Professional Standards Review Organization Studies Length of Stay for Cataract Extraction in District of Columbia Hospitals

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THE NATIONAL CAPITAL MEDICAL FOUNDATION (NCMF) is a Professional Standards Review Organization (PSRO) in the District of Columbia. PSROs review all Medicare and Medicaid hospitalizations for appropriateness of the admission and length of stay. The PSROs collect information and submit it quarterly to the Department of Health and Human Services (DHHS). The Department then analyzes and compares the data on a national basis. This comparison provides DHHS with a basis for evaluation of the effectiveness of PSRO review.

In June 1978, DHHS notified the NCMF that the length of stay for several diagnostic categories was longer in the District of Columbia than in other PSRO areas. In response to this notification, the NCMF began an evaluation with a study of the category "diseases of the eye with extraction of lens." This category was selected because it contained the largest number of cases. The NCMF also questioned an apparently higher incidence of cataract extraction.

A committee of ophthalmologists from four of the largest hospitals in the District reviewed the data to determine the reasons for the higher incidence and longer stays for cataract extraction. The committee reviewed the Medicare 20 percent sample file that had been tabulated only through 1976 and based on claims data; the PSRO fiscal year 1978 data that were processed by the Health Standards Quality Bureau (HSQB) of the DHHS Health Care Financing Administration; and the NCMF data base for the period July 1, 1977–June 30, 1979, which included all Medicare and Medicaid discharges. (The NCMF data base was manipulated by use of an interactive system called "AUTO-

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GRP".) Since we cite several periods and sources of data in this paper, some expected differences appear in the data.

Analysis of the data showed a large migration of patients from Maryland and Virginia into the District for specialty procedures such as cataract extraction. Hospitalizations in the District for cataract extraction from June 1977 to July 1978, according to the NCMF's data base for fiscal year 1978, are shown by patients' zip code locations in the following table.

	Single diagnosis		*Multiple diagnoses*	
Patients' zip code location	*Number of cases*	*Percent*	*Number of cases*	*Percent*
District of Columbia ...	394	48	291	48
Maryland and District of Columbia .	108	13	87	14
Maryland	237	29	155	26
Virginia	57	7	47	8
Unknown	17	2	20	3
Total	813	100	603	100

The following data from the Medicare 20 percent sample file, 1976, also show a large migration into the District for cataract extraction.

Beneficiaries' residence	*Percent of patients*
District of Columbia	52
Maryland	24
Northern Virginia	7
Other areas	16

The 47 percent of the patients who came from outside the District not only almost doubled the incidence of cataract extraction in the city but also significantly lowered the incidence of this procedure in the surrounding PSRO areas where they lived. We do not know if the beneficiaries with residences having both District of Columbia and Maryland zip codes were included in the Maryland or in the District group shown in the preceding zip code location table.

Additional information gathered by the HSQB allowed adjustment for migration. Medicare utilization rates for lens extraction adjusted for patient migration from other PSRO areas based on the Medicare 20 percent sample file, 1976, were as follows.

Area	*Discharge rate per 1,000 patients*
District of Columbia unadjusted rate	14.6
District of Columbia adjusted rate	9.5
National rate	9.9

With the adjustment method employed, the number of enrollees at risk in the PSRO area was estimated by allocation of portions of Medicare enrollment from all PSRO areas based on the PSRO contribution to patient load in the given PSRO area. By use of this method, it can be demonstrated that the District of Columbia's rate is below the national average when adjusted for migration.

Other 1976 Medicare data from the HSQB deal with the issue of migration or crossover within a metropolitan area by calculation of a surgical rate for a standard metropolitan statistical area (SMSA). As the following table shows, among the 10 largest SMSAs in the United States, Washington, D.C., had the second lowest surgical rate for cataract extraction in 1976.

SMSA area	*Estimated number of procedures*	*Rate per 1,000 enrollees*
Baltimore	1,280	6.4
Washington, D.C. ...	1,430	8.0
Detroit	3,530	9.9
Philadelphia	4,195	10.1
Chicago	6,255	10.1
New York	11,665	10.3
San Francisco	3,075	10.3
Newark	1,690	11.0
Cleveland	2,295	11.1
Pittsburgh	3,405	11.3

Length of Stay

The following table compares the NCMF's length of stay statistics for lens extraction with the national average from the HSQB.

Area and period	*Total cases*	*Average length of stay (days)*
Washington, D.C.:		
January–June 1977	834	5.4
July–December 1977	754	5.2
January–June 1978	754	5.3
United States:		
January–June 1978	26,005	4.5

To gain an understanding of the longer stays in the District, two paths of investigation were followed: (*a*) the effect of multiple diagnoses—complications—on length of stay and (*b*) the effect of socioeconomic status and urban residence on length of stay. When adjustments were made for multiple diagnoses and urban residence, the length of stay for lens extraction in the District appeared to be comparable to other urban areas.

Specialty health care in the District includes five eye centers and a number of university-affiliated eye facilities, which provide care for patients with complex cases that require prolonged hospitalization. In addition, because of the high percentage of indigent and minority groups in the District, many patients have complex socioeconomic and health problems that lengthen their hospitalization. In the large city hospital that provides care for the indigent in the District, the length of stay

was twice that of the city average in 1978 (10.49 days versus 5.04 days). The District of Columbia is a unique PSRO area because it is totally urban. Few PSRO areas have such a density of city population and its associated health problems and concentration of health services.

Length of stay can be compared favorably by use of the SMSA factor, which controls the urban and suburban mix so that areas of similar nature can be compared. In the following table, created from the 1976 Medicare data base, the SMSA length of stay was calculated by computing the length of stay for all Medicare residents in the SMSA with an admission for lens extraction.

SMSA area	*Days of care per 1,000 enrollees*	*Average length of stay*
San Francisco	44.2	4.3
Pittsburgh	55.8	4.9
Washington, D.C.	44.8	5.6
Philadelphia	57.4	5.7
Cleveland	69.3	6.2
Chicago	64.8	6.4
Detroit	65.0	6.5
Newark	71.0	6.5
New York	72.9	7.1
Baltimore	53.4	8.4

The following data, from the NCMF for fiscal year 1978, show how length of stay is affected by multiple diagnoses, which indicate complex cases. In the opinion of the NCMF staff, the median length of stay for a single diagnosis, single procedure, of 5 days is probably the most accurate length of stay measure because it excludes the long stays associated with complex cases.

Length of stay	*Single diagnosis*	*Multiple diagnoses*	*Single and multiple diagnoses*
Average	5.04	7.56	6.1
Average, preoperative	1.24	2.02	1.7
Median	5	5	5
Median, preoperative	1	1	1

NCMF data for fiscal year 1978 on the average length of stay of District and non-District residents for cataract extraction show a shorter stay for nonresidents hospitalized in the District. This difference may be explained by the presumed poorer health status of District residents. The average length of stay according to patients' zip codes was District of Columbia, 5.49 days; border areas, 4.80 days; Maryland, 4.40 days; and Virginia, 4.91 days.

In December 1978, the NCMF sent length of stay profiles to all hospitals and physicians performing cataract extraction in the District. These profiles compared the length of stay for this procedure in the District with the length of stay in other PSRO areas. This mailing seemed to have a positive effect because the following NCMF data for 1977–79 show a marked drop in the average length of stay as well as the average preoperative stay in 1979 for Medicare and Medicaid patients with a single diagnosis of cataract.

Period	*Number of patients*	*Average length of stay*	*Average preoperative stay*
July 1977–June 1978	813	5.04	1.24
April 1979–June 1979	257	4.47	1.04

Discussion

The issue of migration or crossover is central to understanding the significant differences between urban PSRO areas such as the District of Columbia and the other PSRO areas that make up the national average. PSROs in large cities cannot be compared with the "average" PSRO.

With respect to the status of the National Capital Medical Foundation, we have documented favorable performance data when compared to adjusted data and to data from similar standard metropolitan statistical areas. We recognize that certain areas require improvement. In an effort to contain length of stay for cataract extraction, the following actions have been taken by the NCMF:

- distributing length of stay profiles for cataract extraction to physicians and hospitals,
- encouraging physicians to do prehospitalization workups,
- encouraging physicians to perform short-stay cataract extractions, and
- encouraging physicians to plan time of discharge, when indicated.

The results of this study indicate that PSROs and similar organizations need to exercise caution when using non-analyzed data to set program objectives (*1,2*). We have gained a better understanding of the variables involved in patient migration and the unique status of the metropolis as a reservoir of complex medical care.

References

1. Health Care Financing Administration: Information to assist in objective setting. PSRO Transmittal No. 83. Health Standards and Quality Bureau, Office of Professional Standards Review Organization, Baltimore, Md., Oct. 19, 1978, p. 8.
2. Health Care Financing Administration: Information on surgical procedure rates. General Memorandum No. 9–79. Health Standards and Quality Bureau, Office of Professional Standards Review Organization, Baltimore, Md., Mar. 26, 1979.