

# The Hospital and Medical Practice: A Study of Physician Staff Appointments Among Specialists and Generalists

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*The names, specialties, and appointment status of physicians with privileges in 161 North Carolina hospitals were obtained and compared to the file of licensed, active, patient-care physicians practicing in the State for the year 1978. The listings were examined to determine the number of physicians without a hospital privilege by age, race, sex, specialty, and geographic location. Overall, only 11 percent of all active physicians did not have some form of hospital appointment. Among family and general practitioners, 29 percent had either a restricted hospital privilege or no hospital appointment at all. A greater number of nonwhite and female physicians were also without privileges. These data have implications for the training of physicians in a system that emphasizes hospital care and includes inpatient treatment within the purview of primary care.*

The relationship between the physician and the hospital constitutes one of the most important linkages in the American health care system. Hospitals function as the principal work place for many physicians and the physician, in turn, acts as the driving force for the services provided by the hospital. The hospital has also become the primary location of physician training and clinical and technical innovations in medicine. Within the hospital, practitioners have an opportunity to interact, transmit new knowledge and techniques, and compare their skills with

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those of their peers. The hospital acts in this sense as a passive promoter of quality of care. Hospitals have also become the locus of more formal quality assurance processes through utilization review committees and PSRO groups.

The hospital is well-known as the preferred location for the delivery of tertiary and secondary medical services, but its role as the setting for primary care has recently been stressed [1] and access to the hospital for the primary care provider emphasized [2].

Economically, the hospital has become very important to physicians and the current practice of medicine. Physicians, on the average, spend 30 percent of their patient care time on hospital rounds and 26.6 percent of patient visits are made in the hospital [3]. Hospital use has been positively related to primary care physicians' incomes [4] and hospital proximity to rural primary care practices associated with the financial success of these practices [5].

The physician-hospital relationship has evolved from an arrangement in which any physician could practice in almost any hospital at any time to the current system of fixed medical staffs of practitioners granted privileges to admit and treat patients according to their skills, training, and experience. Hospital staffs have further organized to grant practice privileges at various, specified levels described as "active," "associate," and "courtesy" privileges. The development of these patterns of medical staff organization have been reviewed by Roemer and Friedman [6].

Research into the actual use of hospitals by physicians began as early as 1924 with studies focusing on hospitals in New York City [7]. That study was periodically updated [8,9] until 1974 with the report of Johnson, Rosenfeld, and Fernow [10]. The latter report indicated that 85.3 percent of all physicians maintained some hospital practice and that appointment to hospital privilege status was influenced by a practitioner's age, specialty, and location of medical school. Generalists, the youngest, the oldest, and foreign-trained physicians were less likely to hold appointments.

Many would maintain that access to a well-equipped general hospital is important to all physicians, especially primary care physicians, in order to ensure continuity and quality of care [2,11]. But in the United States, we have a "hospital based system of medical care that differs in important ways from those of other countries where primary care has developed quite apart from the hospital [12]."

The present and future role of the family physician in hospitals has been the focus of recent attention and some controversy. Geyman [13], Clinton et al. [14], and Sundwall and Hansen [15] have described the availability of hospital staff appointments for family practitioners noting a significant difference in the ability of family practitioners to obtain

privileges across geographic regions of the United States. Slabaugh et al. [16] and Maguire and Cook [17] have reported on the specific characteristics of the hospital practices of two family physician groups.

A concern voiced in the works by Geyman and Sundwall and Hansen was the potential exclusion of primary care practitioners from hospital practice. This was prompted, in part, by the opposition of certain specialty groups to the extension of specialty privileges to family practitioners [18,19]. The present and future status of primary care physicians and their relationship to hospitals, and the specialty services of hospitals in particular, remains an issue in the United States.

## HOSPITAL-BASED PHYSICIANS IN NORTH CAROLINA

The relationship of North Carolina physicians to the State's 161 hospitals is not well understood. The data from the studies of hospital appointments in New York City may not hold for North Carolina since North Carolina is geographically so much larger and the factors of distance between, and size of hospitals must be taken into consideration. In order to begin to understand how physicians in North Carolina relate to the hospitals, the Health Services Research Center of the University of North Carolina at Chapel Hill began work on an analysis of the staffs of all hospitals and of a roster of all licensed physicians in North Carolina. Beginning in August of 1978, lists of all physicians with hospital privileges were collected from all North Carolina hospitals excluding federal facilities. This was completed in August 1979 with the cooperation of the Division of Facility Services of the North Carolina Department of Human Resources.

The lists represented active physicians who held appointments during the last five months of 1978. Each hospital was also asked to provide a copy of its bylaws and staff regulations.

A comparison was made between the hospital lists and the listings of all physicians licensed in North Carolina as of October 1978. The staff privilege of each physician was noted on the licensure list along with the hospital in which the physician had privileges. This material was placed on computer file and merged with the entire physician licensure file which contained information on each physician's age, sex, race, medical school, activity status, county of practice, address, practice type, principal setting of practice, and percent distribution of time in patient care, research, administration and teaching.

In addition, selected data from the UNC Health Services Research Center's Hospital File were merged with the physician data to form a comprehensive study tape. Hospital information included: type of hos-

pital, number of beds, number of selected specialty beds, and selected support staff statistics.

A wide range of categories of appointments were indicated on the hospital-supplied lists and in the various bylaws, rules and regulations. Four usual descriptors of hospital appointment status applied—Active, Consulting, Courtesy, and Honorary privileges—but there were 16 other main descriptors used in 30 different combinations. These included the following: Senior, Associate, Full, Provisional, Emergency Room, Unlimited, Limited, Faculty, Educational, Restricted, Unrestricted, *Locum Tenens*, Visiting, Attending, Special, and Admitting. These terms were used in various combinations indicating levels of privilege or the tenure of the physician. All physicians in medical residency positions were excluded from the study.

To code the physicians' privileges the four most common terms were used: (1) *Active Appointment*: where the bylaws or listing indicated full privileges for a physician, that is, admitting and responsibility of care for staff cases, whether in one or more than one specialty. (2) *Consulting Appointment*: where privilege within a particular specialty was normally restricted to treatment of an admitting physician's patient upon request. (3) *Courtesy Appointment*: where admitting and treatment privileges were limited in some way (emergency room physicians were included in this group). Limitations on and privileges of Courtesy appointments varied greatly within these 161 hospitals. (4) *Honorary (or Emeritus) Appointments*: where the physician no longer had hospital duties or exercised active privileges.

## STUDY RATIONALE

This work was undertaken to answer several questions about the relationship of North Carolina physicians to hospitals. Specific questions were:

1. What is the percentage of active North Carolina physicians who do not have hospital privileges and how does that compare to other studies of hospital privileges?
2. What is the geographic, sex, specialty, age, and racial distribution of physicians without hospital privileges?
3. How does specialty affect the number and type of hospital appointments?
4. Are there areas in the State that have significantly lower, or higher, than average physician involvement in hospitals as reflected in privilege status?

## RESULTS

In October 1978 there were 6222 licensed North Carolina physicians who indicated an active practice involved in some patient care but did not indicate federal employment.<sup>1</sup> Of this number, 5537 physicians had some level of hospital appointment, leaving a total of 685 (11 percent) who did not have hospital privileges of any kind. This figure compares to 14 percent of all active, private, patient care physicians in Southern New York in 1967 [10]. Comparative data on the national level are more difficult to find. A 1976 study of Medicare Provider of Service (POS) data indicated that 5.1 percent of a national sample of 3462 physicians surveyed had no hospital privilege [20].

The age of the physician seems to be an important factor in the determination of the extent of hospital privileges. The mean age of all physicians studied was 49.2 years (with a standard deviation of 11.9). Among the 705 North Carolina physicians older than 65 years of age, 150 (21.3 percent) had no hospital appointment. Removing those physicians over 65 from the total drops the proportion of physicians without privileges to 9.6 percent (530 of 5517 physicians less than 65 years of age).

There also seems to be a considerable range in the number of hospital appointments per physician. The 5537 total physicians with privileges had a total of 9427 appointments at the 161 hospitals in North Carolina, an average of 1.7 appointments per physician. The number of appointments ranged from one to seven, with over half (55.1 percent) of the appointed physicians having a single appointment (3053 of 5537), 27 percent having two appointments, 12 percent having three, and 6 percent having four or more.

As in the New York study, the proportion of North Carolina physicians without privileges varied widely among practice specialties. As summarized in Table 1, general practitioners had the highest proportion without privileges (24.1 percent), followed by pediatricians (12 percent), and family practitioners (11.5 percent). Obstetrician/gynecologists were least likely to practice without hospital privileges (5.8 percent), followed by medical subspecialists (6.6 percent), and support specialists (7.0 percent). Subspecialty surgeons had the highest average number of appointments per physician, 2.35, followed by medical subspecialists at 2.01 per active, patient care physician. General practitioners had the least number of appointments per physician, 1.22, followed by family practitioners at 1.44 per physician.

Among family and general practitioners there was also a higher proportion with courtesy or limited-privilege appointments. The courtesy appointment status was assigned to physicians with privileges

**Table 1: Total Patient Care Physicians with Number and Percentage of Physicians without Privileges by Specialty, North Carolina, 1978**

<i>Specialty Group</i>	<i>Total Physicians</i>	<i>Physicians Without Privileges</i>		<i>Number of Appointments Per Physician</i>
		<i>N</i>	<i>(%)</i>	
General practice	477	115	(24.1)	1.22
Pediatrics	499	60	(12.0)	1.55
Family practice	692	80	(11.6)	1.44
General internal medicine	959	88	( 9.2)	1.64
General surgery	507	44	( 8.7)	1.80
Surgical specialties	588	45	( 7.6)	2.35
Support specialties*	717	50	( 7.0)	1.61
Medical sub-specialties	695	46	( 6.6)	2.01
Obstetrics/Gynecology	501	29	( 5.8)	1.82
All other specialties†	438	113	(20.5)	1.54
Practice specialty unknown	36	15	(41.7)	.30
<i>Total</i>	<i>6222</i>	<i>685</i>	<i>(11.0)</i>	<i>1.70</i>

\*Anesthesiology, radiology, pathology

†Includes psychiatry

limiting the ability to admit or treat patients, for example, "emergency room only" physicians. Of the 974 family and general practitioners with privileges, 113 (11.6 percent) had only courtesy status. No other specialty groups exceeded 3.6 percent courtesy status except psychiatrists at 5.1 percent.

Seventy-three physicians held some form of honorary appointment; for 31 this was their only privilege status. There were 101 physicians, distributed evenly among all specialties, who had only a consulting appointment. Of all physicians with some level of privilege, 5083 of 5537 (91.8 percent) held at least one active or full-status appointment.

In comparisons of appointed versus nonappointed physicians by race and sex, as shown in Table 2, it was found that there was a higher percentage of black physicians without privileges (16.8 percent) than white physicians (10.9 percent). Women physicians were more likely than men (24.7 percent vs. 10.3 percent, respectively) to practice without hospital privileges.

The higher number of blacks and women without privileges may be due to their respective specialty distributions. For example, of all physicians studied, 18.7 percent are in general or family practice. Among blacks, 24.8 percent are in either of these two specialties. The medical specialties within which women are more likely to practice are pediatrics, psychiatry, and radiology. The proportion of practitioners in these

Table 2: Physicians With and Without Privileges by Race, Sex, and Age—North Carolina, 1978

	<i>All Physicians</i>			
	<i>With Privileges</i>		<i>Without Privileges</i>	
	<i>Number</i>	<i>(%)</i>	<i>Number</i>	<i>(%)</i>
Total	5537	(89.0)	685	(11.0)
	<i>Race</i>			
White	5085	(89.2)	615	(10.8)
Black	134	(82.2)	27	(16.8)
American Indian	3	(75.0)	1	(25.0)
Oriental	183	(87.1)	27	(12.9)
Other	17	(81.0)	4	(19.0)
Race not indicated	115	(91.3)	11	( 8.7)
	<i>Sex</i>			
Male	5175	(89.7)	597	(10.3)
Female	249	(65.3)	82	(24.7)
Sex not indicated	113	(95.0)	6	( 5.0)
	<i>Age Groups</i>			
< 35	831	(83.3)	167	(16.7)
36-45	1748	(92.0)	153	( 8.0)
46-55	1421	(93.0)	106	( 7.0)
56-65	1049	(90.0)	117	(10.0)
> 65	488	(77.5)	142	(22.5)

specialties without privileges varies, yet a much greater proportion of women than men practicing in these specialites do not have hospital privileges (26.9 percent for women vs. 10.3 percent for men).

When physicians were grouped by age, the youngest and oldest groups tended to have higher percentages without privileges. This pattern closely follows results from earlier studies and reflects the relationship of the hospital to physicans' career patterns [8,9,10].

There is a greater percentage of physicians over 65 among blacks (20.3 percent), than among whites (12.1 percent). However, when that age group is removed from the overall percentage of physicians without privileges, the proportion without privileges for blacks drops minimally, from 16.8 percent to 16.3 percent.

Distance to the nearest hospital also affects the tendency of physicians to have privileges. Seventeen of North Carolina's 100 counties are without a hospital; of the 64 active, patient care physicians practicing in counties without hospitals in 1978, only 28 (44 percent) had either an active or consulting hospital appointment; 8 (12.5 percent) had a courtesy or limited appointment; and 24 (37.5 percent) had no appointment at all.

To further explore the effect of geography on the likelihood of a physician practicing without hospital privileges, North Carolina's 100 counties were divided into five groups indicating the degree of isolation from medical resources. The five categories were based on the hospital bed/population ratio and the primary care physician/population ratio for each county. Counties with no hospital and a primary care physician/population ratio of greater than 1:2000 were ranked most isolated; counties with more than 400 hospital beds and a primary care physician/population ratio of less than 1:1000 were ranked as least isolated. The three intermediate steps were based on a weighted combination of the total hospital beds in the county and the primary care physician/population ratio. Nine counties fell in the "most isolated" category and eight in the "least isolated" category. Forty-four counties placed in the middle category. The remaining counties were fairly evenly distributed in the two remaining categories. For the five county groups, the relative percentages of physicians without privileges are displayed in Table 3.

It appears that counties in the intermediate ranges of medical isolation have the higher proportions of physicians who practice without hospital privileges. The counties in the two extreme categories of medical isolation seem to have similarly low proportions of nonappointed physicians. Seven of the nine "most isolated" counties have no hospital. In these communities, those physicians in practice are likely to have very few physician colleagues. If there is a hospital in one of these small, isolated counties, all physicians are likely to have some role in hospital care. Family and general practitioners make up a much greater proportion of the total number of physicians practicing in the more isolated counties. At the same time, the percentage of family and general practitioners without privileges is highest in these same counties.

The specialty distribution of active appointments varies with hospital size. As shown in Figure 1, among seven major specialty groups in hospitals of all sizes, surgeons make up the largest percentage of hospital staff appointments. Medical subspecialties, obstetrician/gynecologists, general internists, and pediatricians make up significantly larger percentages of the active staffs as hospitals increase in size. And, family and general practitioners account for a much smaller percentage of staff memberships in the larger hospitals than in the smaller ones.

## DISCUSSION

The fact that comparatively higher numbers of pediatricians and general and family practitioners do not have hospital privileges has important



Table 3: Physicians With and Without Privileges by County Medical Isolation Group, North Carolina, 1978

County Group	A		B		C		D		E	
	Number of Counties per Group	Total Physicians in County Group	Physicians without Privileges N (%)	Total FP/GP Physicians N (%)*	Physicians without Privileges N (%)	Total FP/GP Physicians N (%)**				
Most isolated	9	81	8 (9.87)	23 (28.4)	5 (62.5)					
II	16	141	24 (17.02)	70 (49.6)	11 (45.8)					
III	44	1478	220 (12.59)	535 (36.2)	92 (41.8)					
IV	22	1033	113 (10.94)	256 (24.8)	41 (36.3)					
Least isolated	8	3219	320 (9.94)	285 (8.8)	46 (14.4)					
<b>TOTAL</b>	<b>100</b>	<b>6222</b>	<b>685 (11.00)</b>	<b>1169 (18.8)</b>	<b>195 (28.5)</b>					

\*Percent of all physicians in county in family or general practice

\*\*E% =  $\frac{E}{C}$

**Figure 1: Distribution of Active Hospital Appointments among Specialty Groups by Hospital Size, North Carolina General Hospitals, 1978**

<i>Other</i> 21.6%	<i>Other</i> 21.4%	<i>Other</i> 17.0%	<i>Other</i> 15.3%	<i>Other</i> 17.9%
<i>Surgery</i> 24.7%	<i>Surgery</i> 23.1%	<i>Surgery</i> 20.4%	<i>Surgery</i> 22.7%	<i>Surgery</i> 21.3%
<i>Medical Specialties</i> 10.3%	<i>Medical Specialties</i> 9.0%	<i>Medical Specialties</i> 11.6%	<i>Medical Specialties</i> 15.0%	<i>Medical Specialties</i> 15.7%
<i>OB/GYN</i> 10.9%	<i>OB/GYN</i> 6.6%	<i>OB/GYN</i> 8.2%	<i>OB/GYN</i> 10.6%	<i>OB/GYN</i> 11.0%
<i>Pediatrics</i> 2.3%	<i>Pediatrics</i> 5.2%	<i>Pediatrics</i> 5.5%	<i>Pediatrics</i> 7.6%	<i>Pediatrics</i> 9.1%
<i>Internal Medicine</i> 10.9%	<i>Internal Medicine</i> 11.3%	<i>Internal Medicine</i> 12.5%	<i>Internal Medicine</i> 16.0%	<i>Internal Medicine</i> 17.6%
<i>FP/GP</i> 19.3%	<i>FP/GP</i> 23.4%	<i>FP/GP</i> 24.8%	<i>FP/GP</i> 12.8%	<i>FP/GP</i> 7.4%
< 50 BEDS (n=22)	50-100 BEDS (n=40)	100-200 BEDS (n=34)	200-400 BEDS (n=21)	>400 BEDS (n=14)
Hospital Size Categories				

implications for the quality, continuity, and comprehensiveness of care these primary care physicians are able to provide their patients. Clinton et al. [15] and Warburton et al. [21] have shown that, where privilege applications were made, full hospital privileges of a significant number of family physicians have been denied upon review of their credentials by hospital medical staffs. The recent increase in emphasis of hospital patient care in family practice graduate training programs runs counter to the reported experiences of family physicians in seeking hospital privileges. The failure of a significant number of primary care practitioners to gain access to full hospital privileges is a real barrier to implementing a comprehensive system of primary care. Lack of hospital privileges may also tend to isolate a physician professionally—from continuing education opportunities, from the peer support and pressure of his/her colleagues, and from the economic benefits accruing from use of the hospital in practice.

Much more needs to be known about the factors that inhibit privileges for office-based, patient care physicians. Attention should be paid to hospital characteristics as well as physician characteristics. The data presented here indicate that the age, sex, race, practice location, and medical specialty of physicians are related to the type of hospital privilege physicians may have. There are possibly a great number of social, political and economic reasons why a hospital medical staff may restrict or limit the extension of privileges; and the size and location of the hospital can influence the interplay of these factors.

In North Carolina, over half of all the 161 hospitals have less than 100 beds, 31 have less than 50 and these are distributed widely throughout the State providing the only real access for many physicians and patients to hospital facilities. How these hospitals inhibit or encourage primary care and specialty physicians in obtaining privileges should be examined closely to better understand the hospital's role in promoting greater access to care in underserved areas. The ability of small, rural hospitals to attract and retain active staff is very important to the survival of these hospitals.

In the United States the division of labor between practitioners of primary care and in-hospital secondary and tertiary care physicians is less clear than in the United Kingdom, Denmark and other Western nations; the full integration of these levels of care has not occurred in American hospitals. The fact that a significant proportion of primary care physicians with active patient care practices do not have regular access to hospital beds and facilities indicates that there are substantial numbers of primary care physicians who, by virtue of their isolation from the hospital as a practice arena, are, for all practical purposes, carrying out a mode of practice even more distinct from specialty levels of care than an American comparison with other countries would suggest.

Further research should identify the primary care physicians who do not have hospital privileges to determine whether they have actively sought hospital appointments, whether they feel that treating patients in hospitals is important to the good practice of primary care medicine, and whether they feel that they have (and are motivated to pursue) opportunities to continue their medical education without an active participation in the hospital environment.

## NOTES

1. Physicians were included in this number if any of the activity, patient care, or employment data were missing on their record and all other conditions applied.

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