32.0%	20.3%	34.0%	7.9%	55.4%
Size of practice									
Solo	41.7%	70.6%	55.6%	81.3%	67.9%	78.4%	62.7%	65.1%	68.6%
2–3 MDs	50.0%	29.4%	33.3%	12.5%	17.9%	16.2%	33.3%	34.9%	28.6%
4 or more MDs	8.3%		11.1%	6.3%	14.3%	5.4%	3.9%		2.9%
Total physician hours									
Less than 20	42.9%	8.3%	35.7%	33.3%	28.6%	33.3%	26.7%	29.8%	35.9%
20–35	14.3%	16.7%	17.9%	52.4%	45.2%	34.3%	42.7%	33.3%	43.4%
Greater than 35	42.9%	75.0%	46.4%	14.3%	26.2%	32.3%	30.7%	36.8%	20.7%
MD extenders									
Physician assistants	16.7%	12.5%	37.5%	38.5%	16.7%	15.5%	20.0%	16.2%	22.1%
Nurse practitioners	33.3%	25.0%	25.0%	0.0%	8.2%	12.1%	13.3%	5.4%	8.2%

*Visits data are missing for this neighborhood.
FTE, full-time equivalent.

are particularly striking. First, the overall ratio for the nine neighborhoods is much lower than the New York City average; the maldistribution of physicians in the city is severe. Second, there is a substantial variation across neighborhoods in the availability of primary care. The bulk of the primary care providers in the nine neighborhoods are institutionally based, but the contribution of institutionally based ambulatory cares sites to the overall supply of primary care varies a good deal by neighborhood, and drives the overall variation in primary care availability across the study neighborhoods (Table 3). In every neighborhood save one, the number of FTE physicians at institutionally based ambulatory cares sites exceeds the number of private physicians, and in some cases the number substantially exceeds the number of private office-based physicians, due largely to the presence of a large safety-net facility in the neighborhood.

This variation in primary care availability across the nine neighborhoods is notable. In every neighborhood, the number of clinic physicians combined with the number of office-based doctors raises the available supply of doctors substantially, but the resulting physician–population ratio varies widely as well, from a low of 27.8 to a high of 129.9. Data on physician FTEs and other features of the profile presented in Table 2 confirm and extend this variation. Clinic physician FTEs vary not only across neighborhoods but also across sites within neighborhoods. There is also wide variation in the number of residents and other staff such as physician assistants and nurse practitioners. While these other staff can be used in office-based practices as well, it was not the norm in these mostly solo-practice sites: 68% of the physicians in the CSS canvass worked alone, 20% used a physician assistant, and 12% employed a nurse practitioner. In many of the neighborhoods, particularly those with a large safety-net facility, there are a large number of primary care residents and/or other providers as well. Finally, variations in the number of exam rooms available in each of the nine neighborhoods underscore these differences. While an imperfect measure of primary care availability, exam rooms offer a useful

TABLE 3. Distribution of primary care provider FTEs by site type

Neighborhood	Private office-based physicians		Community health centers		Hospital-based facilities		Total physician FTEs
	Physician FTEs	Percent	Physician FTEs	Percent	Physician FTEs	Percent	
Central/West Harlem	35.2	42.0	26.6	40.2	22.1	26.3	83.9
Mott Haven/Hunts Point	20.2	15.6	33.8	26.1	75.3	58.2	129.3
Highbridge/Melrose/Morrisania	20.0	26.7	49.9	66.6	5.0	6.7	74.9
Morris Heights/Tremont	21.7	32.1	28.9	42.8	17.0	25.1	67.6
Soundview	13.9	60.7	9.0	39.3	0.0	0.0	22.9
South Bronx	75.8	25.7	121.6	41.3	97.3	33.0	294.7
Fort Greene/Prospect Heights/South Williamsburg	63.7	29.3	31.7	14.6	122.3	56.2	217.7
Bedford-Stuyvesant	54.7	64.1	22.1	25.9	8.5	10.0	85.3
Brownsville/East New York	45.5	47.9	43.5	45.8	5.9	6.2	94.9
Kensington/Flatbush	103.2	71.1	12.1	8.3	29.8	20.5	145.1
North Central Brooklyn	267.1	49.2	109.4	20.1	166.5	30.7	543
Total	378.1	41.8	257.6	28.5	285.9	29.7	921.6

indicator of potential physical capacity to provide additional primary care. Several of the neighborhoods have sizeable ambulatory care sites (due again to the presence of a large safety-net hospital nearby), as indicated by the large number of exam rooms available and the substantial number of exam rooms in use (Table 2).

Taken together, these data shed some light on primary care capacity in these neighborhoods. While the number of full-time primary care physicians (particularly in private practice) is low, there is a sizeable potential delivery capacity. The large number of exam rooms per primary care physician suggests the ability to deliver more services if the number of primary care doctors increased.

It is also worth noting the proliferation of primary care sites over time. While the data are limited, analysis of the universe of sites to be surveyed by the ACPS in 1996, 1997, and 1999 reveals a marked, steady increase in the number of primary care sites in the study neighborhoods over this period, with almost 50% more sites available in 1999 than in 1996 (Table 1). These data are preliminary, however, making it difficult to discern whether the supply of primary care has indeed increased. Many facilities opened new sites in anticipation of mandatory Medicaid managed care, only to be forced to close them later due to rising costs and slow implementation of MMC. Unfortunately, we do not have data on the effects of these dynamics in the study neighborhoods.

Finally, our examination revealed striking disparities in maternal and child health capacity similar to those found in prior research.^{5,6} Among private office-based primary care physicians in the survey areas, the street canvass found only 22.5 FTEs in obstetrics/gynecology (ob/gyn). The data from ACPS indicate a much larger supply of ob/gyn physicians—a total of 145 ob/gyn FTEs—in the clinic setting in these neighborhoods. It appears that women in these neighborhoods have no choice but to use institutionally based obstetricians. The situation is slightly less extreme when we consider pediatricians. The CSS canvass identified 108.9 FTE pediatricians in the nine neighborhoods. Again, the number of full-time pediatricians available for primary care in the clinic setting far exceeds the number in private practice, even when considering additional services to children provided by family practice physicians. In these neighborhoods, if pregnant women and children seek primary care close to home, their best alternative is a local hospital outpatient department or satellite clinic, community health center, or some other institutionally based setting for care.

ACCESS

The physical presence of physicians or clinics is not the only indicator of accessibility to care. While a necessary condition, it is not in itself a sufficient reflection of the availability of health care services in a given community. Other indicators of access include the ability to pay for needed care, the hours a site is open (including in the evening and on weekends), and the ability to communicate with non-English-speaking patients.

Ability to Pay

For many low-income patients, ability to pay encompasses two potential barriers to access to care: whether a local provider will accept Medicaid or other public health insurance programs, or is willing to provide care to those without coverage. For most of the study neighborhoods' residents, the ability to pay is perhaps the largest potential barrier to medical care. In the survey areas, between 20% and 51%

of residents are Medicaid beneficiaries, with an average rate of 35%. The CSS physician survey found that over 70% of the practices in these neighborhoods accept some Medicaid patients. Medicaid managed care has achieved substantial penetration in these areas: over two thirds of the practices were accepting new patients in MMC plans—about the same number as those accepting new Medicaid fee-for-service patients. Not all practices accepted both forms of Medicaid: 12% of the 350 practices were accepting only new Medicaid fee-for-service patients.

The vast majority of these private office-based physicians report that they see patients without health insurance. While the CSS canvass did not ask about limits to care for those without insurance, it did ask whether the practice had an established sliding fee policy and found that only half the practices reported that they did. Many added that the physician had an “unofficial” policy of making personal arrangements to see patients at less-than-posted rates if he or she knew they lacked coverage. The canvass also frequently found that practices refused to take Medicaid and, instead, required that people pay out of pocket because Medicaid was too bothersome and the rates too low. One fifth refused to accept Medicaid at all; and one in four reported that Medicaid covered less than one fourth of their patients.

The ACPS surveyed sites about their sliding fee scales and other policies related to Medicaid and uninsured populations. Almost all sites that responded to the ACPS reported limiting care for MMC patients seeking care out of network and having some sort of sliding fee scale in place for indigent patients. For those sites supplying a response to these questions (about half of all the sites), the typical fee ranged from \$20 to \$40 for patients at 100% of the Federal poverty level (FPL; about \$16,000 per year for a family of 4) to \$100 to \$245 for those at 200% of the FPL. Questions were posed about sliding fees or other arrangements for prescription drugs, and responses ran the gamut from providing a sliding-fee scale for all prescription drugs to offering free samples for a few drugs (for those that offered a prescription drug service—some sites did not). Finally, study sites were asked to describe their typical financial arrangement for a new self-pay (uninsured) patient, and again the responses varied widely. Strikingly, the most common response (30 out of 76 sites responding) was that sites required the patient to pay the full fee before offering services. Other typical arrangements included paying a deposit, and making financial arrangements before or after receiving care (sometimes in conjunction with a deposit). Only 14% of sites reported they required no fee before providing services to uninsured patients.

Hours

There is considerable variation in access to primary care based solely on the number of hours a site is open. In most of the neighborhoods, more than half of the private physicians report being open less than 35 hours per week, imposing a likely constraint on access for many low-income patients. Generally, clinic sites are open more hours, but the variation across neighborhoods is notable. Further, most doctors in private practice do not offer evening hours, in part because many of these doctors are in solo practice. Only 32% of the private physicians are open past 6 p.m. (even for one evening). For those that do have any evening hours (102 practices), only 29 are open every night, and 39 are open only one or two evenings. For the ambulatory care sites, some proportion in each of the neighborhoods offers evening hours during the week, ranging from 40% to 60%. (However, a number of sites failed to respond to this survey question, and so these results offer only a rough indication of the number of sites open additional hours.) Weekend hours are somewhat more

common, with over half the physicians in private practice typically open for part of Saturday (4 to 6 hours). Again, neighborhood variations are present, with Harlem, Mott Haven, and Morris Heights providing fewer practices open on the weekend. Kensington, the neighborhood with the most private office-based physicians, and the most growth in these physicians over the last decade, also has the highest rate of practices open on evenings and weekends. A similar pattern holds for the institutionally based sites for primary care, with at least some of the sites in the neighborhoods offering weekend hours, ranging from a low of 20% in Harlem and Flatbush to over 80% of sites in Morris Heights. Overall, however, the hours a site is open for care—whether a private, office-based physician or an ambulatory care facility—still poses a significant access barrier in these neighborhoods.

Moreover, backup arrangements for patients when the physician's office is closed are shaky among the private, office-based physicians. Backup is generally defined as having telephone access to another provider, including having an answering service, the ability to reach a physician by beeper, or an answering machine that refers patients to another provider. Of the private, office-based physicians, 20% have no backup arrangements of any sort when their offices are closed, which is striking since such an arrangement is a requirement for participation in MMC. Backup arrangements are much more common at the institutionally based primary care sites, and generally means access to another provider by phone or at another site of care. In three of the nine neighborhoods, all of the sites reported having some backup arrangement in place, and overall roughly 90% of the sites responding to the survey reported having physician backup arrangements.

Language

A final obstacle to access to primary care is language: if a patient and doctor cannot communicate, the care provided can be dangerously flawed. For the CSS canvass, we report only on Spanish-speaking capacity, since it is the most common foreign language in New York (and in many of the nine study neighborhoods). The ACPS survey sought to obtain information on all languages spoken by patients visiting the site.

Most private-practice physicians within the study neighborhoods have someone in the office who speaks Spanish. Indeed, in several of the neighborhoods with a large Latino population, every physician office has the ability to communicate in Spanish. This is often a function of office support staff, many of whom live in the community where they work, and who reflect its ethnic composition. The number of physicians who speak Spanish is smaller, but still substantial. Almost 200 of the doctors in private practice (35%) speak Spanish. In terms of meeting community need, the neighborhoods with the highest number of people who are “linguistically isolated” in Spanish (Morris Heights and Highbridge) do not have a very large number of Spanish-speaking physicians in private practice; Fort Greene and Kensington, with large numbers of Spanish-speaking doctors, have more modest numbers of individuals who would need such physicians (in Kensington, with the largest number of these physicians, less than 3% of the population is linguistically isolated in Spanish).⁷

The ACPS asked sites to specify the most common language other than English spoken by patients seeking care at that facility, as well as to provide an assessment of the frequency with which patients preferred to speak a language other than English. In all of the Bronx neighborhoods, Spanish is the most common foreign language, although in most cases the reported frequency with which it is used by patients is relatively low (less than 20% of all patients). As might be expected,

Harlem has a much higher rate of foreign language usage, given its large Dominican population; about 10% of the sites there reported that patients used only English, and the majority of sites reported moderate or high levels of foreign language usage by patients seeking care at these sites.

Sites varied widely in how they responded to patients with language interpretation needs. In contrast to the private physicians, a much smaller proportion of clinic-based physicians were able to speak the patient's language (16%). A large portion of the sites in these neighborhoods rely on staff to interpret (38%), while most of the remaining sites (33%) report relying on family members to assist in interpreting for the patient. Very few sites report having no interpretation services available for patients with foreign language needs. (The MMC program requires that health plans provide services in any language spoken as a first language by at least 5% of potential enrollees. A recent US Office of Civil Rights ruling falls just short of explicitly requiring primary care facilities to provide translation services for patients, but it also makes clear that the onus is on facilities to meet language needs.)

CONCLUSION

Despite a substantial policy emphasis on managed care as the preferred model of primary care delivery for Medicaid and other indigent populations, policymakers, researchers, and analysts know relatively little about the primary care delivery system available to these populations. This article seeks to fill in that gap by focusing on primary care in nine underserved low-income neighborhoods in New York City.

There is considerable variation in primary care availability across the nine study neighborhoods. Both the supply of private physicians treating indigent patients and the availability of institutionally based sources of primary care differed widely from neighborhood to neighborhood. In part, this variation is a reflection of the emphasis on hospital-based care that has characterized the New York Medicaid program. Put simply, some low-income neighborhoods have large safety-net facilities and others do not, and the presence of such a facility can make a considerable difference in the availability of primary care. But the picture is much richer than the presence or absence of a large hospital. Many of these neighborhoods are peppered with community health centers, hospital satellite clinics, and other community-based providers, and these are equally important sources of primary care.

Importantly, the availability of primary care physicians in these neighborhoods is driven by the choices of doctors in private practice as to where to practice and the location of sizeable safety-net facilities in these neighborhoods. In turn, both the choices of private physicians and the placement of facilities has been shaped in part by Medicaid and state policies concerning charity care and physician supply. It also appears that in many poor neighborhoods, the absence of primary care doctors in private practice, to a certain extent, is made up by the availability of clinic doctors.

Limitations

This study has focused on the availability of primary care in low-income neighborhoods in New York City. While we have presented a reasonably complete portrait of the supply of primary care, we do not have data on the demand for care, on primary care utilization, or where Medicaid and other indigent patients are seeking care. Nor does this analysis address the relationship between supply, access, and favorable health outcomes, though other studies provide a strong suggestion that there is such a connection.⁸ Clearly, safety-net facilities of several types are crucial

for the provision of primary care in low-income areas. And just as variation is evident in the kinds of primary care sites available to low-income patients, there is likely to be variation in the kind and quality of care delivered across sites. Research has documented significant differences, for example, in the prevalence of ambulatory-care-sensitive conditions in patient populations,⁹ some of which might be connected to variations in the source of primary care.

Finally, this article is a case study of nine low-income neighborhoods in a large urban center. The findings apply to other large cities and to the low-income neighborhoods within them. The pattern of supply of private physicians and safety-net facilities (some combination of a local academic medical center, a collection of community health centers, or large public hospital) is likely to be similar, and the implications that flow from this profile are likely to apply. Some may fault the assessment of availability and access for failing to account for travel, since patients may travel to receive care elsewhere. While this may indeed be true, we assume that the vast majority of residents seek care in their zip code or in one of the contiguous zip codes that compose these neighborhoods. And, even if patients do travel to seek primary care, it is important to consider the options available to patients close to where they live and work, since seeking care nearby is a high priority.

Policy Implications

One of the goals of Medicaid managed care is to transform the primary care delivery system for low-income patients, improving access to basic health care services and enhancing continuity of care and quality of care by giving patients a medical home via a primary care provider. The significant policy question that needs to be addressed is whether the health care delivery system can indeed be transformed. The answer to this question is not simple, particularly given the extensive reliance on large safety-net facilities to provide much of the primary care to Medicaid and indigent patients. Reliance on institutionally based providers of primary care, with their heavy dependence on residents to provide primary care, makes it difficult to offer continuity of care and other components of the managed care model.

Moreover, the supply of primary care in these low-income neighborhoods is limited, and the capacity to increase primary care services is uncertain. While the capacity for primary care appears high among the institutionally based sites, the number of primary care physician FTEs available to these neighborhoods is considerably lower than citywide or borough averages. In short, these low-income neighborhoods suffer from a scarcity of primary care, one that in most cases cannot be overcome by the presence of institutionally based providers. The limited supply of physicians and other primary care providers constrains the ability to enhance access to care without a significant increase in physician supply. Institutionally based sites of primary care may have more “slack” in their ability to expand primary care availability, but their financial difficulties raise serious questions about whether they are up to the task of increasing supply and enhancing access. As a result, managed care’s promises of greater access and enhanced preventive care are likely to falter.

Despite almost 40 years of policy efforts designed to encourage physicians to practice in underserved areas, the problems of undersupply and access persist. In light of the changed incentives wrought by managed care, policymakers may need to revisit questions of training and recruitment for medical schools and residency programs, as well as financing strategies. Additional research should focus on the sources of the variation in the availability of primary care found here, as well as on ways to address this lack of supply. Future work should also seek to explain

these differences across neighborhoods and to examine the connections between supply and access and the delivery of primary care in terms of quality and patient satisfaction, as well as its impact on patient outcomes.

Finally, this study raises important questions concerning the sources of primary care capacity and the role of government, public policy, and private activity in increasing the supply of primary care in underserved areas. Our findings raise further questions about the relative roles of government and the private sector in providing accessible care. In effect, Medicaid's new emphasis on managed care has ceded a portion of the responsibility for enhancing access and supply to the managed care organizations that agree to participate in Medicaid managed care. It remains to be seen whether either government or managed care plans are up to this challenge.

APPENDIX: STUDY NEIGHBORHOODS AND DEMOGRAPHICS

FIGURE. The nine study neighborhoods encompass 33 zip codes in three boroughs in the city. Populations in these neighborhoods tend to be poor and fare more poorly on most health status indicators. These characteristics in turn shape residents' need for health services and the likelihood that they have health insurance. The nine neighborhoods selected for study also tend to be young and minority, and a high concentration of residents receive Medicaid or public assistance.

TABLE. Characteristics of the nine study neighborhoods

Demographics	Study Neighborhoods	New York City
Race/Ethnicity		
White	4.70%	43.40%
Black	57.90%	25.60%
Hispanic	35.10%	23.70%
Per capita income	\$8,502	\$16,281
% Below poverty	33.30%	18.90%
% Receiving public assistance	20.00%	11.30%
% Medicaid	34.90%	22.00%
Infant mortality rate (per 1000)	10	7.1
Late or no prenatal care	9.00%	6.70%

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