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Use of Hospital-Based Ambulatory Care in New York City's Health Manpower Shortage Areas

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Synopsis

The development of a comprehensive data base for hospital-based ambulatory care has made possible the accurate determination of each community's use of hospitals in New York City and permits a reliable estimation of all ambulatory care received by residents of Health Manpower Shortage Areas (HMSAs). In spite of the city's abundant supply of private practitioners and widespread Medicaid coverage, residents of HMSAs in New York City are heavily dependent on hospital-based ambulatory care. Contrary to commonly held notions, however, HMSA residents do not appear to overuse hospital-based ambulatory care. Rather, that use appears to be quite modest, given their poorer health status.

THE FEDERAL GOVERNMENT'S purpose in designating Health Manpower Shortage Areas (HMSAs) was to identify those areas where, for a variety of reasons, the services of primary care physicians were not easily accessible. Designated shortage areas were the beneficiaries of special programs to improve access to care, such as the National Health Service Corps. Because these programs are being cut or eliminated from the Federal budget, it seems appropriate to take a closer look at the health services utilization patterns of residents of HMSAs.

Areas are designated as HMSAs on the basis of a number of indicators: a low physician-to-population ratio, inadequate access to primary care, unusually high community needs for health care, and relatively large proportions of the community below the poverty level. One specific indicator used for the designation of HMSAs is excessive use of emergency room facilities for primary care. It can also be argued more generally that a community's dependence on hospital-based ambulatory services reflects a dearth of accessible primary care from private physicians.

Measuring a community's dependence on hospital clinics and emergency rooms has been difficult because community residents may seek care at many different hospitals within the local area and elsewhere. Estimates of dependence on hospitals for care, therefore, often have been based on the heavy patient volume and crowded conditions in local hospitals, without reference to actual patterns of use among all community residents. Recently, however, the development of a comprehensive data base on hospital-based ambulatory care in New York City by the United Hospital Fund's Patient Origin Information System (POIS) makes possible accurate determination of each community's use of all hospitals in New York City and consequently permits more reliable estimation of all the hospital care received by HMSA residents. Such estimates can be used to answer a critical question: To what

extent do residents of HMSAs rely more heavily on hospital-based ambulatory care than does the general population?

Background and Methods

The principal source of data for this study is the ambulatory care POIS, which was launched by the United Hospital Fund in 1981 to provide accurate and complete information on the residence of patients served by New York City hospitals as well as hospital utilization rates and patterns for each community in the city. With the voluntary participation of all private and public general care hospitals in the city, POIS assembled a concise data set on approximately 25 million visits spanning 1981 through 1984. Among the data elements collected for each visit were the zip code of the patient's residence, the patient's age and sex, type of service, expected primary source of payment, and diagnosis.

Because every hospital's participation was essential for the success of the project, and because participation was voluntary, POIS was developed to accommodate the reporting practices of individual hospitals by translating, combining, and assembling disparate data into standard formats and categories. The resulting ambulatory care data base reflects every visit to all of the general care hospitals in the city. By organizing the information according to the zip code of the patient's residence, the data provide a comprehensive profile of the utilization of hospital-based ambulatory care for each community. Furthermore, the organization of the data in this manner permits the linkage of POIS utilization data with information from other sources on the demographic, socioeconomic, and health characteristics of the residents of the community.

The data we present in this study were for the second quarter of 1983, adjusted to reflect the use of hospital-based ambulatory care for a full year. A companion data base—the inpatient component of POIS—provides similar data on inpatient hospital utilization in New York City for 1982 and is based on the Statewide Planning and Research Cooperative System (SPARCS), a State-mandated program. The population and income data for individual zip code areas came from the 1980 Census of Population, Summary Tape File 3, obtained from the National Planning Data Corporation. Demographic data, other than income, are as of April 1, 1980; income figures are for 1979.

Because vital and health statistics data were not available for individual zip code areas, 1984 data maintained by the New York City Department of Health for five health center districts were also used in this study. These health center districts were selected because they roughly encompass the HMSAs.

Findings

In 1983, 32 communities defined in terms of census tracts in New York City were designated by the Federal Government as Health Manpower Shortage Areas. These communities are considered to have an inadequate number of physicians, or unusually high needs for health care, or both. In this study, available data on these areas were analyzed with the use of zip code areas as the unit of analysis. The boundaries of the designated HMSA communities are not necessarily coterminous with zip code area boundaries—a condition that creates an analytic challenge in trying to link zip code-based data on use. In some cases, only a portion of the zip code area is a HMSA, and in other areas, such as South Bronx and Rockaway, Queens, entire zip code areas are HMSAs. For the purpose of this analysis, therefore, zip code areas that had at least 50 percent of their area located within a designated HMSA were categorized as HMSA zip code areas. With the use of this definition, 63 zip codes in New York City were categorized as HMSA zip code areas; 102 zip codes were categorized as non-HMSAs.

The POIS demonstrates unambiguously that HMSA residents depend on hospitals to a greater extent than other New Yorkers. In 1983 HMSA residents made more than 1,300 visits per 1,000 population to hospital-based outpatient clinics, compared with 616 visits per 1,000 population for residents of other areas (table 1). Although the difference in the rates of utilization of emergency rooms is not so great, it is substantial—445 visits compared with 291 visits per 1,000 population.

Data on insurance coverage also reveal sharp contrasts between areas. Among outpatient clinic visits, almost 49 percent of visits by HMSA residents were covered by Medicaid compared with 36 percent of visits by other city residents. Similarly, more than 35 percent of visits to the emergency room by HMSA residents were covered by Medicaid compared with approximately half that proportion of visits by other patients. Particularly striking is the fact that approximately three-quarters of all visits by HMSA residents to outpatient departments (OPDs) and emergency

Table 1. Use of hospital-based ambulatory care by and characteristics of residents in New York City's Health Manpower Shortage Areas (HMSAs) and non-HMSAs, April-June 1983[1]

Residents' characteristics and use of hospitals for ambulatory care	HMSA zip code areas	Non-HMSA zip code areas
Number of zip code areas	63	102
Household income	$13,896	$18,218
Outpatient clinic visits per 1,000 population	1,326.7	616.2
Emergency room visits per 1,000 population	445.2	290.6
Outpatient clinic visits:		
Percent covered by Medicaid	48.5	36.0
Percent self-pay	27.8	32.0
Emergency room visits:		
Percent covered by Medicaid	35.2	18.0
Percent self-pay	37.9	35.0
Inpatient discharges per 1,000 population, 1983	168.0	141.5

[1]Visit data have been adjusted to reflect annual rates of utilization.

Table 2. Visits for hospital-based ambulatory care by residents of New York City's Health Manpower Shortage Areas (HMSAs), April-June 1983

Kind of hospital	Clinic	Emergency room	Total of all visits for ambulatory care
	Ambulatory visits of HMSA residents (percent)		
Total	100.0	100.0	100.0
Municipal	48.9	38.2	46.2
Voluntary	50.6	59.6	52.8
State and proprietary	0.5	2.2	1.0
	HMSA residents' share of ambulatory visits to hospitals (percent)		
Municipal	57.7	32.5	...
Voluntary	51.5	61.4	...
State and proprietary	38.7	6.1	...

rooms were covered by Medicaid or were for patients without insurance. In contrast, only 68 percent of OPD visits and 53 percent of emergency room visits in non-HMSA zip code areas were for the Medicaid-covered patients and the uninsured (table 1).

The burden of providing care to HMSA residents is shared by the voluntary hospitals and the municipal hospital system. The 58 voluntary hospitals in New York City provided one-half of the clinic visits and almost 60 percent of the emergency room visits. The municipal hospital system, which consisted of 12 hospitals and 3 large freestanding Neighborhood Family Care Centers, provided 49 percent of the clinic visits and 38 percent of the emergency room visits. HMSA residents accounted for more than half of all clinic visits in both the municipal and voluntary hospitals. They also made more than 61 percent of the emergency room visits in voluntary hospitals and 33 percent of the visits in municipal hospitals (table 2).

Average household income in the HMSA was significantly lower than the city average—$13,896 versus $18,218. The HMSA areas also exhibited differences in selected death rates. Death rates from drug dependence and homicide, which are measures of social disruption in the community, far exceeded the citywide rates of 7.4 and 22.9 per 100,000 population. In Central Harlem, for example, the rate of drug-related deaths was 43.4 and the homicide death rate was 68.9. Similarly, these communities had higher rates of infant mortality and a higher percentage of births with late or no prenatal care (table 3).

Discussion

The extensive use of hospital-based clinics by residents in HMSA zip code areas, coupled with the high proportion of visits of the uninsured and those covered by Medicaid, confirms the role of hospitals as important providers of ambulatory care for economically disadvantaged patients. It also suggests that Medicaid coverage alone does not guarantee access to the primary care services of private physicians. Low Medicaid reimbursement fees discourage physicians from serving the Medicaid population in general and undoubtedly contribute to high utilization of hospital-based ambulatory care (*1*). The situation is exacerbated in HMSA areas because they are economically depressed, plagued with social problems, and frequently unsafe (*2*). The reluctance of physicians to practice in these areas forces people to depend on hospitals for care.

Contrary to what might be expected, HMSA residents rely on voluntary hospitals as much as on the municipal hospital system for clinic care. Moreover, voluntary hospitals provide substantially more emergency room care to HMSA residents than the municipal hospitals do. The greater reliance on visits to emergency rooms compared with visits to clinics at voluntary hospitals may be related to less stringent financial screening there for persons without insurance.

Table 3. Selected vital and health statistics for health center districts in Health Manpower Shortage Areas, New York City, 1984

District	Age-adjusted death rate per 1,000 population	Deaths caused by drug dependence per 100,000 population	Homicides per 100,000 population	Infant mortality per 1,000 live births	Percent of births with late or no prenatal care
New York City:	7.0	7.4	22.9	13.6	18.0
Central Harlem	12.2	43.4	68.9	16.0	36.3
East Harlem	7.9	20.8	32.0	10.7	18.8
Morrisania	8.8	11.2	46.9	21.1	40.2
Mott Haven	7.9	16.9	54.8	19.3	50.3
Tremont	8.0	9.8	52.0	13.4	35.0

Although the POIS data paint an accurate picture of hospital-based ambulatory care utilization for HMSA residents, the lack of information about other sources of ambulatory care limits our ability to assess whether HMSA zip code area residents receive adequate medical care. New Yorkers make an average of 7.4 ambulatory care visits per year, according to a recently published study by Louis Harris and Associates (*3*). The study revealed significant variations in utilization, however, for disadvantaged groups. Annual visit rates for persons with incomes below the New York City welfare limits and eligible for Medicaid were 65 percent higher than the citywide average (12.2 visits versus 7.4 visits). The visit rate for those poor, who are nevertheless ineligible for Medicaid because their income slightly exceeded the welfare limits, in contrast, was actually slightly lower than the citywide average (7.2 visits versus 7.4 visits). A previous study of Medicaid recipients in one HMSA area—the South Bronx—found an average visit rate per person of 9.8 visits, which seems to confirm the finding that the Medicaid-eligible poor are heavy users of ambulatory care (*2*). The study also found that Medicaid recipients received about 35 percent of their care at hospital clinics. The balance was provided by other providers such as shared health facilities, commonly known as Medicaid mills. (Those facilities have a minimum of four providers who deliver ambulatory care primarily to Medicaid patients on a for-profit basis.)

The POIS data, however, do appear to dispel the notion that hospital-based ambulatory care is overused by the disadvantaged. The clinic and emergency room utilization rate per person (1.9) in HMSAs is far below the citywide average of 7.4 physician visits per person. Even if hospital-based services represent only one-third of HMSA residents' ambulatory service utilization, the HMSA rate seems relatively low. Given that the health status of the poor is worse than that of the general population, this utilization pattern suggests modest rather than extravagant service use and confirms the apparent shortage of health services in these areas.

The inpatient component of the POIS, which shows that HMSA residents are also more likely to be hospitalized than are other city residents, also suggests the greater need for health services among this population. Whether the higher rate of inpatient utilization reflects greater health risks related to poverty, inadequate availability of ambulatory care, or practice patterns of hospital-based ambulatory care, it clearly implies the need for devoting particular attention to the health care needs of HMSA residents.

Although the increasing supply of physicians nationally appears to be improving access in many previously underserved areas, inner cities are less likely to benefit from these national trends. As programs that place physicians in inner-city communities are eliminated, the burden on city hospitals and concern for the communities they serve can only increase.

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