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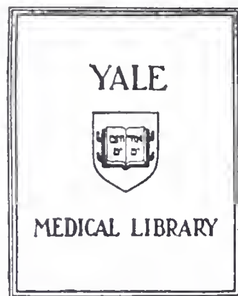
TOWARD PUBLIC POLICY INFLUENCING THE GEOGRAPHIC DISTRIBUTION OF PHYSICIANS: THE CASE OF THE NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM

VALERIE E. STONE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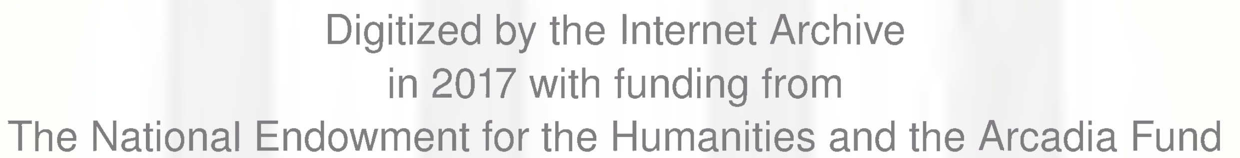
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TOWARD PUBLIC POLICY INFLUENCING
THE GEOGRAPHIC DISTRIBUTION OF PHYSICIANS:
THE CASE OF THE
NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM

A Thesis Submitted to the

Yale University School of Medicine

in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Medicine

by

Valerie Ellen Stone

1984

Federal and state governments as well as local and private entities have utilized a variety of strategies to promote an equitable geographic distribution of physicians in the U.S. In recent years, the National Health Service Corps (NHSC) Scholarship Program has been among the largest Federal programs for this purpose. The historical development of the NHSC Scholarship Program is traced, with special attention to the political forces, budgetary forces, and administrative constructs that have molded it into its present form. Accomplishments are reviewed and found to be limited to date in areas of stated objectives. The appropriateness of NHSC Scholarship Program structure for accomplishing stated objectives is questioned. The need for quantifiable data to facilitate future program evaluation and reassessment is emphasized.

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ACKNOWLEDGEMENTS

I am particularly indebted to the many individuals associated with the National Health Service Corps Scholarship Program (through current and previous posts) who took time out of their busy schedule to meet with me and reflect on the evolution and current status of the NHSC Scholarship Program. Their knowledge, insights, and memories, much more than any published materials now available, have formed the basis for the history contained in this thesis. I would like specifically to thank:

Dr. Robert Graham, Administrator, Health Resources and Services Administration

Dr. David Kindig, Vice Chancellor, University of Wisconsin Health Sciences Center

Dr. Edward Martin, Administrator, Bureau Health Care Delivery and Assistance

Dr. Fitzhugh Mullan, Research Fellow, National Institutes of Mental Health

Paul Wright, Executive Director, American Medical Student Association and Foundation

Carol Zuckert, Office of the Assistant Secretary of Health (DHHS)

In addition many other very special people within the AMSA Foundation and the NHSC have helped me find all the needed facts and figures and to gave me needed perspective about the scholarship program and this thesis. They are Barbara Boardman, Vic Cocowitch, Kevin Fickensher, M.D., Martha File, Maxine Foster, Rae Loen, Roberto Montoya, M.D., Stephan

Newman, M.D., Nancy Pacquin, Ph.D., Mike Samuels, M.D., and Gary Wold.

The completion of this thesis marks for me the culmination of the two most powerful experiences in my life--my involvement in the American Medical Student Association and my studies at the Yale University School of Medicine. The special characteristics of the Yale System of medical education allows for a unique emphasis on personal growth and development in a nurturing environment throughout the transition from student to physician. The American Medical Student Association also facilitates the growth and development of physicians-in-training in ways that transcend traditional medical education to encompass a concern for the social, political, personal and ethical dynamics of medical care. I have been incredibly fortunate to have received my "medical education" in these two uniquely supportive and eclectic environments. AMSA and Yale Medical School have my heartfelt gratitude for five very special years.

Several concluding notes of personal thanks:

I would like to thank two very special friends and colleagues--Patrick Romano and Paul Wright. No amount of recognition could accurately reflect the undying support, encouragement, patience, constructive criticism and guidance (both solicited and unsolicited) I received from these two wonderful individuals throughout this entire project and the past year.

Dr. Arthur Viseltear, Associate Professor of the History of Medicine, my thesis advisor, has been a great help and source of confidence in the preparation of this paper because of his patience, understanding (of my "other role" as AMSA president this year) and willingness to supervise this process from 300 miles away.

I would just express my final words of appreciation to may parents, Elberta Stone and Richard Stone, for all that they have given me--both tangible and intangible--that has enabled me to reach this day with joy and much hope for the future.

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PREFACE

Since the passage of the Health Professions Educational Assistance Act in 1963 (PL 88-129), the U.S. Federal government has been in the business of enacting legislation to redress perceived problems in the area of health manpower. The nature of these perceived problems has changed over time, as has the nature of the legislative interventions.

Through most of the 1970's, there existed a clear consensus among policy-makers that there was marked geographic maldistribution of the existing physician manpower in this country. Even to the current time, there remains widespread agreement that geographic distribution of physicians remains a problem, although the extent of the continuing problem is now an area of active discussion and research.

A number of strategies have been developed in an effort to effect a more equitable distribution of physician resources. These have varied from state or local government-based efforts, to private sector entrepreneurial approaches, to the more well-known Federal initiatives.

One of the most expensive and probably most well-known efforts to alleviate the geographic maldistribution of health manpower is the National Health Service Corps Scholarship Program, which was begun in 1972 as a source of obligated physicians for the faltering National Health Service Corps. To date, this program has spent $447.0 million Federal dollars and has obligated 11,800 physicians-in-training to serve in "Health Manpower Shortage Areas" as the Federal government's largest strategy aimed at solving the physician maldistribution problem. Yet, surprisingly little has been written about the program's progress in meeting its objectives through the investment of this money and manpower.

The purpose of this paper is to provide a relatively comprehensive historical overview of the NHSC Scholarship Program that will lend greater insight into the divergent forces that have shaped the program. In addition, the program's accomplishments thus far will be reviewed and discussed. Critical questions regarding continued funding, community and provider satisfaction, Congressional intent and implementation, will be raised and offered for further analysis.

SECTION I

BACKGROUND ON POLICY REGARDING GEOGRAPHIC DISTRIBUTION OF PHYSICIANS

Chapter 1

Recognition of Physician Distribution as a Pressing Public Policy Issue

Among the earliest major U.S. health manpower studies was the 1932 final report of the Committee on the Costs of Medical Care, entitled Medical Care for the American People. This report drew conclusions on the status of health manpower that would not seem out-of-place today, noting the maldistribution of physicians by geographic area and the grave imbalance between primary medical care and more specialized practice.[1,2] However, it was several decades before this issue of a physician geographic maldistribution problem re-emerged as a focus of public attention.

As a result of several subsequent private and government reports,[3,4,5] the adequacy of teh aggregate supply of physicians actually became the prime focus of U.S. health manpower policy. Beginning with the Ewing report[3] in the 1940's, so named for Oscar R. Ewing, Federal Security Administrator under Truman, a number of respected commissions and government agencies began to predict a physician shortage by the 1960's. By the 1960's, the "doctor shortage" had become a matter of public concern[6], and it was not long before the Federal government involved itself with health professions education.[7] The first legislation enacted in direct support of medical education was the Health Professions Educational Assistance Act of 1963 (PL 88-129). To respond to the perceived inadequacy of the aggregate physician supply, this legislation authorized

federal matching grants to construct new medical teaching facilities or to expand existing facilities. The same law also authorized a low interest loan program for medical students. A major expansion of the commitment to increase aggregate health manpower was the Comprehensive Health Manpower Training Act (PL 92-157), enacted in 1971, which was the first attempt at a truly comprehensive approach to health manpower training. A major provision of this legislation was for grants to medical schools that specified payments for each medical student enrolled annually. Bonuses were also to be paid for each graduate from a shortened three-year curriculum. These payments to medical schools became known as "capitation" grants, since they represented a per person allocation to the schools which clearly provided a major incentive for medical school expansion. In addition, PL 92-157 also increased the effective federal share of construction costs for new health professions schools and for new facilities in existing schools that produced a major expansion in training capacity. This law also included some limited incentives for newly licensed physicians to serve in a health manpower shortage area in return for loan forgiveness (these incentives will be discussed in more detail in Chapter 4).

The federal role provided by the Comprehensive Health Manpower Training Act of 1971 and the related legislation that had preceded it eventually led to a dramatic increase in the number of medical schools and the number of graduating physicians. When the first health manpower legislation was enacted in 1963 (PL 88-129), 87 medical schools were graduating some 7,300 physicians yearly. By 1981, the year in which the

capitation grants were finally terminated, the numbers had increased to 126 schools and 15,700 graduates (Table 1). In addition, during these years, the Immigration and Nationality Act allowed alien foreign medical graduates relative ease in entering the United States to practice medicine (until 1976, when restrictions were re-imposed by PL 94-484), which resulted in an even more profound increase in the total number of active physicians in the U.S., as well as an overall increase in the physician-to-population ratio from 126 per 100,000 to 181 per 100,000 persons (Table 2) from 1963 to 1981.

As the 1970's progressed, however, government officials and health policy researchers began to question the need for further expansion of the physician supply.[8] It was becoming increasingly apparent that producing larger numbers of physicians alone did not necessarily improve physician availability and access to medical care in many rural and inner city areas. Many felt that the current physician supply was adequate, yet there remained major physician distribution problems--both geographic maldistribution and a specialty distribution that included far too few primary care physicians. A 1978 Institute of Medicine report, <u>A Manpower Policy for Primary Health Care</u>,[8] corroborated this view--recommending no further expansion of medical schools, but encouraging efforts to ensure that 60-70% of graduating physicians be trained in primary care specialties until a better balance between generalists and specialists was achieved. Moreover, they made strong recommendations regarding geographic incentives including the discontinuation of third party payer differentials by specialty and geographic location within a state.

TABLE 1

Students and Graduates in U.S. Medical Schools

Year	No. of Schools	Total Enrollment	First-Year	Intermediate Years	Graduates
1962-1963	87	31,491	8,642	15,585	7,264
1967-1968	94	34,538	9,479	17,086	7,973
1972-1973	112	47,546	13,726	23,429	10,391
1976-1977	116	58,266	15,667	28,992	13,607
1977-1978	122	60,456	16,134	29,929	14,393
1978-1979	125	62,754	16,620	31,168	14,966
1979-1980	126	64,195	17,014	32,046	15,135
1980-1981	126	65,497	17,204	32,626	15,667
1981-1982	126	66,485	17,320	33,180	15,985
1982-1983	127	66,886	17,230	33,928	15,728

Source: "83rd Annual Report on Medical Education in the U.S., 1982-83," *Journal of the American Medical Association*, 250, September 22-29, 1983, p. 1512.

TABLE 2

TOTAL AND ACTIVE PHYSICIANS (M.D.'S) AND PHYSICIAN-TO-POPULATION RATIOS: DECEMBER 31, SELECTED YEARS 1950-1978, AND ADJUSTED DATA FOR 1975 THROUGH 1980

Year	Number of physicians 1/		Total population (thousands) 2/	Physicians per 100,000 population		Active non-Federal physicians	Civilian population (thousands) 3/	Active non-Federal physicians per 100,000 civilian population
	Total	Active		Total	Active			
1950	219,997	208,997	156,024	141.0	134.0	193,900	153,640	126.2
1955	241,711	228,553	169,959	142.2	134.5	213,000	167,043	127.5
1960	260,484	247,257	184,896	140.9	133.7	230,200	182,351	126.2
1965	292,088	277,575	198,357	147.3	139.9	254,761	195,451	130.3
1970	334,028	310,845	209,096	159.7	148.7	281,344	206,129	136.5
1975	393,742	340,280	217,966	180.6	156.1	312,089	215,828	144.6
1976	409,446	348,443	219,648	186.4	158.6	320,865	217,515	147.5
1977	421,278	363,619	221,419	190.3	164.2	343,693	219,300	156.7
1978	437,486	375,811	223,274	195.9	168.3	355,569	221,275	160.7
1975 4/	393,742	363,290	217,966	180.6	166.7	335,100	215,828	155.3
1976 4/	409,446	377,320	219,648	186.4	171.8	349,740	217,515	160.8
1977 4/	421,278	391,180	221,419	190.3	176.7	371,250	219,300	169.3
1978 4/	437,486	403,820	223,274	195.9	180.9	383,580	221,275	173.3
1979 4,5/	450,800	416,680	225,099	200.3	185.1	396,680	223,012	177.9
1980 4,5/	460,500	429,800	227,911	202.1	188.6	409,460	225,766	181.4

1/ Includes physicians in Federal service; also includes physicians in U.S. Possessions, i.e., Puerto Rico, Virgin Islands, Canal Zone, and Pacific Islands.

2/ Total population includes civilian population in U.S. Possessions.

3/ Includes civilian population in U.S. Possessions.

4/ These numbers of active physicians are adjusted to include about 90 percent of those either with unknown address or not classified as to status or activity by the American Medical Association.

5/ Total and active physician counts for 1979 and 1980 are estimated.

SOURCE: Data for 1950 through 1960 from U.S. Department of Health, Education, and Welfare, National Center for Health Statistics. Health Resources Statistics 1965, PHS Publication No. 1509, 1966.

Data for 1965 through 1978 (unadjusted) from American Medical Association, Center for Health Services Research and Development. Physician Distribution and Medical Licensure in the U.S., 1978. Also prior annual issues.

Adjusted data for 1975 through 1980 from Health Resources Administration, Bureau of Health Professions, Division of Health Professsions Analysis.

U.S. Bureau of the Census. Current Population Report P-25, Nos. 336, 438, 542, 603, and 812.

Source: U.S. Dept. of HHS, Supply and Characteristics of Selected Health Personnel, DHHS Publication No. (HRA) 81-20, (June 1981) p. 22.

Several new directions emerged as perceptions of health manpower needs changed. First, talk began of an impending physician surplus and the need for a reassessment of health professions policy. It actually began to appear that the many years of physician expansionism had produced what Walter McClure describes as a public policy analogue of iatrogenic disease.[9,10] The Graduate Medical Education National Advisory Committee (GMENAC) was formed in 1976 by the Secretary of the Department of Health, Education, and Welfare to "advise the Secretary on the number of physicians required in each specialty to bring supply and requirements into balance, methods to improve the geographic distribution of physicians, and mechanisms to finance graduate medical education."[11] The final report of the Committee issued four years later did indeed project an impending physician surplus of 70,000 by 1990.[12] While many debates ensued regarding the validity and reliability of the GMENAC conclusions, they have nonetheless formed the basis for major reductions in many of the health professions programs.[13] For example, capitation grants to medical schools were terminated after the report's release and the availability of low cost financial aid for medical students became severely limited.

The other new direction that emerged in health manpower policy was increased attention to the issue of physician distribution rather than simply aggregate supply. This concern was reflected in the health professions legislation that was enacted subsequent to the mid-1970's. Testimony that was presented to the U.S. House of Representatives Committee on Interstate and Foreign Commerce (Subcommittee on Health)

in their consideration of the National Health Service Corps Amendments of 1975 is representative of the new considerations that were at the forefront in such deliberations. Evidence was presented that the maldistribution of physicians by regions had actually worsened in the preceding decade (1959-1970), as reflected in Table 3. Regions that were relatively physician-rich in 1959 experienced a greater increase in their physician:population ratios than did the physician-poor regions.[14] The realization that the increasing number of physicians was not solving distribution problems was translated into policy in the form of the Health Professions Educational Assistance Act of 1976 (PL 94-484). While this law contained some of the now-traditional provisions of health professions legislation such as capitation grants, the capitation grants were made contingent upon schools having established percentages of their residency positions in primary care specialties. In addition, special new construction grants were made available to assist in the construction of ambulatory, primary care teaching facilities for the training of primary care physicians. Finally, this law included a major expansion of the National Health Service Corps Scholarship Program as well as several structural changes in the program that were instrumental in transforming it into a much larger program with a much broader mission.

TABLE 3

Population/physician ratios by SMSA and county size, 1950–1978

SMSA or county size classification[a]	Population/physician ratio						
	1950	1960	1970	1972	1974	1976	1978
U.S. total	845	840	728	687	658	617	578
SMSA total	707	721	622	584	558	522	489
> 5,000,000	511	551	458	433	414	395	380
1,000,000–5,000,000	676	680	585	545	521	486	454
500,000–1,000,000	823	803	708	658	620	571	531
50,000–500,000	935	943	835	788	747	694	636
Non-SMSA total	1,412	1,443	1,416	1,378	1,328	1,250	1,165
> 50,000	997	973	850	815	768	711	656
Potential SMSAs[b]	1,240	1,240	1,143	1,098	1,041	983	910
25,000–50,000	1,409	1,448	1,470	1,439	1,398	1,304	1,210
10,000–25,000	1,617	1,765	1,962	1,967	1,933	1,854	1,763
< 10,000	1,802	1,994	2,352	2,333	2,452	2,324	2,260

Source: Department of Health and Human Services, *Area Resource File* (Washington, DC: DHHS, Public Health Service, Bureau of Health Professions, 1981).
[a] Classified on the basis of 1978 population estimates.
[b] Potential SMSAs are counties that do not meet all requirements to be designated SMSAs but are considered "prime candidates to achieve SMSA status in the near future."

Source: Mary A. Fruen and James R. Cartwell, "Geographic Distribution of Physicians: Past Trends and Future Influences," Inquiry, 19 (Spring 1982) p. 46.

Chapter 2

Review of Programmatic Strategies to Influence Physician Location

Access to health services, according to Lewis,[15] implies both ability and opportunity. While the availability of health care providers is important, it is only one factor influencing access. Other equally important components include ability to pay for services, cultural or social factors, and distance from hospitals or other health facilities. But in those "health manpower shortage areas" or "underserved areas" where physicians are truly in short supply, physician availability can and does become the limiting factor in the ability to access health services.

Table 3 provides some relevant data on physician distribution in the United States. While these data do not prove that some areas are adequately served and others are underserved, it does show that there is wide variability in the physician-to-population ratio across the nation. In particular, the smallest counties, those with populations under 10,000, are most likely to have a ratio that reflects much lower physician availability. In addition, the data on these counties show a worsening of this problem in recent years. In 1975, the year that major expansion of the NHSC began, one hundred and seventy-five of these counties (average population of 4,317) had no physician at all. There are data to suggest that these problems of access to physician services are not confined to rural areas, but affect the inner city poor as well, albeit in more subtle ways. The inner city poor are more likely to use a public hospital, emergency room, or outpatient clinic

as their source of regular care than other patients. Furthermore, those on Medicaid are often forced to use low-quality "Medicaid mills" since more than 70% of physicians see few, if any, Medicaid patients in their private practices.[18]

While such data are interesting, they provide little useful information about which communities are actually in need of additional health manpower. For example, perhaps those small communities which are without physicians are adjacent to neighboring counties with physicians who can handle their health care needs. In actuality, most policies to address maldistribution such as the NHSC, as well as more regionally based efforts, were formulated on the basis of anecdotal reports of isolated communities without doctors, communities often so desperate that they resorted to advertising on billboards and in national newspapers to get help.[16] Often, it was not until after the program was developed that any research was done into how such physician-needy areas might be defined or how many of them actually existed. For many years, the effort to define underserved areas was plagued by a lack of available data on health manpower. Often the best available data were at the whole-county level, adding to the difficulty of specifying "communities" that were underserved. Programs that did specify criteria for underserved communities, for the most part, did not in terms of physician-to-population ratios.[17] As we will see in the next section however, some non-federal physician distribution programs never actually designated specific areas as needy, but instead whole states seemed implicitly to be considered underserved. On the federal level, the process

of designating Health Manpower Shortage Areas (HMSA's) for the NHSC began to take into account a broader set of variables in addition to physician-population raties, as a result of PL 94-484 (the 1976 law mentioned previously that included many provisions to address physician distribution problems). The evolution of the NHSC HMSA designation process will be expanded on further in Section II.

In addition to clear definitions of distribution needs, programs to improve the distribution of physicians depend on available evidence about the factors that influence overall physician distribution and individual physician location choices. A great deal of research has been done on physician location choices,[19] but many of the studies have actually been conflicting or inconclusive regarding some of the more elusive variables such as the effect of friends, faculty, or quality of medical school. Several variables have repeatedly been shown to impact significantly on location decisions. Background factors, for example, are among the best predictors of location choices. When both physician and spouse are from a rural background, they have the highest likelihood of selecting a rural location.[20] Similarly, the Association of American Medical Colleges found in its longitudinal study of medical school graduates that only background characteristics, particularly the size of community lived in most of one's life, are significantly related to location choice.[21] While location of residency is also highly correlated with practice location, there continues to be disagreement about whether the residency location is actually chosen by the physician-in-training in anticipation of ultimate practice location preferences.

The location and type of medical school seem to be significant as well, since the medical schools which send the highest proportions of their graduates into rural practice are state-operated schools in states with sizable rural populations.[20]

The factor found most influential by Cooper,[20] opportunity to join a desirable partnership or group practice, was also substantiated by a more recent study. Here it was found that two-thirds of primary care physicians locating in rural areas between 1973 and 1976 went to areas where there were already four or more established physicians,[23] sometimes to join large group practices but most often to small towns where they joined an existing medical community of independent practitioners and small groups. A related factor that seems to figure prominently in physicians' location choices is the availability of clinical support facilities as well as the opportunity for regular contact with a medical school or medical center.[24] Studies have shown that this desire for professional interaction relates to the presence of continuing education programs, adequate technical facilities, opportunities for consultation, as well as more free and informal communication with medical peers.

A great many studies have focussed on specialization as a predictor of location. On the whole, these studies have shown that general and family practitioners are more attracted to rural areas than other physicians. The data from one study actually showed that a physician entering family practice is three times more likely to select non-metropolitan practice than physicians entering other primary care specialties (i.e. internal medicine, pediatrics, obstetrics/gynecology). Nonetheless, it

was shown that the attraction of larger communities for specialists is still stronger than the attraction of small and rural communities for generalists.[25]

Racial background of the provider has been shown to be a major predictor of which patients a physician will ultimately serve.[26] However, the urban-rural distribution of black physicians does not seem to be substantially different from that of white physicians, although there is evidence that black physicians in urban reas are more likely to locate in inner-city areas and serve black patients.[27]

The relative importance of income maximization in physicians' location choices cannot be determined from the available data. Several older studies found physicians' perception of income potential in a certain area to be an important factor, but the more recent studies seem to show that income potential has virtually no effect on location choices.[28,29] One recent study suggests, for example, that rather than making decisions aimed at maximizing income, physicians make choices that reflect a tendency to minimize hours worked.[30] In fact, findings related to the effect of leisure time on location choice support this contention. One study cited "too large a workload" and "inability to get adequate time off" as reasons physicians are hesitant to practice in small communities, and at least two-thirds of physicians leaving rural practice cited similar problems. This lack of physician responsiveness to income maximization when making location decisions is particularly troublesome, however, since almost all physician distribution programs use some form of financial incentive to encourage

location in underserved areas.[30]

Finally, physicians repeatedly mention an area's climate or geographic features or the perceived cultural opportunities as major factors in their location decisions.[31] These factors are, unfortunately, poorly defined and may have very different meanings to different individuals. For this reason, these factors' relevance to policy-making or program design is limited, at best.

As the perception of the maldistribution of physicians as a major problem has grown, so have the number of programs designed to, at some level, remedy the problem. The size and scope of these programs have ranged from the large multi-million dollar federal programs such as the Area Health Education Center program or the National Health Service Corps to non-profit organizations' efforts to match needy communities with willing physicians whose operating budgets may be a much more modest $50,000 or so. A study was recently done by a group affiliated with the University of Michigan which catalogues all of the operating non-federal physician distribution programs in the country.[32] They found that non-federal programs for the purpose of affecting the geographic distribution of physicians were sponsored for the most part by state educational organizations (medical schools and state higher education agencies), and in a few cases, by other relevant state agencies or private organizations such as medical societies and non-profit corporations. Similarly, the chief sources of funding for these programs were state governments, with relatively little money coming from federal or local sources. The strategies employed by the various

programs (201 in all) identified in this study spanned the entire universe of possibilities with regard to influencing location and/or specialty decisions--individual financial incentives, institutional financial incentives, and educational, regulatory, recruitment, and placement incentives.[33] Moreover, these strategies were being applied in different programs at all the possible points of intervention in the medical education-medical practice continuum: in undergraduate medical education, graduate medical education, and medical practice.[33] Similarly, the Federal government has employed a variety of different strategies--either directly or through grants to medical schools--to redistribute health manpower.

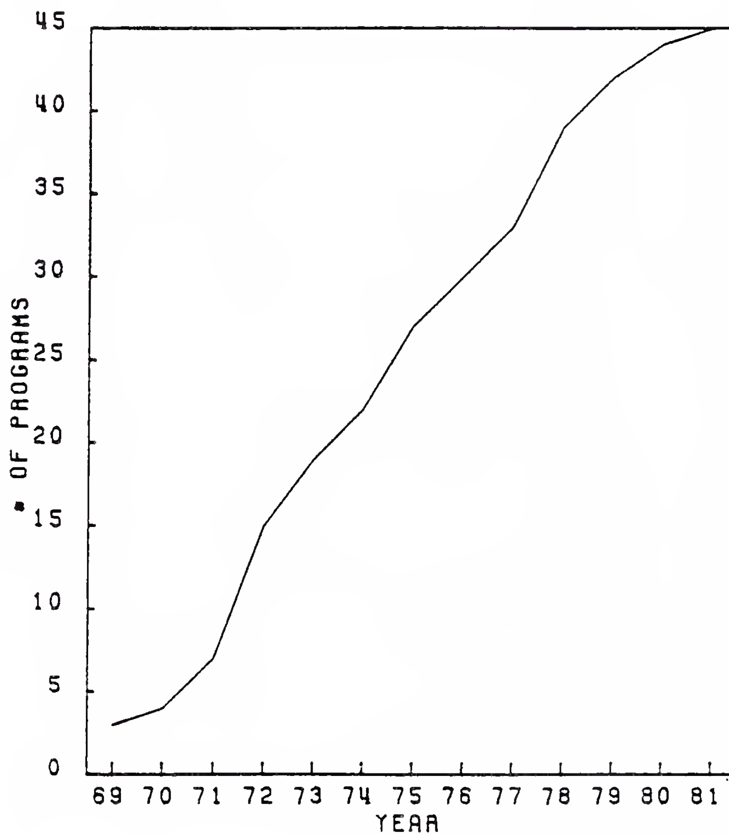
What lessons have been learned about the effectiveness of these various strategies? While it is beyond the scope of this paper to review fully the experience of incentive programs other than the NHSC Scholarship Program, a sufficient background on other programs and their accomplishments will be presented to facilitate comparison of the NHSC Scholarship Program to these diverse types of distribution strategies.

RURAL PRECEPTORSHIPS

Rural preceptorships designed to expose medical students to primary care medicine in a community-based setting have grown dramatically in their numbers since the late 1960's (Figure 1). During the 1960's and 1970's, preceptorships in rural or medically underserved areas became common features of curricula in medical schools with a commitment to

Figure 1

CUMULATIVE NUMBER OF PERCEPTORSHIP PROGRAMS INITIATED, 1969-1981



Source: E.S. Carpenter and D. Seidman, National Compendium of Nonfederal Physician Distribution Programs (Lansing, Michigan: Statewide House Officers' Training System, 1981) p. 37.

improving geographic distribution of health manpower.[34] While "preceptorships" with community physicians were once a primary component of medical education, these newer preceptorships are almost all electives in the clinical years of medical school that students may choose as one way of broadening their medical school experience. The number of medical schools offering rural or underserved area preceptorships for students grew from 34 in 1964 to at least 91 in 1977.[35] In addition, other types of groups with concern about underserved areas offer preceptorship opportunities for students. For example, the American Medical Student Association has coordinated a program called "Medical Education and Community Orientation" for this purpose since 1969. The growth of medical school sponsorship of preceptorships has been encouraged by the availability of funds from the Federal government for this purpose through provisions of the Comprehensive Health Manpower Training Act of 1971.

The impact of a rural preceptorship experience on a physician's ultimate practice location is decidedly difficult to discern. The preselection bias introduced by the fact that students have chosen to participate is hard to factor out in any analysis. Indeed, few program evaluations have even attempted to isolate the impact of the program on participants; most simply list the percentages of participants who have located or plan to locate in rural areas. As Lewis has said, "any positive influence of preceptorship on such actions is presumed."[36] In one study done on the location decisions of all physicians graduating from medical school in 1965, the actual part that preceptorships played

in such decisions was explored quite successfully.[37] Of those surveyed (only those 1965 graduates who had already made location decisions), 13.1% had participated in rural preceptorships. Nearly twice as many program participants were reared in rural areas as nonparticipants. Of the rural-reared participants surveyed, 36.7% of program participants eventually located in rural areas, versus 34.9% of the rural-reared nonparticipants. Only 4.7% of all those who participated in the preceptorships said they had an influence on their ultimate location choice; however, 20.1% of those locating in rural areas indicated that the preceptorship experience did influence this choice. Overall, there was a strong correlation between preceptorship participation and location in rural areas no matter when physicians made their location decision, but this correlation was strongest for those who had made the decision for rural practice <u>prior</u> to medical school. All of these data indicate that preceptorships are an attractive elective experience for 1) students from rural areas, or 2) students who already have strong interest in rural practice. It also indicates that, on the whole, these students make their location decisions largely independent of their participation or nonparticipation in rural programs. However, almost twice as many urban-reared participants as nonparticipants located practices in rural areas (20.7% vs. 11.2%). Additionally, of those who eventually located in urban areas, 60.2% of urban-reared participants strongly considered rural practice, while only 38.4% of urban nonparticipants considered rural practice. This study is relatively old now, but no subsequent studies analyze the impact of the rural preceptorship experience as

effectively. The U.S. Public Health Service, in a 1978 study, was the most recent group to investigate this question on a nationwide basis. However, their conclusion related to the impact of preceptorships and other factors on rural location was that "the probability of preferring a rural or small town practice location was highest for resident physicians who attended high school in a rural or small town community, had less than average financial support from family or savings, were over 28 at graduation from medical or osteopathic school, were white, and participated in a preceptorship program." Given the above discussion of the earlier study, it is clear that such information about overall probabilities is not very useful in measuring the independent impact of preceptorships. So the question remains as to whether participation in preceptorships is simply <u>predictive</u> of eventual rural location, or whether it can make such location a <u>more likely</u> occurrence. Certainly any impact they have on educating urban-reared physicians about the cultural opportunities as well as the climate and geographic features of rural areas should not be dismissed lightly. With an overwhelming percentage of medical education now taking place in urban areas, there is often little chance for the non-rural future physician to become familiar with the opportunities or lifestyle in rural areas. Incentives such as academic credit for requirements or summer pay may help preceptorships to serve this purpose more efficiently.

AREA HEALTH EDUCATION CENTERS

The Area Health Education Center (AHEC) concept is relatively unique among the major strategies for improving the geographic distribution of health manpower in that it is directed toward creating institutional change, rather than at directly influencing the behavior of specific individuals. AHEC's were first proposed by the Carnegie Commission in its 1970 report, Higher Education and the Nation's Health, as one means of addressing geographic and specialty maldistribution of health professionals. By linking the academic resources of the university medical center with local educational and clinical resources, the Area Health Education Centers they envisioned would educate, retain, and improve health manpower in underserved areas. The Federal government endorsed the AHEC idea by including a vague provision in the Comprehensive Health Manpower Training Act of 1971 (PL 92-157) whereby institutions and others could enter into contracts with the government to improve health care delivery and health professions education in underserved areas. This section of PL 92-157 was titled the Health Manpower Education Initiative Awards. Ultimately this enabling legislation and that which followed as part of PL 94-484 have resulted in AHEC activity in 23 states, with 48 centers being operated through 36 of the nation's medical schools.[39] The scope of these AHEC's varies from site to site, but in general they have taken on a wide variety of activities. Almost all of them serve as decentralized training sites for students in a variety of training programs (medicine, dentistry, nursing, pharmacy, and allied health). While serving as a locus of multidisciplinary education, each AHEC also provides

students with the opportunity to experience at least part of their training in a well-supervised setting in an underserved area, and to taste, feel and participate in rural health programs--to see the rural patient population and the community physicians. In addition, the Centers provide new opportunities for the health professionals already located in the area--both the chance to serve as preceptors to the students trained by the AHEC, as well as the enhanced opportunity for continuing medical education as a result of the Center's activities. It is difficult to make statements about the AHEC program's impact that apply equally well to the various AHEC's. Certainly some have been more effective than others.[40] Two reports have reviewed in depth the accomplishments of all the AHEC's and presented some very positive conclusions about the effectiveness of the AHEC strategy.[40,41] Medical school graduates who were AHEC participants choose primary care specialties in greater numbers than other graduates. The number of physicians and dentists practicing in AHEC target areas, in relation to population, has increased and exceeded that in comparison areas. For example, one Federal AHEC in North Carolina is able to retain 70% of the resident physicians it trains in its service area or similar areas in the state.[43] Programs have been implemented through AHEC's which brought new or expanded services to their target areas. Despite the influence of the university medical centers and the potential of thereby making AHEC's "physician-only" programs, multidisciplinary education has been effectively carried out in community clinical settings. Finally, and probably least quantifiable, of the effects of AHEC's are the

new affiliations which have been established with great success between communities and university medical centers. The mutual respect generated by these new ties has created the potential for other cooperative endeavors.

From 1972 to 1982, the AHEC program cost the Federal government $216 million, but the AHEC's also obtained an additional $150 million in funding from state and local sources to help carry out their missions.[39] With these funds, AHEC's have gone a long way in reducing professional isolation in underserved areas and creating a professional environment that makes it easier to attracted and retain health professionals in underserved areas.

STATE SERVICE-CONTINGENT AID PROGRAMS

The first service-contingent financial aid program for medical students was established in Virginia in 1942. Its purpose was to encourage graduating physicians to locate in rural communities and to establish practices in general medicine. Since the development of that first program in Virginia, many states have established similar loan or scholarship programs that in some way serve as a financial incentive for medical students to choose certain practice locations. Such a program has existed in almost every state with a medical school at some point between 1942 and 1984. However, due to changing perceptions of medical needs and the vicissitudes of politics, some have been longer lived than others. There are currently 46 state-administered service-contingent aid programs for medical and osteopathic students, operating in 32

states.[43] While each of the programs has its own individual characteristics, most operate on a loan forgiveness model. Essentially, students are offered a specified amount of financial aid in return for a specified amount of service after they are licensed as physicians (usually in a medically underserved area). The financial aid is usually given in the form of a loan or scholarship. This debt is cancelled in the event that the specified service commitment is fulfilled; if instead the student elects not to fulfill the service obligation, then the loan or scholarship and possibly some additional penalty is to be repaid to the lending agency. The exact nature of the service commitment varies from program to program, depending on the program's goals. All programs have as one goal the retention of physicians within their state, but a smaller subset are concerned with directing health manpower to specific underserved areas. Often the provision of financial aid to ensure educational opportunity to financially disadvantaged state residents is also a stated objective of these programs. The importance of this goal is reflected in the fact that 85% of the programs have a state residency requirement and over 50% have a financial need requirement for participation.[44]

A recent comprehensive report on the features of state service-contingent aid programs makes it possible to draw some conclusions about their effectiveness.[45] Programs vary a great deal in their use of stringent payback requirements or penalties as a method of pushing participants toward fulfillment of service commitment rather than "buying out." Only 17 of the 46 programs have a set penalty of some type,

varying from $5,000 liquidated damages, to revocation of medical licenses, to triple payback of the amount lent. Previous reports on these programs noted the high rates of buy-out that were seen when students were only required to pay back the actual amount of the loan at low interest rates (Table 4).[46,47] Indeed, the relatively small sums actually awarded to students (in most cases less than $6,000 per year of obligated service) serve as a disincentive to following through on the service payback for practicing physicians, if no penalty is imposed. In addition, the small size of the aid offered could be seen as a deterrent to participation for state residents attending expensive private schools. If the available loan only covers one-half to one-third of the private school student's tuition, it is probably unreasonable to expect that he or she would incur a four year service obligation for this level of support. It may be the states' desire to provide as many students as possible with some level of financial assistance that causes them to "spread the money so thinly."

In most cases, programs place their obligated physicians in shortage areas that have been so designated by a state agency, preferring not to use the federally designated HMSA's. The needs in these areas are usually not prioritized in terms of relative need, so obligated physicians may often choose whichever designated area they find most desirable. It is important to note that these state programs do not pay the salaries, site development costs, or other overhead costs for the obligated physicians. It then becomes a necessity that shortage areas where they locate be able to "support a practice," which may well put the

TABLE 4

Experience of Eleven State Practice Agreement/Loan Forgiveness Programs

State	Number of Borrowers	Borrowers Available for Practice by 1970 (%)	Physicians Repaying Loan With Rural Practice[1] (%)	Physicians Buying Out of Practice Commitment (%)	Physicians in Default of Payment (%)	Borrowers Unavailable to Practice for Other Reasons (%)
Arkansas	96	57.2	32.8	56.4	10.9	0.0
Georgia	639	45.2	50.2	49.8	0.0	7.0
Iowa	62	4.8	66.7	0.0	33.3	0.0
Kentucky	331	61.0	96.0	0.0	4.0	11.5
Minnesota	22	54.5	66.7	25.0	8.3	0.0
Mississippi	611	93.6	74.4	25.5	0.0	6.4
North Carolina	301	47.5	58.0	42.0	0.0	4.3
North Dakota	40	35.0	71.4	28.6	0.0	0.0
South Carolina	160	37.5	66.7	33.3	0.0	0.0
Virginia	291	83.8	44.7	55.3	0.0	3.4
West Virginia	22	27.3	66.7	33.6	0.0	0.0
Total:	2575	Ave.: 62.0%	63.0%	34.1%	2.0%	5.7%

Source: Lewis, Fein and Mechanic, A Right to Health: The Problem of Access to Primary Health Care, p. 32.

neediest areas at a significant disadvantage. In addition, as was mentioned previously, some of the programs (20%) allow obligated physicians to serve anywhere in the state in fulfillment of their service commitment. Over half of the programs allow obligated physicians to do their residencies in any specialty they choose, while only 25% require participants to train in one of the primary care specialties. Physicians may consequently also be limited in their ability to provide good care in relatively isolated underserved areas if their training has been in a hospital-based specialty like radiology, pathology, or anesthesia.

A recurrent theme that came up regarding state programs which most successfully place and retain obligated physicians in underserved areas was the importance of full-time personnel who help to prepare students for rural life and rural practice and who counsel students at the various decision points.[48,49] The effectiveness of the actual financial incentive offered by these programs has been questioned by many authors.[50,51,52] Many have suggested that, like rural preceptorships, these small loan forgiveness programs may at best only serve to reinforce the career decisions of those already inclined to practice in shortage areas, rather than actually recruiting additional physicians for these communities. These criticisms seem less valid today as more and more of the programs add very stringent buy-out provisions or default penalties, shortage area placement criteria, and specialty requirements. Yet, as noted above, there are still aspects of the programs' structure which undermine their ability to effectively ensure additional physicians for

underserved areas.

CONCLUSION

These brief descriptions of three types of programs cannot accurately reflect the broad spectrum of incentives currently operating to draw physicians to underserved areas. States are now exploring more creative ways of linking a service obligation to education in the health professions,[53] and the number of private entities oriented toward placing physicians in shortage areas has risen dramatically with the widespread recognition of the "doctor distribution problem." Indeed, what used to resemble a community-physician dating service has now undergone many refinements in this era of possible physician surplus. Private corporations and public agencies (e.g. state offices of rural health) now offer a broad range of services in addition to simple listings ranging from technical assistance for site development to back-up for physician vacations. These services continue to grow more sophisticated in their efforts to attract and retain physicians in underserved areas.[54]

FOOTNOTES

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[3]Oscar R. Ewing, The Nation's Health: A Ten Year Program, A Report to the President (Washington, D.C.: Government Printing Office, 1948).

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[32]E.S. Carpenter and D. Seidman, National Compendium of Nonfederal Physician Distribution Incentive Programs (Lansing, MI: Statewide House Officers Training Systems, Inc., 1981).

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[48]Hadley, p. 182.

[49]Mason, p. 582.

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SECTION II

HISTORICAL REVIEW OF THE NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM

Chapter 3

Setting The Stage for The NHSC Scholarship Program: The NHSC Formative Years

The National Health Service Corps was created in 1970, well before the "physician distribution problem" had become a generally accepted fact of public policy. But it was not conceived as a large program designed to redistribute the nation's health manpower, but rather as a small strategy hinged on the "doctor draft" of the Vietnam War era and creative use of physicians in the U.S. Public Health Service aimed at supplying doctors to those isolated communities that had none.

The concept of a "national Doctor Corps" to serve the unmet needs of the rural and urban poor was an outgrowth of the Johnson Administration's War on Poverty. In the 1967 report of the President's Commission on Rural Poverty, The People Left Behind[1], where this idea first surfaced, the "Corps" was seen as a mechanism for drawing on the social commitment of young graduating medical students to staff a federally salaried cadre of physicians who would take quality health care where it otherwise was not available. The idea was not easily implemented in those years, however, since virtually all young physicians were drafted into military service. Some limited attention had been given to the idea of allowing drafted physicians the option of serving out their military obligation in this proposed "Doctor Corps", but the strength of the Pentagon and their Congressional allies made such a change in the Selective Service law a virtual impossibility.[2]

The person credited with coming up with a mechanism for creating the

"Corps" yet circumventing this legislative impasse is a Seattle pediatrician named Abraham Bergman. Drafted physicians were allowed to serve their military obligation in the U.S. Public Health Service, a uniformed service which had responsibility for traditional "public health duties"--such as sanitation and control of epidemics--and patient care responsibilities limited to American Indians, inmates of Federal prisons and merchant seamen. Bergman's idea hinged on legislatively broadening the patient care responsibilities of the Public Health Service and then staffing the "National Health Service Corps" (as he termed it) with PHS doctors. A young Congressional staffer named Eric Redman working for the quite powerful senior Senator from Washington state, Warren Magnuson, was convinced by Dr. Bergman's tenacity and idealism to take on the legislative work necessary to create the "Corps". The story of the two years of political maneuvering, setbacks, and small victories that constituted the "necessary work" is recorded in Redman's absorbing portrait of the legislative process, The Dance of Legislation.

When the legislation that created the National Health Service Corps finally passed both houses of Congress in late 1970, it contained compromises that enabled it to meet both conservative and liberal expectations of the proper role of such a program. Moreover, its language was couched in generalities that permitted those of divergent political persuasions to read in their own interpretation of what this new "Corps" would be. The Emergency Health Personnel Act of 1970 (PL 91-623) which created the National Health Service Corps in Title III of the Public Health Service Act stated:[3]

> It shall be the function of an identifiable administrative unit within the Service to improve the delivery of health services to persons living in communities and areas of the United States where health personnel and services are inadequate to meet the health needs of such communities and areas.

The body of the legislation contained provisions for the designation of "Critical Health Manpower Shortage Areas" eligible to receive the NHSC personnel and the employment of physicians and other health personnel as Commissioned Officers of the Public Health Service to staff the Corps. Earlier political compromises were reflected in the bill's failure to specifically mention "providing health care <u>for the poor</u>" as part of its mission, and language that gave local medical societies a large portion of the control in determining where (and if) NHSC doctors should be placed. Finally, the program as discussed was to be small and experimental--a final concession that satisfactorily eased conservatives' fears about the Corps' impact on the private practice of medicine. However, an intended sensitivity toward issues of financial access to care to be balanced with this implicit endorsement of the private practice model of care was written into that initial enabling legislation (as well as all subsequent NHSC legislation) in the form of a "means test," as follows:[4]

> Any person who receives a service provided under this section shall be charged for such service at a rate established by the Secretary, pursuant to regulations, to recover the reasonable cost of providing such service; except that if such person is determined under regulations of the Secretary to be unable to pay such charge, the Secretary may provide, for the furnishing of such service at reduced rate or without charge.

While the Corps had received support from many different constituencies, there were two notable exceptions. The Nixon Administration had

voiced clear opposition to the bill, presumably because of the potential it had for revitalizing the then faltering Public Health Service (thereby giving it a larger share of power in the Department of Health, Education and Welfare). And the American Medical Association, often considered the medical lobby in those years, never came to consensus on the bill, so failed to ever support or oppose the 1970 legislation. Nonetheless, others expressed the traditional concerns of organized medicine about the implications of a federal role in the direct provision of health services. Yet the general concept of the Corps was endorsed by a wide diversity of constituencies--from the American Public Health Association to the American Academy of General Practice. Rural doctors also attested to the inadequacy of their ranks in the nation's isolated areas. Probably most notable in their support was the Student American Medical Association (SAMA), since they represented the idealistic young physicians-in-training who would ultimately staff the NHSC.

But it was the influence of the Corps' powerful supporters on Capitol Hill--Warren Magnuson (D-WA) in the Senate and Paul Rogers (D-FL) in the House--that delivered virtually unanimous bipartisan support when the voting finally took place. This was a bipartisan Congressional support that was to remain with the Corps for some years to come. As former NHSC director, Fitzhugh Mullan, M.D., has pointed out quite eloquently, while conservatives and progressives had very different images of the Corps, both saw it fulfilling a critical need that they perceived.[5] For rural Congressmen, many of whom had doctorless communities in their districts, the Corps' political expediency was apparent. The NHSC could be the mechanism for drawing doctors back into those communities--doctors whom

they expected would soon move off the federal payroll and establish private practices. To the more liberal, the NHSC represented a first step toward a much larger governmental role in health care--a step that, if successful, could lead to a real National Health Service or at least the enactment of National Health Insurance.

So with the establishment of the National Health Service Corps, many early and divergent expectations were placed upon it. Yet the responsibility for implementation lay with an administration which had not overcome its opposition to the program. The realities of these problems in the Executive Branch got the NHSC off to a very slow start. Their reluctancy to give the new program operating funds was only one of a number of problems encountered. Despite original authorizations of $10 million for FY71 and $20 million for FY72, the NHSC was only appropriated $3 million and $12.5 million, respectively, for those first two years. Eventually, after considerable dissension in DHEW,[6] the "identifiable administrative unit" to oversee the new program was named, and the Corps was put under the leadership of Daniel Whitesides, DDS in the Bureau of Community Health Services. But still more time elapsed before physicians could be recruited and eligible communities identified. Critical Health Manpower Shortage Areas were yet to be designated, so the initial areas were decided upon through something of an ad hoc process in which self-nominated communities would demonstrate to NHSC administrators that they were indeed in need of a physician. The first NHSC placements were finally made in Spring 1972 when twenty health professionals were placed in sixteen communities across the nation.[6a] Several months later an additional 162 personnel, mainly physicians, were placed.

It was estimated later in 1972 that over 5,000 U.S. communities were without any type of physician or health care services.[6b] The newly passed NHSC Amendments of 1972 (PL 92-585) required that these communities and all others with "Critical Health Manpower Shortages" be identified and designated as such on the basis of officially established criteria. Criteria were chosen that relied principally on a primary care physician-to-population ratio of less than or equal to 1:4,000 applied either to county or subcounty communities when available.[6c] By December 1972, more than 1,300 shortage areas had been identified using these criteria; when the final CHMSA lists under these criteria were published in September 1977, they included roughly one fourth of all U.S. counties.[6c]

Chapter 4

NHSC Scholarship Program Initiation

The incentive of the attractive draft alternative that the NHSC represented served to keep applications and interest high in the program's initial years. The Public Health Service received from 3,500 to 4,500 applications annually for the 900 Commissioned Officer positions available in those years,[7] with the highest number of applicants requesting assignment to the National Health Service Corps. As early as the 1970 hearings on the NHSC legislation, however, it was apparent that the end of the draft was relatively near. In discussing the probable impact that the loss of this incentive would have on NHSC recruitment, the Senate Committee on Labor and Public Welfare commented,[8]

> ...abolition of the "doctor draft" would not seriously impair National Health Service Corps recruitment. At the very least, those trained young professionals who desired to serve in physician deficient areas would still find the program a great aid to such service by reducing the cost of such service. The Committee does not feel that service in such areas is motivated solely, or even significantly by consideration of military service.

The Senate Committee's naive predictions were, unfortunately, far from accurate. Not only did applications to the NHSC drop off precipitously after the decision was made to end the physician draft effective July 1974, but according to then NHSC deputy director David Kindig, M.D., many of those whose placements for the coming year had already been finalized also "wanted out".[9] Some anticipation of this type of reaction had actually prompted the Corps administrators and Congressional supporters alike to initiate discussions concerning several options for

insuring future manpower for the NHSC. While the possibilities under consideration ranged from mandatory NHSC service in exchange for health professions loans to a two year mandatory commitment for all graduating physicians, none of these more extreme proposals was taken very seriously or got very widespread support from any outside the Senate Committee on Labor and Public Resources, whose Health Subcommittee was now chaired by Senator Edward Kennedy.[9,10,11] Instead, building on the model of obligated scholarships pioneered by the states and a vague new scholarship called the "Physician Shortage Area Scholarships" passed as part of the Comprehensive Health Manpower Act of 1971, all serious consideration in 1972 turned to a scholarship program as a feeder mechanism for the Corps.

At the time of the Congressional hearings on the NHSC Amendments of 1972, two federal alternatives already existed which had the potential for linking service in a physician shortage area to medical student financial assistance. The 1965 and 1966 amendments to the Health Professions Legislation (PL 89-290) had established a loan cancellation program whereby medical students could be forgiven up to 85% of their accumulated debt from Health Professions Student Loans (HPSL) in return for three years of service in a physician shortage area. The maximum value of a yearly HPSL loan in 1972 was $3,500 so the maximum accumulated debt was only $14,000, with the actual level of loan received based on evidence of financial need. Apparently, students in the late 1960's and early 1970's had some hesitancy about the fairness of this exchange, since of the more than 3,800 HPSL loan recipients graduating from medical school in 1965 and 1966, only 42 had taken advantage of the loan cancellation provisions by November 1972.[12] The newer program,

the Physician Shortage Areas Scholarships, mentioned above would award scholarships of up to $5,000 a year to medical students who would agree to serve one year in a Physician Shortage Area in exchange for each year of scholarship support. Preference was given to students with financial need who were residents in a shortage area themselves. Neither of these programs referred to the NHSC directly, but presumably both could be seen as more attractive now that the existence of the NHSC made it possible to fulfill the required service as a salaried employee of the PHS, with responsibilities for site development resting with the community or the government rather than the individual physician. Nonetheless, the limited attractiveness of the financial incentive offered by these programs made the creation of a separate scholarship program to serve as a pipeline to the NHSC appear to be a necessity in 1972. This sentiment was clearly reflected in the Report of the Senate Committee hearings on the NHSC Amendments of 1972 (PL 92-585) which stated, "The Committee intends to establish a generous scholarship program for students who will undertake service in an area or program into which the Secretary finds it difficult to attract health professionals lacking such a scholarship program."[13]

So with the passage of the National Health Service Corps Amendments of 1972 (PL 92-585), the Public Health and National Health Service Corps Scholarship Training Program was authorized under Title VII of the Public Health Service Act.[14] The program was to give scholarships to health professions students in return for service in various Public Health Service programs that were in need of high quality staff. The provisions for the PH/NHSC scholarships were very specific. Students

receiving scholarship support were to give one year of service for each year of support (later changed to a minimum of two years). Physicians with obligations to the program would be allowed to defer their service commitment until after completion of residency training. Finally, default on the service commitment would make students responsible for repaying the Federal government an amount equal to the cost of total scholarship assistance paid in his or her behalf within three years.

It is important to note that this new program also incorporated two very new concepts in Federally funded health professions student assistance programs. First, the "scholarship" given to students was to consist of full coverage of the cost of medical education for each year of support accepted--tuition, fees, and a monthly stipend for living expenses. Second, eligibility and selection for these scholarships was to be totally independent of the applicants' financial need. Indeed, nowhere in the enabling legislation or relevant Congressional Committee reports was any interest reflected in these scholarships as a mechanism for increasing educational opportunity for the needy. On the contrary, much concern was aired about the potential these scholarships had for duplicating the experience of the all voluntary military, eventually turning the Corps into an indentured cadre of poor and minority physicians.[15]

Despite the program's intended orientation twoard a diversity of health professions, the first PH/NHSC scholarships (academic years 1973-74 and 1974-75) were awarded only to medical and osteopathic students. These students were chosen through a detailed selection process designed to measure the students' interest in and commitment to

medically underserved communities. While the NHSC staff wanted very much to get personally involved in this process by conducting interviews of the most promising candidates, the time and cost considerations caused them to give up this process in favor of an application that relied on essay questions to discern students' personal commitment to underserved area practice.[15,16]

As with the initial years of the NHSC field program, the plan for the PH/NHSC program was to start off small at first to test the response to the program. The appropriation for the program's first year of operation was a modest $3 million with which 372 first-time scholarships were supported. Applications for the PH/NHSC scholarships were heavy that year and remained at relatively high levels for the life of the program (Table 5).

The positive response to the scholarship program was a welcome sign that the newly created NHSC feeder mechanism was working; however, because of the long "pipeline" it created, it had no impact on the actual NHSC field strength until 1976-77. The first few cycles of scholarship awards gave preference to third and fourth year students, in an attempt to minimize this elapsed time between the initial commitment and actual date of service. In the subsequent years of the program, however, when more recipients would be first year students, the "pipeline" would be at least five years and often as much as eight years for those who chose to complete residency training.

To solve the immediate recruitment problems, the NHSC launched an energetic "Cure a Community" campaign. In this cooperative effort with the Student American Medical Association and the Physicians' National

NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM

NUMBER OF APPLICANTS FOR SCHOLARSHIP AWARDS BY DISCIPLINE AND SCHOOL YEAR, 1973-74 THROUGH 1981-82

		SCHOOL YEAR								
DISCIPLINE	TOTAL	1973 1974	1974 1975	1975 1976	1976 1977	1977 1978	1978 1979	1979 1980	1980 1981	1981 1982
TOTAL ALL DISCIPLINES	38,979	1,590	2,780	2,818	3,492	3,488	5,364	7,399	7,173	4,875
ALLOPATHIC MEDICINE	22,781	1,352	2,419	1,913	2,506	2,259	2,946	3,479	3,335	2,572
OSTEOPATHIC MEDICINE	3,519	238	361	344	374	305	389	447	511	550
DENTISTRY	7,059			561	612	392	1,311	1,395	1,491	1,297
NURSING (BACCALAUREATE)	1,700					159	312	500	442	287
PUBLIC HEALTH NURSING	78					14	13	18	15	18
NURSE MIDWIFERY	89					15	15	14	28	17
NURSE PRACTITIONER TRAINING	226					29	27	55	61	50
PUBLIC HEALTH NUTRITION	170					31	31	47	40	21
MEDICAL SOCIAL WORK	307					194	113			
SPEECH PATHOLOGY AND AUDIOLOGY	152					90	62			
VETERINARY MEDICINE	246							246		
OPTOMETRY	3							3		
PODIATRY	666							344	322	
PHARMACY	16							16		
INELIGIBLE FOR SELECTION	1,967						145	831	928	63

Source: U.S. Department of Health and Human Services, Fifth Annual Report to the Congress on the NHSC Scholarship Program (January 1982) p. 3-01.

Housestaff Association, they made numerous recruitment visits to residency programs and medical schools in an effort to inspire interest in the NHSC field program's idealistic mission. In addition, elective preceptorship experiences were offered in NHSC sites for students in hopes that this would develop their interest in underserved area practice. As a result of these efforts the NHSC grew to a modest field strength of 338 in 1974.

By this time, a new NHSC director had come in and given much clearer direction to the NHSC's work in underserved communities. Edward Martin, M.D., who would remain a major force in the NHSC for years to come, had been appointed its third director in 1974. Dr. Martin had come to the Corps administrative staff two years earlier, as one of the "young committed doctors" for whom the program had been designed. As the president of the Student American Medical Association in 1969-70, he had moved the previously quiessent student group to an overwhelming concern for community health reflected by student projects in areas ranging from Appalachia to migrant health camps. Eventually his concerns led him to become director of the Martin Luther King Neighborhood Health Center in the South Bronx, before he joined the NHSC staff. As NHSC director, Dr. Martin targeted the rural areas severely depleted of physicians. Adhering to the fee for service private practice model, he shaped the Corps into a federal machanism by which medical practices could be established in areas that at one time had supported private practices and had the potential to support private physicians in the future.[16a] Under Dr. Martin's leadership, the NHSC also developed regional offices that assisted with the coordination and oversight of

the field program in the various areas of the country. They also helped with "site development," the process in which communities set up and equipped a clinic for the NHSC doctor's use. One of the most important goals of this field strategy as Dr. Martin pursued it was the retention of the NHSC physicians in their assigned communities as private practitioners on a long term basis. In the early years, however, the NHSC had a very poor retention rate (approximately 3%)[16b] because those fulfilling their military service obligation were required to do so before finishing residency training. These physicians often left after their two year requirement was fulfilled to complete residency training. By 1974 retention (defined as NHSC who voluntarily extend their tours for at least one more year and those who convert to private practice in shortage areas) had risen to 20%, and by 1976 it had reached 38%.[16c]

Chapter 5

NHSC Scholarship Program Growth and Development

The years between 1976 and 1980 were ones of rapid growth and transition for the NHSC scholarship program. While previously the NHSC and its companion scholarship program had been well thought of but for the most part insignificant programs, with the hearings that led to the 1976 reauthorization of the program, Congress moved forcefully to give the program greater definition, a broadened mission and the budgetary increases needed to fund this substantial programmatic expansion. Building on the programmatic re-orientation mandated at the Congressional level, the NHSC administration incorporated major new objectives into both the NHSC field program and NHSC scholarship programs. The cumulative effect by the end of those few short years of the many changes in objectives, program structure, strategy and size and visibility for the NHSC scholarship program would be a transformation of this small feeder mechanism for a small program to something much larger, and certainly more complex.

Although the NHSC had been functioning since 1971 and the NHSC scholarship program since 1973, it was not until the mid 1970's that the geographic maldistribution of health services actually became a major focus of concern in national health policy. As discussed earlier, Congress had between 1963 and 1976, spent significant amounts of Federal funds expanding the physician supply. By 1976, Congress had begun to recognize that these efforts had not succeeded in producing equitable access to health services for all Americans, and the tone of the NHSC

reauthorization hearings were undoubtedly a reflection of that disappointment. The House of Representatives Report on these hearings states, for example:[17]

> The commercial marketplace operates on the premise that overproduction of a product leads to lower prices, curtailment of supply and the automatic introduction of the product into undersupplied areas. There is no evidence that such a process operates within the health care system. The suburbs of this country appear to have an unlimited capacity to absorb physicians. The net effect of this situation on the national level is that it is impossible, in any practical sense, to train so many physicians that areas become "oversaturated" and physicians are induced, for economic reasons, to seek practice elsewhere. Boston now has 321 physicians per 100,000 population, more than twice the national average, yet there are still large areas of inner city Boston and rural Vermont and New Hampshire which lack adequate physician services.

In defense of Congress' perception of a growing maldistribution of physician services, statistics were cited proving that physician availability in many rural and inner city areas was decreasing while the total physician supply had almost doubled. But in addition to this now traditional reliance on physician-population ratios, new concern was reflected in the 1976 hearings about the differential quality of the health services to which various segments of the U.S. population had access, particularly as it related to low-income urban areas. Many of the most sweeping legislative changes ultimately made in 1976 affecting both the NHSC and the NHSC scholarship program were an outgrowth of this new attention to the quality of available health services.

With the passage of the Health Professions Educational Assistance Act of 1976 (PL 94-484), reauthorizing the NHSC and NHSC scholarship program, many significant alternations were made to the programs as they had existed prior to that time. Most significant of these was the

broadening of the definition of Health Manpower Shortage Areas. Prior to this time, the NHSC was required to place health professionals only in critical health manpower shortage areas, defined as <u>geographic</u> areas with physician to primary care population ratios of less than 1:4,000. In 1976, the Senate Labor and Public Resources Committee articulated a concern that under these existing provisions "the program (NHSC) has been heavily oriented toward rural areas while urban centers generally have not been able to qualify for assistance."[18] The House of Representatives echoed this criticism, stating, "in designating medically underserved areas, insufficient emphasis has been placed on the needs of urban ghetto areas which contain populations that experience critical shortages of personal health services despite their location within metropolitan areas enjoying an abundance of health personnel."[19] To better account for the needs of urban areas in the designation of health manpower shortage areas (HMSA's) and the eventual assignment of NHSC physicians, the definition of HMSA's was expanded to include:

> (A) an area in an urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services) which the Secretary determines has a health manpower shortage
>
> (B) a population group which the Secretary determines has such a shortage
>
> (C) a public or nonprofit private medical facility or other public facility which the Secretary determines has such a shortage.[20]

In making the determinations of "shortage" the new criteria were to take into account infant mortality, access to health services, health status, the percentage of physicians serving the area that were foreign

medical graduates, in addition to physician to population ratios. Finally, PL 94-484 deleted the use of the term "critical" with respect to health manpower shortage areas. This deletion reflected the Congressional intent of "broadening the concept of shortage."[21]

In keeping with these efforts to set priorities regarding the Corps' role in communities of various types, PL 94-484 also directed the Corps to give interest-free loans to poorer communities to help them with the costs of clinic site development. Also, provisions were created for returning the fee for service revenues generated by Corps physicians ("especially in relatively affluent rural areas")[22] to the U.S. Treasury. The expanion of the NHSC that was implied in "broadening the definition of shortage" as it pertained to the Corps was bound to have an impact on the NHSC scholarship program. Although the exact numbers of HMSA's that would result from the new criteria was not yet known at the time of the 1976 NHSC scholarship reauthorization hearings, Congress declared emphatically, "Although thousands of physicians and dentists are needed in underserved areas, the Corps presently has fewer than 375 physicians and 85 dentists...The Committee has concluded that the best way to increase the size of the Corps is by means of the National Health Serivce Corps Scholarship program."[23] And without knowledge of how many HMSA's there would be at the time when the initial designation process was completed, and even less knowledge about projected needs in subsequent years, Congress authorized funding increases for the program that would have effectively doubled the size of the program each year--$75 million for FY78, $140 million for FY79 and $200 million for FY80. While real appropriations did not ever actually exceed $100 million in any one year (see Table 6 for appropriations levels reached) the

expansion of the scholarship program that followed the passage of PL 94-484 was nonetheless quite dramatic, as can be seen in Table 7.

The changes in the scholarship program mandated by PL 94-484, however, were by no means limited to issues of program size. Many seemingly detailed specifications were enacted at that time which were important in giving the program some sense of the definition it lacked in the earlier years. Many of these were features that would serve to make the contract that scholarship recipients signed in accepting educational assistance in exchange for service 1) much less ambiguous and 2) much more useful in assuring that the service obligation would be actually fulfilled, and in a manner appropriate to shortage area needs. These new provisions included the following:[24]

-A two year minimum set on the length of service obligation a scholarship recipient could have.

-Length of deferment for residency training limited to 3 years (effectively limited specialty training to family practice, general pediatrics and general internal medicine).

-Penalty for failure to perform obligated service was increased to 3 times the amount of scholarship assistance, plus interest at the maximum prevailing rate, payable in one year.

-Obligated service could be performed as a Commissioned or civilian member of the National Health Service Corps <u>or</u>, at the discretion of the obligated health professional, in private practice in a shortage area that had priority for assignment of Corps members and that had a sufficient financial base to sustain such private practice (hereafter referred to as the Private Practice Option, or PPO).

-The amount of the stipend for living expenses was specified as $400 per month with provision for annual increases equal to percentage increases in salaries of Federal employees. Tuition and fees would also be paid.

TABLE 6

NHSC Scholarship Appropriations

Fiscal Years 1974 Through 1984

Fiscal Year	Appropriation
1974	$ 3,000,000
1975	$22,500,000
1976	$22,500,000
Transition Quarter*	$22,500,000
1977	$40,000,000
1978	$60,000,000
1979	$75,000,000
1980	$79,500,000
1981	$63,400,000
1982	$36,400,000
1983	$15,842,000
1984	$ 6,300,000

Source: U.S. Department of Health and Human Services, Fifth Annual Report to Congress on the NHSC Scholarship Program, p. 5.

TABLE 7

NHSC Scholarship Awards
School Years 1973-74 Through 1981-82 (FY 1974-1981)

chool Year	Totals	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
OTAL AWARDS	33,167	372	1,864	2,552	2,649	3,571	5,254	6,409	6,159	4,557
llopathic Medicine	25,736	343	1,664	2,209	2,240	2,851	4,012	4,769	4,485	3,163
steopathic Medicine	3,494	29	200	295	335	444	542	606	609	434
entistry	2,217	—	—	48	74	120	441	568	557	409
ursing (Baccalaureate)	694	—	—	—	—	40	159	187	187	121
ublic Health Nursing	72	—	—	—	—	13	11	20	19	9
urse Midwifery	89	—	—	—	—	8	12	18	31	20
urse Practitioner Training	212	—	—	—	—	16	18	54	82	42
ublic Health Nutrition	175	—	—	—	—	18	25	49	44	19
edical Social Work	67	—	—	—	—	40	18	8	1	—
peech Pathology/Audiology	52	—	—	—	—	21	16	11	3	1
eterinary Medicine	12	—	—	—	—	—	—	4	4	4
ptometry	9	—	—	—	—	—	—	3	3	3
odiatry	347	—	—	—	—	—	—	106	130	111
harmacy	11	—	—	—	—	—	—	6	4	1
FIRST-TIME AWARDS	13,381	372	1,499	874	885	2,090	3,347	2,380	1,772	162
Allopathic Medicine	10,181	343	1,328	717	729	1,594	2,390	1,724	1,232	124
Osteopathic Medicine	1,350	29	171	109	106	240	313	184	182	16
Dentistry	957	—	—	48	50	100	387	185	163	22
Nursing (Baccalaureate)	344	—	—	—	—	40	159	80	65	—
Public Health Nursing	47	—	—	—	—	13	11	11	12	—
Nurse Midwifery	49	—	—	—	—	8	12	9	20	—
Nurse Practitioner Training	124	—	—	—	—	16	18	40	50	—
Public Health Nutrition	91	—	—	—	—	18	25	28	20	—
Medical Social Work	57	—	—	—	—	40	17	—	—	—
Speech Pathology/Audiology	36	—	—	—	—	21	15	—	—	—
Veterinary Medicine	4	—	—	—	—	—	—	4	—	—
Optometry	3	—	—	—	—	—	—	3	—	—
Podiatry	132	—	—	—	—	—	—	106	25	—
Pharmacy	6	—	—	—	—	—	—	6	—	—
CONTINUATION AWARDS	19,786		365	1,678	1,764	1,481	1,907	4,029	4,387	4,175
Allopathic Medicine	15,555	—	336	1,492	1,511	1,257	1,622	3,045	3,253	3,055
Osteopathic Medicine	2,144	—	29	186	229	204	229	422	427	418
Dentistry	1,260	—	—	—	24	20	54	383	392	387
Nursing (Baccalaureate)	350	—	—	—	—	—	—	107	122	121
Public Health Nursing	25	—	—	—	—	—	—	9	7	9
Nurse Midwifery	40	—	—	—	—	—	—	9	11	20
Nurse Practitioner Training	88	—	—	—	—	—	—	14	32	42
Public Health Nutrition	64	—	—	—	—	—	—	21	24	19
Medical Social Work	10	—	—	—	—	—	1	8	1	—
Speech Pathology/Audiology	16	—	—	—	—	—	1	11	3	1
Veterinary Medicine	8	—	—	—	—	—	—	—	4	4
Optometry	6	—	—	—	—	—	—	—	3	3
Podiatry	215	—	—	—	—	—	—	—	104	111
Pharmacy	5	—	—	—	—	—	—	—	4	1

Source: U.S. Department of Health and Human Services, *Fifth Annual Report to Congress on the NHSC Scholarship Program*, p. 12.

-Finally, the name of the scholarship program was officially changed to the current title, "National Health Service Corps Scholarship Program."

Please see the Appendix for a sample of the scholarship contract in effect after the addition of these specifications.

In addition to these alterations in the agreement between the student and the government, a provision for special grants of up to $25,000 were authorized to assist individuals who had completed their obligated service as Corps members in establishing a private practice in a shortage area. And to alleviate some of the concerns about unfairly obligating overly large numbers of poor students mentioned earlier, a non-obligated scholarship at the same level of assistance as the NHSC scholarship was established to be awarded to students of Exceptional Financial Need in their first year of study in the major health professions (EFN Scholarship Program). Priorities for award of NHSC scholarships were established, giving preference first to previous recipients of NHSC scholarships and EFN scholarships and secondly, to students in their first year of study.[25]

In summary, the NHSC emerged from the 1976 re-authorization process no longer a program oriented solely toward aiding communities with inadequate numbers of doctors, but instead with a clear mandate to effect an equitable distribution of health care services in the United States. The expanded service mission the Corps was being asked to take on demanded an expanded scholarship program. Yet, the Congress once again emphasized the intended purpose of all this free medical education, admonishing, "[we] wish to emphasize in the strongest possible terms that [we] do not view the National Health Serivce Corps Scholarship program as a mechanism solely intended to subsidize health professional

education."[26] Rather, they declared, "the National Health Service Corps Program, coupled with the scholarship program represents the most effective legislative mechanism ever developed by the Congress in attempts to solve the growing problem of geographical maldistribution of health professionals in the United States."[27]

The task of implementing this new programmatic agenda for the NHSC and NHSC Scholarship program was passed on to a new Administration that was as idealistic at every level, not just in the ranks--as the Congress that had developed it. Edward Martin, M.D., the former NHSC director, had moved up to director of the Bureau of Community Health Services with the Corps as one of several programs under his leadership, and Fitzhugh Mullan, M.D., one of the first physicians to serve in the Corps in the early 70's, joined the Administration as the new NHSC director in mid-1977. Dr. Mullan also brought a history of activism during his years as a medical student and resident. As one of the founders and leading figures in the progressive Student Health Organization of the late 1960's and later organizer of the resident physicians at Lincoln Hospital in New York City, Dr. Mullan had been quite outspoken about the inadequacies he perceived in the medical care system assembled to serve the poor, expecially the urban poor. Shortly before being brought in as NHSC head, he had recounted his experiences, and reflected on the inequities of the U.S. health care system, with the publication of his book, White Coat, Clenched Fist.[28] Clearly the Public Health Service and, in many cases, the students contemplating applying for NHSC scholarships, knew enough about Fitzhugh Mullan to know what he stood for and where the Corps was likely to go under his leadership.

One of the most serious impediments to the establishments of urban Corps sites in the past had been the lack of viability of the sole practitioner fee-for-service model in the inner city setting. Many urban site failures had preceded the 1976 amendments. Inner city areas were also more likely to be among those for whom the site development process was a difficult one. The lack of community funds and the absence of affluent individuals or businesses within the community anxious to contribute toward the establishment of a clinic had often made the site development stage the limiting factor for urban communities. In 1973, the Office of Economic Opportunity's Neighborhood Health Center Program was transferred to the Public Health Service and there renamed the "Community" Health Center program. Despite the name change, the program had retained the same goals and methods--the granting of funds to community groups in low income areas for the development of community responsive and controlled primary care centers. Once established, however, the CHC's often experienced difficulty recruiting competent physicians.

With Edward Martin's arrival as Director of the Bureau of Community Health Services fresh from his years at the Corps, now with oversight for the Corps as well as the Community Health Centers program and others, a new "integrated" strategy focussing on the complementary use of these two programs began to emerge. Prior to this time, the use of NHSC physicians in CHC's had occurred occasionally, but only by chance. With the development of the "Urban Health Initiative" and "Rural Health Initiative" as they were called, the goal was to aid the community through the CHC granting program with the "development of integrated systems of health

care delivery into which NHSC assignees could be placed."[31] Federal assistance would be offered to communities with both steps of the process involved in making quality health services more available to them in an attempt "to combine the strengths of these two programs in an effort to overcome the major problems each faced,"[31] according to a 1980 article by Edward Martin reviewing this strategy. Many such integrated systems were developed in isolated areas through the Rural Health Initiative, more than 300 by the end of 1979.[32] This strategy was pursued most forcefully, however, in the urban inner city areas. Armed with the new HMSA designation process which made significantly more urban areas eligible for NHSC assignees,[33] the Urban Health Initiative conceived by the Bureau of Community Health Services, and the new Corps director's history of activism aimed at improving the health of the urban poor, the Corps expanded into more and more urban settings. By 1980 almost 40% of all Corps physicians were working in urban placements[34]--representing an increase in number of urban placements from approximately 60 in 1974 to approximately 800 in 1980.[35]

What was emerging at the same time as central in the administration of the NHSC scholarship program was the management of the so-called "pipeline"--the years between the initial receipt of scholarship support and the health professional's arrival in the community to begin delivering care. The 1976 legislation had done two things that affected the "pipeline"--it put a priority on the acceptance of first year students into the program, and it limited the length of residency training to three years. In the 1979 amendments this residency training limit was modified to allow four year residency deferrals for scholarship

recipients pursuing training in obstetrics-gynecology or psychiatry. In effect, then the "pipeline" was almost certain to consist primarily of individuals for whom there was a seven or eight year time span between commitment and service. The selection process used to decide who would be offered a NHSC scholarship had evolved, and from the mid-1970's on, had consisted of a computerized multiple choice format that asked questions about the student's background, experience and interests. Students were chosen using this selection instrument on the basis of the strength of their responses indicating residency in underserved areas, community service or outreach in health settings serving underserved people, and their expressed interest in primary care medicine, and practice setting preferences. The essay questions and other written answers had been eliminated for efficiency when this new application was introduced. According to NHSC officials, the questions on this application had proven predictive value in choosing students who would have a commitment to underserved areas who would want to practice primary care in an underserved area even in the absence of an NHSC obligation.[36] Yet they realized that having such a commitment at the time of acceptance to medical school (scholarships were awarded to first year students in the summer prior to matriculation) was only the first step toward assuring that same commitment existed at the time of placement. A series of programs collectively termed "Acclimation" was initiated in 1977 to begin to tackle this as well as several other objectives. The preceptorships in the NHSC, previously offered as a recruitment tool, were now offered to scholarship recipients to give them an early sample of shortage area practice, which placed 100 scholarship recipients in

such settings each year.

Additionally, a magazine entitled Commitment was developed to give scholarship recipients a feel for practice in underserved areas--including the diversity of the practice modes, cultural groups served and geographic areas--through the use of personal vignettes and perspectives. In an effort to give scholarship recipients a more personal link with the Corps, conferences were held for them in areas with large numbers of scholarship recipients. The focus of these conferences was on issues of community responsive practice, exposure to role models working in the Corps and inspirational speeches by legislators, policy makers and Corps administrators about the health needs of the urban and rural disadvantaged. Finally, a network of student and faculty "advocates" at each medical school was set up who could serve as an information source for scholarship recipients at the school, either informally or via regular meetings and memos. Many other sources of contact with the Corps were provided to students and residents--a newsletter called Acclimation News, as well as NHSC Notes and Public Health Reports (when they contained information pertinent to students), were all sent to scholarship recipients at their homes on a periodic basis in addition to Commitment. A toll-free hotline had been established at the NHSC which students could use to have their questions answered. According to the NHSC director Fitzhugh Mullan, this was all part of a larger effort to give all health professionals in the Corps--those in training and especially those already in the field--a sense of professional identity, belonging and mission "to encourage their interest in and enthusiasm for community medicine while they approached their service."[37] The largest number of scholarship

recipients at this time were students, and for the most part that is whom these acclimation activities were reaching. Indeed, several of the programs had no provisions for reaching residents--the advocate network, the preceptorships and the hotline were oriented solely toward students.

Generally then the Corps that scholarship recipients were associated with from 1976-1980 was a very visible one. In fact, not only were scholarship recipients exposed to all of this information purposely directed at them, the Corps also became quite visible in the lay press as well as the general medical press.[37a] All of these impressions and positive press contributed to scholarship recipients' ability to bond with the program. In all of this they were, of course, seeing a Corps that was currently making a very pro-active response to the needs in urban underserved areas. While that urban image may have been quite dominant, from the conferences they attended and the media coverage of the Corps the overall image that emerged was that of a program that was serving a rainbow of needs and communities. Issues of Public Health Reports and Commitment, for example, that highlighted Corps providers in the field presented a spectrum of images including health care delivery to inner city blacks, Native Americans on a Southwestern reservation, Mexican-American migrant workers, midwestern farmers, and the mountain folk of Appalachia. The Corps had attracted black scholarship recipients at almost four times their proportion in medical schools overall and Hispanic students at more than three times their proportion in medical schools. Certainly, they were getting a very strong message about the Corps' commitment to their communities' needs and their own

ability as health care providers to have a valued role in the Corps that was consistent with its mission.

Beyond a simple bonding or imprinting process that would motivate scholarship recipients to follow through with their Corps commitment enthusiastically, rather than default or serve grudgingly, there seemed to be some desire among NHSC administrators to adopt a broader goal for these "acclimation" activities--that of actual education for shortage area practice. Numerous articles in the community health literature seemed to demonstrate the necessity of special skills and training for those that would serve the underserved.[37b] One of them pointedly declared:[38]

> Since the NHSC will in the future recruit virtually all of its personnel from among those who have received scholarships, and both the NHSC and most of its future physicians can therefore anticipate their future connection for half a decade before actual service, it becomes possible to intervene educationally while these physicians to the underserved are still in training. We argue that such intervention is essential, not only to keep morale high and to provide an opportunity for the scholarship holders to identify positively with the NHSC, but also to help them acquire certain knowledge, skills, and sensitivity that they would not otherwise have and which will be necessary for success in their posts.

Several attempts were made at such truly educational interventions--a resource center and guidebook were developed for scholarship recipients on community health and shortage area practice issues, and curriculum modules on adolescent pregnancy, alcoholism, child abuse and several other topics were prepared for their use. Finally, energy went into trying to get authorization and funds to make the elective preceptorships in NHSC sites a required summer training experience, but the funding could never be obtained. Efforts to make change on the institutional

level at those schools having large numbers of scholarship recipients were discussed a great deal, but it is unclear to what extent they were ever initiated.[38]

As the number of scholarship recipients completing medical school and going either into deferrent status as a resident or into the field, the coordination and effective implementation of the program became more and more of a challenge. As mentioned earlier, the NHSC Scholarship program was placed in the Health Resources Administration (HRA) in Bethesda, Maryland along with the other health professions (student aid) and manpower programs. The HRA also had responsibility through the Bureau of Health Manpower for designating the Health Manpower Shortage Areas. The NHSC field program, in contrast, was administered by the Health Services Administration, with a central office in Rockville, Maryland and ten regional offices through the country. The direct responsibility for selecting scholarship recipients or determining how or if they would be prepared for underserved area practice then did not really rest with the program in which they would eventually serve. As scholarship recipients began to move from one phase to the next, they encountered increasing difficulty negotiating the system with respect to the program. If, for example, a third year medical student who had grown used to dealing with the scholarship program wondered if he could negotiate a four year residency deferral, for due cause, he would be referred to the NHSC program with whom he had no familiarity. During the Carter Administration there was increasing agreement about the logistical problems posed by the separation of the scholarship program from the Corps as a whole. Senator Warren Magnuson, who still continued to exert

influence on NHSC operation, among others pushed to have them united in one agency or the other, but the resolution of the situation did not come until several years later.[40]

Chapter 6

NHSC Scholarship Program Deceleration and Decline

While the outcome of the 1976 NHSC Congressional oversight hearings could be characterized as a decisive movement forward in very specific directions resulting from a clear consensus between the Administration and Congress, the 1980 oversight process and eventual outcome could, in contrast, be seen as a time of massive indecision, confusion and lost opportunity.

Through 1980 the positive momentum within the NHSC scholarship program was evident. Several of the old dilemmas concerning the program's operation were finally being tackled, and creative yet reality-based solutions were being sought. Under Joseph Califano's leadership, the Department of Health, Education and Welfare (DHEW) had adopted notably expansionist policies concerning the NHSC scholarship program. Using the 1978 HMSA figures which, as mentioned previously, contained all or part of more than one fourth of all U.S. counties, DHEW officials spent a great deal of energy projecting the needs for the NHSC field program through 1990. And of course using these figures came estimated new scholarship recipients needed to achieve these levels. Projections of need through 1987 hovered around 18,000 physicians.[40a] On this basis, the accepted high-level Administration plan being the actual staffing of the Corps to at least 15,000 to meet this forseen need in underserved areas. There was at that time little expectation among the administration leaders nor among Congressional health committee leaders that the private sector would play any significant role in meeting the needs

of the underserved.[41] After Califano's departure, the response to these estimates of needed Corps field strength took on what Fitzhugh Mullan has described as "a kind of Alice-in-Wonderland quality--everybody thought the Corps was a great idea but nobody wanted to defend the program or pay for it."[42] In preparation for the 1980 Congressional hearings on the future of the NHSC, the new more budget-minded Department of Health and Human Services (DHHS) officials used the same data projected through 1987 to estimate a needed Corps field strength of 8,000 by 1990.[43] They found a total need of 16,400 health personnel--7,700 in rural areas, 5,200 in urban areas and 3,500 in institutional settings--and now recommended targeting NHSC personnel only for those areas with the greatest shortages or documented underservice. With this recommendation they proposed recruiting 9% of medical students into the NHSC scholarship program to achieve the project level of staffing. This would have required a continued gradual increase in scholarship recipients from the 1980 levels.

Other changes were taking place as well. The administrative reorganization being sought within some part of DHHS to unite the NHSC and the NHSC scholarship program was finally achieved in 1980. A separate agency was formed within the Health Services Administration that consisted only of the NHSC and NHSC scholarship program entitled the Bureau of Health Personnel Development and Service. Placed under the leadership of Daniel Whiteside, DDS, former director of the Corps in its formative years, it seemed that the Corps was now finally in a position to reach its potential, although the placement of the agency in the Health Services Administration rather than the Health Resources

Administration under the more education-oriented Dr. Robert Graham was seen as something of a lost opportunity by some.[44]

Nonetheless, the "development" part of this new agency's mission was taken very seriously, and work to broaden the NHSC's acclimation activities began immediately. A new preceptorship was developed for scholarship recipients in residency training for the first time, enabling obligated physicians a chance to familiarize themselves with shortage area practice and possibly develop ties with an underserved community closer to the time of service. This program actually proved very difficult to get running, but the eventual program run through the AMSA Foundation (with whom the Corps had contracted to do all previous Acclimation activities) was rated very highly in terms of educational benefits by the resident participants.[45] Some discussions also took place about creating a special NHSC "education/preparation for practice" newsletter for resident physician scholarship recipients,[44] similar to the informational newsletters going to student obligees, but this never had time to become operational. In addition, student acclimation programs were taking on a new dimension with the formation of a Scholarship Recipients Council in late 1980. Growing out of concerns about the future direction of the NHSC and its activities affecting scholarship recipients (among a self-selected group of student leaders) as well as the Corps' interest in having a formal mechanism for student input, the Council was considered a major achievement toward promoting better dialogue between the Federal bureaucracy and the obligated health professional students. The Council took on the role of educator about the possible fate of the Corps when the Reagan Administration took over in

1981, and also conducted an excellent survey of scholarship recipients' views, interests, and motivations, whose results we will refer to later in this paper. During this time Alan Noonan, M.D., director of the NHSC scholarship program, emerged as a visible leader of the program in addition to Fitzhugh Mullan, often coming out to national student organizational meetings to answer students' questions about the program.

Yet, in spite of the momentum the program had achieved in 1980, it was beginning to lose support in several important arenas. Organized medicine--the AMA and its federation of constituent state and county medical societies--had through the years, been basically neutral toward the NHSC. Indeed, they paid it no heed. They had other concerns. Presumably, the Corps' provisions for requesting input from local medical societies and its original emphasis on promoting the traditional solo practitioner fee-for-service model had soothed any concerns they had about its resemblance to socialized medicine. In fact, in the 1976 hearings, then AMA president Dr. Malcolm Todd was quoted in the Committee report as saying:

> ...to say we're eliminating the shortage of physicians is playing with words. It won't make any difference if we do have 440,000 physicians in 1980 because they won't be where we need them. Unless we can come up with acceptable incentives for rural practice and inner city practice we're going to have the same distribution problem in 1980 that we do now.[46]

Due to growing concern within the AMA ranks about the new Corps integrated model of service delivery that relied to a much greater extent on community health centers and possibly, the establishment of long-term salaried practice of medicine, as well as dissatisfaction with a new Corps policy that required medical society input about the establishment

of Corps sites but removed any requirement to use or heed such comments, the AMA undertook a large scale evaluation of the NHSC in late 1980. Based on their report's findings, the AMA concluded:[47]

> .The NHSC, with its scholarship program and growing field strength, is a very expensive way to provide medical services (estimated at between $100,000 to $115,000 per year of actual service).
>
> .The NHSC is capable of staffing areas that are truly underserved. Unfortunately there have been numerous situations where the Corps has placed physicians in inappropriate practice settings.
>
> .As Corps field strength figures have increased there has been a significant tendency to lower the need threshold for designation of shortage areas in an apparent effort to justify and assure placement of expanding numbers of Corps personnel.
>
> .Students frequently accept a NHSC scholarship to further their education without considering the future service obligation.

The report also included ten additional conclusions of similar tone, reflecting a general lack of support for the program. These sentiments were expressed clearly in AMA testimony at the 1980 NHSC re-authorization hearings.

Similarly, the Association of American Medical Colleges (AAMC) usually a strong supporter of all legislation to assist with the financing of education in the health professions also changed their position on the program stating:

> The AAMC---a longstanding advocate of the NHSC as an effective and socially desirable instrument to improve the specialty and geographic distribution of physicians--has become progressively more concerned that the costs of this program will drain large amounts of funding from the increasingly scarce resources available for other vital programs. There has become a growing conviction that the NHSC has become an unnecessarily expensive solution to the maldistribution problems in

> the Nation....Consonant with the view that the Corps Service Program has grown too costly, the AAMC believes that its feeder mechanism, the NHSC scholarship program should be scaled down accordingly.

The "other vital programs" referred to by the AAMC were those they considered essential to the survival and well-being of academic medical centers--Federally subsidized student loan programs and funding of the National Institutes of Health.

The American Medical Student Association, nonetheless, remained an outspoken advocate for the program, both because of the program objectives and its importance as a source of financial aid for medical students, especially those of low income or minority backgrounds.[49]

While Congress had many concerns about the NHSC and the NHSC scholarship program that were reviewed at the 1980-81 oversight hearings which were, in many cases, in sharp contrast to legislative intent and expectations expressed just four years earlier, probably the most critical were those raised about the make-up of the scholarship recipient group. Committee members were surprised, even outraged when the learned that many of the medical schools having the largest number of NHSC scholarship recipients are large private schools with unusually high tuitions (Table 8). One observer reports the following exchange between Representative Tim Lee Carter (R-Kentucky), a physician who had been in rural practice in his home state prior to assuming elected office, in response to this information.

> "Why does Georgetown Medical School have the second largest number of NHSC scholarship recipients in the United States? Carter asked. "Is there any particular reason for that? Do you believe that these students are most likely to go to rural areas?"

TABLE 8

Medical and Osteopathic Schools

With the Most NHSC Scholarship Recipients

1973-74 Through 1978-79 School Years

School	Recipients
Meharry Medical College School of Medicine, Tennessee	298
Georgetown University School of Medicine, District of Columbia	273
Kansas City College of Osteopathic Medicine, Missouri	224
George Washington University School of Medicine, District of Columbia	208
Howard University School of Medicine, District of Columbia	193
Loma Linda University School of Medicine California	193
Medical College of Thomas Jefferson University, Pennsylvania	176
Tufts University School of Medicine, Massachusetts	154
Philadelphia College of Osteopathic Medicine, Pennsylvania	142
Temple University School of Medicine, Pennsylvania	140

Source: U.S. Department of Health, Education and Welfare, Training Health Manpower for Underserved Areas 1973-79, A Report to the People on the NHSC Scholarship Program, (1979) p. 5.

> An Administration spokesman responded, "When you have an expensive tuition there is a tendency to use not only the National Health Service Corps Scholarship Program but also the VA program and the Department of Defense. I think you should expect that."

In addition to the suspicions that were fostered by the over-dependence of students from expensive schools on the NHSC scholarship program, NHSC support was eroded further when one of the scholarship recipients invited to testify at the hearing stated that he only took the scholarship for the money and that it had created grave career problems for him when he decided that he wanted to be a surgeon, not a primary care doctor in an underserved area.[51]

These comments about the nature of the scholarship recipients' commitment to the program were particularly dismaying, because for those Congressmen who felt strongly about the Corps' objectives, this was the first intimation that its methods might be less than effective. So beyond giving program opponents "just one more argument," these concerns actually began to turn the tide against the program. As the reauthorization hearings continued into 1981, the arguments against the NHSC scholarship program had multiplied as had its opponents, with a new administration in power and the Congressional Committees under new leadership. What were once Congressional recommendations were now considered program weaknesses. The Urban Health Initiative and Rural Health Initiative integrated strategy programs were commented on as follows:[52]

> While the Committee recognizes that the integration of federal support serves well those communities which do not have adequate financial resources, it discriminates against other communities in HMSA's which have adequate financial resources but cannot recruit health professionals. This strategy also has the unintended effect of encouraging public and private entities with adequate local resources to seek federal financial assistance.

Furthermore, many of the arguments had as their basis the recent findings of the Graduate Medical Education National Advisory Committee (GMENAC) projecting a surplus of physicians by 1990 as well as the recent RAND Corporation study focusing on the observed effects of "diffusion" on geographic distribution of U.S. physicians.[54] The Senate Labor and Human Resources Committee, for example, summarized their views about the continued need for the NHSC as follows:[55]

> The National Health Service Corps has often been looked upon as an educational tool rather than as a health service program. As a consequence the program has been planned and developed without regard for the most notable fact of the health care delivery system in the 1980's: that we will already have by mid decade a substantial surplus of physicians and that the resulting competitive forces are already pushing doctors into areas where they have not previously been available....the Committee is impressed by the growing evidence, analytical and anecdotal that increased physician supply is having the expected "demand-supply model" result: improved geographic distribution..."

Indeed they went so far as to declare that the placement of NHSC physicians in local markets (where "demand-supply models" are at work) is often a "destabilizing" factor. Also criticized were the HMSA designation process used by the NHSC, as one that was "not targeted toward the most needy communities."[56] Finally, current Corps policy was characterized as no longer oriented toward permanently placing individuals in underserved areas who will remain after their obligation is fulfilled,[57] which the Committee found to be a major weakness of the program.

Yet the sentiment was not all negative; just much less positive than in past years. There was however, general dismay about the cost of the program to date per year of ultimate service gained in the field. No

matter how individual legislators felt about the continued need for the program to insure that the underserved had access to health services, they were still hesitant to spend more money on the program by placing federally salaried health professionals in the field if there was any way to avoid it. Indeed, the House Budget Committee went to far as to say, "if appropriations are not sufficient to bring all scholarship recipients available for service into the NHSC, the Committee expects the Department to develop an equitable method of relieving some of them of their service obligation."[58]

Well, such a method was never developed. What did grow out of these concerns, however, was legislative authority that effectively "loosened" the rules governing the Private Practice Option, permitting scholarship recipients to serve their obligation in non-priority (03 and 04) HMSA's. It was hoped that this would make it so easy to find a viable PPO site, that significant numbers of obligated physicians would choose this option rather than be a federally salaried member of the Corps in a priority (01 or 02) HMSA. To encourage the Corps administration to promote the desired effect, a 2,500 person budget cap was put on the size of the federal salaried NHSC field strength. In addition, the Omnibus Reconciliation Act of 1981 (PL 97-35), in a major compromise between the Republican-controlled Senate Committee and still Democratic-controlled House Committee authorized appropriations for "such sums as may be necessary" to support previous NHSC scholarship recipients and 550 new awards for the 1982, 1983, and 1984 fiscal years. The only other legislative outcome was a final symbolic gesture in the process of uniting the NHSC and NHSC scholarship programs--sections within the

Public Health Act, creating the NHSC Scholarship Program were moved from their original place in Article VII (Sections 751-756) to Article III (Sections 338A to 338G) with the rest of the NHSC provisions.

The administrative staff at the Health Services Administration quickly took on "a new look" after the passage of PL 97-35. Fitzhugh Mullan resigned due to obvious differences with the newly inaugurated Administration. Edward Martin, M.D., was removed from his leadership post at the Bureau of Community Health Services, to a more peripheral post in the Health Resources Administration. Presumably the departure of these two would make continuation of past Corps strategies that had come under fire less likely. Billy Sandlin, a non-physician career Public Health Service administrator took over as "acting director" of the Corps. Although Mr. Sandlin had done very respectable work in his years with the Migrant Health program, there was little likelihood that the acting director of the NHSC in 1981 would have that opportunity. Discussions with officials in DHHS with oversight for the Corps seemed to reveal a strongly held conviction that the NHSC was spending money to achieve what diffusion and market forces could do more efficiently.[58a]

With this new administration in place and the continued existence of the NHSC secured for three additional years by the passage of PL 97-35, the functioning of the Corps went back to business as usual. Unfortunately, the next several years proved to be fraught with budgetary disappointments for the Corps that soon became the biggest focus of attention on the part of scholarship recipients. Because of the transitional problems prior to the re-authorization of the Corps, there had never been any NHSC scholarships given out in the normal awards cycle

in 1981-82 (because no money was ever authorized or appropriated in the FY81 budget). Instead, surprise scholarships were given out at the end of the fiscal year to a limited number (162) former EFN scholarship recipients.[58b] Despite the authority for 550 new scholarships provided for in PL 97-35, this occurrence in FY81 turned into a recurring pattern. In FY82, despite offering NHSC scholarships to incoming students who diligently submitted applications, no funds for new scholarships were appropriated. On September 29, however, a select group of approximately 150 second year students (also former EFN recipients) were again given new scholarships. In FY83, however, two additional budgetary cuts occurred affecting those scholarship recipients already a part of the program. The monthly stipend for scholarship recipients which, according to the enabling legislation was to be approximately $570 for the 1983-84 school year, was cut to $358 on the basis of the appropriation level. This cut actually led to a major legislative scramble, when legislators recognized that the stipend level for the Armed Forces Health Professions Scholarships (which supplies physicians for all three military services in much the same way that the Corps does for underserved areas) was legislatively tied to that of the NHSC scholarships. When the scramble ended, the two had successfully been un-linked and the military scholarship recipients had their stipends intact. The 1983 Fiscal Year also brought a salary cut to previous scholarship recipients now serving on the federal payroll in the NHSC field program. The decision was made to terminate the Special Retention Pay to those who had previously been scholarship recipients. This pay had originally been instituted (as discussed earlier) to make the pay of NHSC physicians

commensurate with what someone of their profession/specialty/experience would receive in private practice. Apparently those making the FY83 budget felt the term "Retention" had little applicability to scholarship recipients because of their service obligation. This $9,000 cut in pay brought the annual salary of a Board eligible specialty trained physician down to approximately $29,000. Finally, as expected, once again no funds were appropriated for new scholarships in FY83, but instead approximately 150 were given to former EFN recipients at the end of the fiscal year. According to administration officials, close to 95% of these new scholarship recipients selected in FY81, FY82, FY83 were minority students.[59] This is an outgrowth of their former status as Exceptional Financial Need scholarship recipients (EFN); these scholarships by their very nature are likely to be given to minorities.

The process of "matching" obligated scholarship recipients with communities eligible for NHSC personnel assignment was successful in placing more via the private practice option (PPO) in each succeeding year. Getting newly placed practitioners out in the field on PPO's, and "converting" previously federally salaried NHSC personnel to the PPO allowed the NHSC to significantly cut the number of personnel on the federal payroll. As can be seen from Table 9, from 1980-1983, despite the substantial growth of the NHSC field program, actual federally funded personnel dropped by more than 600.[60] Although the exact percentage of scholarship obligated physicians serving in PPO's in non-priority (03 and 04) HMSA's is not known, overall, of all PPO practitioners in the field 31.4% are in non-priority HMSA's and the rest, 78.6% are in priority (01 and 02) HMSA's.[61] A 1983 evaluation reviewed

TABLE 9

NHSC Field Strength

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Federally Salaried	34	150	338	470	611	724	1425	1850	2058	1926	1891	1452
PPO	0	0	0	0	0	0	0	2	22	417	891	1413
Total	34	150	338	470	611	724	1425	1852	2080	2343	2782	2865

Source: NHSC unpublished data.

the experience with the PPO and the determinants of its continued successful utilization.[62] One of the factors cites as having a major effect on whether NHSC expectations for the PPO are likely to continue to be met in the future was the availability of less critical HMSA (03 and 04) sites for selection by PPO providers.

As the NHSC experienced these budgetary constraints on its ability to carry out its original objectives, the program, for the most part, appeared extremely confusing to scholarship recipients back in the medical schools and residency programs. Medical student recipients continued to get a quarterly acclimation newsletter from the NHSC that helped to answer some of their questions about what was happening to the NHSC and also served to give them facts to fight the stories they heard about the program being cut and their scholarship assistance being terminated. In residency programs--the stage of medical training in which scholarship recipients traditionally got no information from the NHSC--the rumors were flying. Most thought the program was dead, since they had heard no new scholarships were being given out. There was great speculation about what would become of them--would the government let them off the hook completely and turn their scholarships into low interest loans? Student leaders in the American Medical Student Association found that they often were barraged with questions in hospital corridors about the NHSC from confused and worried residents. By 1982, however, the word was out that the NHSC was not letting people out of their obligations, but instead letting them set up private practices "almost anywhere they liked."

As scholarship recipients completed the 1982-83 school year, however, policies and directions at the NHSC changed once again. The unification

of the NHSC and NHSC scholarship program into their separate own agency--the Bureau of Health Personnel Development and Service--was not to last long. It was dismantled in mid-1982 to make way for a new major reorganization within the Public Health Service. The Health Resources Administration and the Health Services Administration were united into the Health Resources and Services Administration under long time HRA deputy director Robert Graham, M.D. The NHSC and the NHSC scholarship program were together placed along with several other service oriented health programs--in an agency called the Bureau of Health Care Delivery and Assistance, that in many ways resembled the old Bureau of Community Health Services. Given that likeness, and history's tendency to repeat itself, Edward Martin, M.D., was brought in within a matter of months to head this new Bureau with oversight for the NHSC. As mentioned earlier, many of those concerned about the issues of preparation/education for underserved area practice had hoped for many years to see the Corps under Dr. Graham's leadership. And, few had any doubts about Dr. Martin's strong personal and professional commitment to the service mission of the NHSC. Nonetheless, this potentially beneficial reorganization unfortunately coincided with what evolved into the most stressful and confusing time for scholarship recipients in the history of the program. The budgetary constraints of the new fiscal year--the stipend cut for students and the salary cut for field personnel--were being implemented with the start of the 1983-84 school year. For reasons that remain unclear, all acclimation programs for students and residents, except the student preceptorship experience were suddenly terminated, also at the start of the 1983-84 academic year. Finally, and probably most surprising

to those scholarship recipients who heard the program was "dead"--the NHSC re-adopted a placement policy for those becoming eligible to serve in the 1983-84 cycle that targeted the neediest shortage areas.

More resident physicians, obligated by their participation in the NHSC scholarship program, would become eligible for placement in 1983-84 than ever before. Few of them had heard anything official from the NHSC since they completed medical school, three to four years earlier. What they did know, however, was they had very little chance of successfully getting out of their obligation unless the NHSC chose to let them out. Whereas, over 40% of their predecessors under the old law that allowed "buy-out" by simple repayment of assistance received at low-interest, had breached their service contract, this new group had to face a triple pay-back penalty if they tried to opt out of their service obligation. The "new" placement policy that was to be used to assign these eligible residents, as explained by Dr. Martin, was simple enough--its aim was to get NHSC doctors to those needy communities that are priority HMSA's that are eligible. Indeed, according to Dr. Martin, some 01 HMSA's that had been designated and eligible for personnel assignment for over six years, never received a physician, because no one had been directive about sending scholarship recipients to places they might find less than attractive.[64]

The obstacles that stood in the way of a priority placement at this stage in the program--the cap on the number of Federal employees, legislative authority allowing selection of PPO sites in non-priority HMSA's--were quickly circumvented. In the FY83 budget process HRSA officials won two victories that made such placements a reasonable possibility

again. First, an additional $15 million was appropriated for the Community Health Centers budget, through passage of the "Jobs Bill," a maneuver that would allow previously federally salaried NHSC personnel to now be paid directly by the Community Health Centers through additional grant funds for salaries added to their budget. Second, a brief statement was slipped into the FY83 appropriations bill that basically said, "Congress never intended to imply that obligated personnel could set up a PPO in any HMSA they liked, rather they meant to say that the Secretary (of DHHS) could now send them anywhere he/she chose under the Private Practice Option (PPO)." The only major obstacle that remained to specifying that all new placements go to priority HMSA's was that HMSA redesignation was under way, and as a result some sites that were priority sites for placements in 1983 might end up being de-designated by 1984.[66] This obstacle was not overcome, it was just accepted that people may need to be reassigned if problems due to non-priority HMSA assignment came up. Finally, the new placement policy utilized a state allocation process based on need, a totally new endeavor for the Corps. Through 1983, the NHSC had negotiated contracting relationships with more than twenty interested states, for the purpose of helping with activities on the state level such as site development, needs assessment, recruitment, and placement. These relationships were to be an aid in the process of fairly allocating new NHSC placements to states based on the number of HMSA's within their boundaries. Table 10 gives the breakdown of Health Manpower Shortage Areas and physician need by state and urban/rural category. Unfortunately, it does not give a sense of which areas are priority versus non-priority HMSA's. However, since priority

HMSA designation requires a physician to population ratio greater than or equal to 4,000 to 1,[67] it may be inferred that more priority HMSA's are located in rural areas than urban areas.

When added to all the other new developments within the Corps that had reached obligated resident physicians "through the grapevine" only, this new placement policy proved to be too much for scholarship recipients to sit back and allow to happen to them. Different people had different understandings of the effect of this new placement policy, and different people encountered a spectrum of problems with it--both real and perceived--but the end result was tremendous evidence of frustration, anger and dissatisfaction among the resident physician group. Numerous telephone calls were received in the AMSA office (which many associated with scholarship recipient advocacy because of past "acclimation" contracts) from residents who were feeling deceived, let-down, confused and wanting to do something. Out of this energy grew two false starts and finally a successful effort within the ranks of obligated physicians and medical students to organize the NHSC scholarship recipients. An organization called the Association of NHSC Scholarship Recipients (ANSR) was incorporated in Fall 1983 to "resist the changes in Corps policy."[68] The residents and students who came together to form the group varied from being extremely committed to the ideals of the Corps and feeling it was in grave distress, to having primarily self-interest at heart, hoping to avoid any need to alter their plans for the NHSC. Many of their concerns center around the issue of whether urban HMSA's will be unfairly neglected in the implementation of the current placement policy--an issue that other groups as well, such as the National Association of Minority Medical

TABLE 10

NUMBER OF DESIGNATED PRIMARY CARE MANPOWER SHORTAGE AREAS (URBAN AND RURAL), POPULATION AND PRACTITIONERS NEEDED, BY REGION AND STATE

[As of Dec. 31, 1979]

	Total areas	Urban areas	Rural areas	Total population of areas	Total physicians needed
United States	1,710	484	1,226	37,597,626	11,336
Region I	83	51	32	1,803,801	563
Connecticut	17	16	1	450,838	147
Maine	14	0	14	106,761	34
Massachusetts	32	29	3	1,020,414	310
New Hampshire	4	0	4	32,818	12
Rhode Island	7	6	1	133,618	42
Vermont	9	0	9	59,352	18
Region II	122	61	61	4,810,791	1,432
New Jersey	21	18	3	622,326	148
New York	83	43	40	3,593,625	1,069
Puerto Rico	16	0	16	555,140	199
Virgin Islands	2	0	2	39,700	16
Region III	192	50	142	3,630,429	1,159
Delaware	4	2	2	56,357	17
District of Columbia	1	1	0	219,121	106
Maryland	25	14	11	503,454	148
Pennsylvania	64	22	42	1,153,111	353
Virginia	47	4	43	880,968	265
West Virginia	51	7	44	817,418	270
Region IV	401	77	324	8,655,554	2,500
Alabama	56	13	43	1,236,588	386
Florida	35	12	23	978,259	293
Georgia	71	16	55	1,148,905	337
Kentucky	62	5	57	925,649	274
Mississippi	51	7	44	1,128,128	322
North Carolina	52	10	42	1,456,397	365
South Carolina	30	6	24	931,625	301
Tennessee	44	8	36	850,003	222
Region V	217	84	133	6,673,977	1,991
Illinois	55	26	29	2,160,303	661
Indiana	32	10	22	856,514	261
Michigan	44	19	25	1,402,974	462
Minnesota	18	6	12	182,604	58
Ohio	34	17	17	1,478,196	412
Wisconsin	34	6	28	593,386	137
Region VI	181	50	131	4,012,139	1,176
Arkansas	38	6	32	528,063	159
Louisiana	28	7	21	634,887	238
New Mexico	9	0	9	57,926	21
Oklahoma	31	9	22	796,778	223
Texas	75	28	47	1,994,485	535
Region VII	138	15	123	2,353,110	655
Iowa	41	2	39	526,950	152
Kansas	21	5	16	203,765	56
Missouri	46	7	39	1,352,117	369
Nebraska	30	1	29	270,278	78
Region VIII	142	9	133	967,340	311
Colorado	31	7	24	237,518	68
Montana	18	0	18	101,693	36
North Dakota	28	0	28	179,197	61
South Dakota	47	0	47	271,789	95
Utah	7	2	5	67,015	23
Wyoming	11	0	11	110,128	28
Region IX	141	70	71	3,474,865	1,084
American Samoa	2	0	2	30,625	9
Arizona	19	4	15	409,412	125
California	87	52	35	2,712,533	852
Guam	0	0	0	0	0
Hawaii	1	0	1	3,820	2
Nevada	27	14	13	171,438	65
Trust territory	4	0	4	70,103	28
Northern Mariana Islands	1	0	1	16,934	3
Region X	93	17	76	1,215,620	465
Alaska	15	0	15	100,426	37
Idaho	15	1	14	116,932	36
Oregon	32	6	26	320,891	111
Washington	31	10	21	677,371	281

Source: Health Professions Training and Distribution Act of 1980, U.S. Senate Report No. 96-936, p. 46-47.

Educators, have raised. In addition they believe the Corps is now planning to ask many obligated physicians to do things the contracts signed before 1980 won't allow. What has been the Corps administrators' reaction to this organizing effort? For the most part it has been conciliatory, although Drs. Graham and Martin do say that they already have had the Justice Department look into the viability of their case if residents do decide to file suite against the NHSC on the basis of any of the contract violation issues that ANSR has raised. Dr. Martin, himself a past leader in years of turmoil of an organization of physicians-in-training, says, on the whole, he is "encouraged" by the formation of ANSR. His belief in the political process, he says, makes him confident that it will be an educational process rather than a negative, destructive one.[69]

In the midst of all of this turmoil the NHSC has gotten a new Director. On November 1, 1983 Billy Sandlin was replaced by Kenneth Moritsugu, M.D., formerly Director of the Division of Medicine in the Bureau of Health Professions (HRSA). Dr. Moritsugu says he brings a tremendous background in medical education with him to his new post and plans to introduce a concern for physician development into the Corps once again.[70] It is not apparent how Dr. Moritsugu and his interests fit into all of this. Whether the Corps will grow, flourish or even be influenced by his leadership is only one small part of a much larger question regarding the Corps' future direction and the political forces, personalities, and constiuencies that will shape it in the years to come. Bills have been introduced in the House of Representatives and the Senate in the past month that would authorize the NHSC and its scholarship program's future. While the outcome

cannot yet be predicted, it is likely that this upcoming re-authorization process, like the previous ones, will be a time of major re-orientation and re-direction of the course of the NHSC and the NHSC Scholarship programs.

FOOTNOTES

[1]President's Commission on Rural Poverty, The People Left Behind (Washington, D.C., 1967).

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[3]Emergency Health Personnel Act of 1970, Public Law No. 91-623 (December 31, 1970).

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[6a]Kenneth Moritsugu, "The National Health Service Corps: Responding to State Needs," Presentation at the American Public Health Association convention (November 1983), p. 1.

[6b]U.S. House of Representatives, "Emergency Health Personnel Act Amendments of 1972, Report of the Committee on Interstate and Foreign Commerce" (House Report No. 92-1547, 1972), p. 4.

[6c]Richard C. Lee, "Designation of Health Manpower Shortage Areas for Use by Public Health Service Programs," Public Health Reports, 94 (January-February 1979), p. 49.

[7]Charles E. Lewis, Rashi Fein, and David Mechanic, A Right to Health: The Problem of Access to Primary Health Care (New York: John Wiley and Sons, 1976), p. 133.

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[9]Personal Interview with David Kindig, M.D., Ph.D., Vice Chancellor of University of Wisconsin Health Sciences Center (February 1984).

[10]August G. Swanson, "Mandatory Requirement versus Voluntary Opportunity for Service in the NHSC," Journal of Medical Education, 50 (April 1975), pp. 406-408.

[11]Eugene A. Stead, "A Proposal for the Creation of a Compulsory National Service Corps," Archives of Internal Medicine, 127 (January 1971), pp. 89-90.

[12]Lewis, pp. 56-57.

[13]U.S. Senate, "Emergency Health Personnel Act Amendments of 1972, Report of the Committee on Labor and Public Welfare" (Senate Report No. 92-1062, 1972), p. 10.

[14]See appendix for the full text of the NHSC Scholarship Program authorizing legislation - The Emergency Health Personnel Act Amendments of 1972 (PL 92-585).

[15]Interview with David Kindig, M.D., Ph.D.

[16]Personal Interview with Edward Martin, M.D., Director of the Bureau of Health Care Delivery Assistance of the Health Resources and Services Administration (February 1984).

[16a]Rosenblatt and Moscovice, p. 285.

[16b]Lewis, p. 137.

[16c]Jack Hadley, Medical Education Financing: Policy Analysis and Options for the 1980's (New York: Produst, 1980), p. 269.

[17]U.S. House of Represenatives, "National Health Service Corps Amendments of 1975, Report of the Committee on Interstate and Foreign Commerce" (House Report No. 94-137, 1975), pp. 7-8.

[18]U.S. Senate, "Health Professions Educational Assistance Act of 1976, Report of the Committee on Labor and Public Welfare" (Senate Report No. 94-887, 1976), p. 196.

[19]U.S. House of Representatives, "Health Manpower Act of 1974, Report of the Committee on Interstate and Foreign Commerce" (House Report No. 93-1509, 1974), p. 34.

[20]Public Health Service Act, Section 332a(1), as amended by PL 94-484.

[21]U.S. Senate, "Health Professions Educational Assistance Act of 1976, Report of the Committee on Labor and Public Welfare," p. 197.

[22]Ibid., p. 198.

[23]Ibid., p. 199.

[24]U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, Chronology of Health Professions Legislation: 1956-1979 (DHHS Publication No. HRA 80-69, August 1980), pp. 49-51.

[25]Public Health Service Act, Sections 751-756, as amended by PL 94-484.

[26]U.S. Senate, "Health Professions Educational Assistance Act of 1976, Report of the Committee on Labor and Public Welfare," p. 201.

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[29]Fitzhugh Mullan, "The NHSC and Health Personnel Innovations: Beyond Poorhouse Medicine," in Victor and Ruth Sidel, eds., Reforming Medicine (New York: Pantheon Books, 1984), p. 191.

[30]Interview with Edward Martin, M.D.

[31]Edward Martin and Richard Bohrer, "The Federal Initiative in Primary Care," Journal of Ambulatory Care Management, 3 (August 1980), p. 36.

[32]Ibid., p. 37.

[33]When the designation process was completed in 1978, 53% of the population living in HMSA's was in urban areas, while 47% was in rural areas.

[34]Fitzhugh Mullan, "The NHSC and Health Personnel Innovations: Beyond Poorhouse Medicine," p. 192.

[35]Calculations based on NHSC field strength at that time and urban and rural HMSA populations.

[36]Interview with Edward Martin, M.D.

[37]Fitzhugh Mullan, "The NHSC and Health Personnel Innovations: Beyond Poorhouse Medicine," p. 193.

[37a]See, for example, Fitzhugh Mullan, "Patient Wheezing--Admit," The New York Times, (February 6, 1978).

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[37b]See,for example, the special issue of Public Health Reports (January-February) 1980 on "Health Professions Education and the Underserved," which included the following:

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H. Jack Geiger, "Sophie Davis School of Biomedical Education at Citv College of New York Prepares Primary Care Physicians for Practice in Underserved Inner City Areas."

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[39]Personal Interviews with Robert Graham, M.D., Administrator of the Health Resources and Services Administration (February 1984), and Edward Martin, D.D.

[40]Personal Interview with Fitzhugh Mullan, M.D., Research Fellow, National Institute of Mental Health (December 1983).

[41]Interview with David Kindig, M.D.

[42]Fitzhugh Mullan, "The NHSC and Health Personnel Innovations: Beyond Poorhouse Medicine," p. 191.

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[55]U.S. Senate, "National Health Service Corps Amendments of 1981, Report of the Committee on Labor and Human Resources," (Senate Report No. 97-125, 1981) pp. 5 and 7.

[56]Ibid., p. 8

[57]Ibid., p. 8.

[58]U.S. House of Representatives, "Omnibus Reconciliation Act of 1981, Report of the Committee on the Budget," p. 167.

[58a]Interview with Carol Zuckert of the Office of the Assistant Secretary of Health (DHHS), (December 1983).

[58b]NHSC Unpublished data.

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[64]Interview with Edward Martin, M.D.

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[66]Interview with Edward Martin, M.D.

[67]Public Health Service, "Criteria for Designation of Health Manpower Shortage Areas--Final Regulations," Federal Register, (November 17, 1980), p. 76003.

[68]National Mailing, Association of NHSC Scholarship Recipients (January 1984) p. 2.

[69]Interview with Edward Martin, M.D.

[70]Interview with Kenneth Moritsugu, M.D., director of the National Health Service Corps (December 1983).

SECTION III

THE NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM: RETROSPECTIVE REVIEW OF PROGRAM ACCOMPLISHMENTS

NHSC SCHOLARSHIP PROGRAM:
RETROSPECTIVE REVIEW OF PROGRAM ACCOMPLISHMENTS

A great many issues for discussion and commentary suggest themselves from the forgoing historical review of the NHSC scholarship program. Clearly, this has been a program characterized by rapid evolution of objectives and a constantly changing agenda; a program very much shaped by the political climate of the day, changing federal budgetary priorities, a complex federal bureaucracy and several very strong personalities.

The NHSC scholarship program has obviously evolved and moved in new directions in concert with the NHSC program as a whole and, for the most part, been shaped by the same forces which molded the Corps generally, as can be seen in the forgoing historical review. One might then argue that NHSC scholarship programs accomplishments can only be viewed in light of those of the NHSC generally. Several studies have indeed done just that--and while their purpose was to review and/or evaluate the Corps they did reflect a good deal on the implications and effect of its scholarship component.[1,2,3] Yet, this approach is not at all a necessity. The essence of the NHSC scholarship program as been an investment of up to $50,000 of funds and some additional amount of associated administrative costs (exact value unknown) into the future of each of a select group of health professional students, to secure high quality medical service from them in underserved areas seven to eight years later. Any attempt to look at the accomplishments of the NHSC scholarship program, for this reason, need only focus on several

interrelated critical questions:

1) What did this investment yield?

2) What did it have the potential of yielding?

3) What were the obstacles that prevented the program from meeting its potential in these areas?

Chapter 7

Financing Medical Education for Disadvantaged Students

The National Health Service Corps Scholarship Program has provided one or more years (in most cases two to three) of full educational support to more than 11,800 medical and osteopathic students, from 1973 to the present time.[5] Totally between these years, the program has given out close to $447.0 million in scholarship awards to health professions students, of which at least $391.5 million has gone to medical and osteopathic students.[6] While as was pointed out numerous times, neither providing financial aid to medical students, nor expanding educational opportunity for the disadvantaged was one of the NHSC Scholarship Program's objectives, there is evidence that it accomplished a great deal in these areas, nonetheless. And, ironically, it seems that the program may have been most effective and accomplished more in these areas than in others that were actual stated objectives.

There have been many anecdotal stories about students' willingness to take the NHSC scholarship as a form of financial aid with little or no consideration of the service obligation involved and, just as little interest in serving the underserved. That is not meant to be the implication here. Rather, the argument here is that the NHSC scholarship program served as an important source of financial aid to needy medical students who were interested in and willing to serve the underserved. In fact, a discussion of student participation in service contingent aid programs by Lee[7] several years ago, actually asserts that it should be expected that both components--financial need and some interest in

the relevant career choice--will be present in most students who accept such scholarship support. Specifically, he asserts,[8]

> Scholarships with strings increase the financial rate of return to a designated career choice. Such scholarships will naturally be quite attractive to students who would have made that choice in any event. How attractive a scholarship with strings will seem to other students will depend on the following factors:
>
> -their degree of commitment to alternative career options
> -the size of the scholarship
> -the terms of the scholarship's obligation
> -their access to other sources of funds, including earnings and loans
> -the money costs of medical education

The interaction of career interests with the other factors (such as relative neediness) can be demonstrated by considering that one rarely finds students who have applied to both the NHSC scholarship program and the Armed Forces Health Professions Scholarship Program (which has basically the same size award, but very different ultimate careers) except from a very few schools where tuition is extremely high. In those students' situation, the last factor Lee mentions, "the money costs of medical education," becomes the overriding consideration. Findings about NHSC scholarship recipients are, in fact, consistent with these expectations. In responding to the 1981 survey of scholarship recipients done by the Scholarship Recipients Council, 89.9% reported that need for financial assistance played a <u>great</u> part in their acceptance of NHSC support, while 75.2% reported that interest in primary care delivery to the underserved played a great role in their acceptance of NHSC support (an additional 15.1% said this interest played a moderate role in their decision). Of note, considerably more of the Black and Hispanic students--

85.5% and 85.6% respectively compared to 72.3% of white students--reported interest in primary care delivery to the underserved as a great influence in their decision.

Another measure of the importance of NHSC scholarships as a mechanism for financing medical education is the portion of total funds for this purpose that it represented. The NHSC scholarship program has been significant in this regard as well, representing from 31%-40% of all scholarships to medical students given in academic years 1977-78 through 1980-81, and representing one-eighth of financial aid from all sources given to medical students in those years.[9] Table 11 illustrates the major role that the NHSC scholarship played in its two largest award cycles 1979-80 and 1980-81.

Finally, it does appear that the NHSC scholarship program aided those students who were relatively more needy than the average medical student. While no studies have been done comparing the actual family income of NHSC scholarship recipients to that of the medical student group overall, several characteristics of the scholarship recipients that were known can be used as a proxy for neediness. In the 1981 study, the Characteristics of Medical Students in the NHSC Scholarship Program, 1973-1980, it was found that overall, the number of NHSC scholarship recipients with fathers employed as physicians, other health professionals, owners, managers or administrators was lower than that for medical students' fathers on the whole. Conversely, the proportion of scholarship recipients' fathers who were employed as clerical or sales workers, craftsmen, skilled workers, unskilled workers, farmers, and non-medical professional workers was higher than the proportions for the total

TABLE 11

Sources of Scholarships for U.S. Medical Students

	1979 - 1980			1980 - 1981		
	Amount, $	No.	Average Amount, $	Amount, $	No.	Average Amount, $
Scholarships not administered by schools						
Armed Forces Health Professions Scholarships	32,557,857	2,990	10,888	38,028,932	3,425	11,103
National Health Service Corps	49,814,806	4,401	11,318	50,110,930	4,079	12,285
National medical fellowships	673,230	587	1,146	767,155	631	1,216
Other (with service commitment)	8,408,755	1,638	5,133	11,107,852	2,628	4,227
Subtotal	91,454,648			100,014,869		
Scholarships administered by schools						
Exceptional financial need	3,550,966	340	10,444	5,135,160	441	11,644
School funds	20,671,635	10,847	1,905	23,078,270	11,459	2,014
Other scholarships	7,792,694	5,789	1,346	8,147,699	5,287	1,541
Subtotal	32,015,295			36,351,129		
TOTAL	123,468,979			136,365,998		

Source: "81st Annual Report on Medical Education in the U.S., 1980-81" Journal of the American Medical Association, December 25, 1981, p. 2922.

medical student group.[10] Also significant, is the high percentage of minority medical students whose education was financed by the NHSC scholarship program. For example in 1980-81 22.0% of scholarship recipients were Black and 9.9% were Hispanic.[11] Looked at from another perspective, in academic year 1980-81, 29% of all Black medical students had their education financed by the NHSC, while 17% of all Hispanic students were NHSC scholarship recipients.[12] Minority status in this country can often be used accurately as a proxy for neediness. However, Table 12 has been included to show more reliably the class differentials between minority and majority medical students. Clearly the minority group exhibits more relative neediness.

The last proxy for relative neediness we will examine is cost of medical education. Simply stated, medical students attending a medical school with X cost per year would, as a group, be relatively needier if the cost were instead 2X per year. Statistics have shown that more NHSC scholarship recipients are students at private medical schools than public medical schools. Private schools tend to be much more expensive (see Table 13). For example, of NHSC recipients in 1979-80, 59% were attending private schools and 41% were attending public schools (this contrasts with the national distribution of medical schools in that same year, which was 40% private and 60% public).[13] But even more specifically, it has been shown that the number of scholarship recipients at a given medical school increases steadily as the tuition level goes up.[14] Table 14 reflects this trend while Table 13 shows that on the average, NHSC support is paying for students going to the more expensive medical schools where even moderate income students may be severely

TABLE 12

Parental Income of All Medical School Applicants and Accepted Students, by Racial/Ethnic Groups, 1981 First-Year Class*

Parental Income	All		Black		White		American Indian		Mexican American		Puerto Rican-Mainland	
	Applicants	Accepted	Applicants	Accepted	Applicants	Accepted	Applicants	Accepted	Applicants	Accepted	Applicants	Accepted
$14,999 or less												
Number	4,594	1,883	826	305	2,680	1,150	26	7	161	86	89	42
Percent	16	13	39	33	12	10	21	14	37	36	49	42
$15,000 to 29,999												
Number	8,968	4,192	642	282	7,181	3,409	37	17	143	84	49	26
Percent	31	30	31	31	30	29	30	34	32	34	27	26
$30,000 or more												
Number	11,405	6,254	415	223	9,880	5,450	44	17	90	50	25	16
Percent	39	43	19	25	44	46	36	34	21	20	14	16
No response												
Number	4,005	2,070	249	89	3,169	1,697	16	8	46	25	21	15
Percent	14	14	12	10	14	14	13	16	10	10	11	15
Total												
Number	28,972	14,399	2,132	899	22,910	11,706	123	49	440	245	184	99
Percent	100	100	100	100	100	100	100	100	100	100	100	100

* Includes only those applicants who took the Medical College Admission Test in either 1980 or 1981 (approximately 80 percent of applicants); percentages may not total 100 due to rounding.

Source: "Datagram: Parental Income of 1981 First Year Medical School Applicants and Accepted Students," *Journal of Medical Education* (October 1983) p. 830.

TABLE 13

Average Cost of Medical Education Compared with NHSC Scholarship Award

	1979-80	1980-81	1981-82
Public Medical Schools Average Total Cost: Instate Residents	$7,091	$7,923	$8,806
Public Medical Schools Average Total Cost: Out of State Residents	$8,994	$9,897	$11,480
Private Medical Schools Average Total Costs:	$11,825	$14,102	$15,819
NHSC Scholarship Average Total Value of Award:	$11,984	$12,994	$14,465

Source: Third, Fourth and Fifth Annual Reports to Congress on the NHSC Scholarship Program and "81st-83rd Annual Reports on Medical Education in the U.S.," Journal of the American Medical Association.

TABLE 14

1978-9 Medical School Tuition and Predicted NHSC Scholarship Recipients

Tuition	Number NHSC Scholars
$1,500	18
$3,500	34
$5,500	51
$7,500	67
$9,500	83

Source: Robert H. Lee and Cathy Carlson, Working Paper: The Effects of Reducing Federal Aid to Undergraduate Medical Education, Urban Institute, 1981.

restricted in their ability to afford the steep costs. It is important to note two important facts about this trend. First, the applicant trend parallels the recipient rend exactly--that is, the more costly a medical school, the larger the number of enrolled students applying for NHSC support.[15] Presumably, if these students from costly schools were any less dedicated to underserved area practice, the selection process (which is designed to measure and predict such dedication) would screen them out. Second, there is reason to believe that students attending such expensive schools who are forced to take out large sums of loans may have their career options limited and be less able to pursue career interests in the lower paying primary care fields.[15] Receiving an NHSC scholarship, it would seem, allows students from those schools with an interest in primary care to pursue their goal free from financial disincentives, indeed actually with encouragement.

While there is apparently nothing wrong with linking the financing of medical education for relatively needy students with medical care to residents of underserved areas, any use of the NHSC scholarship solely as financial aid is a misuse of the program and should be discouraged. The potential of this occuring is reflected in the high percentage of scholars under the "old law" (in which scholars only had to pay back the amount of scholarship assistance received if they defaulted) that failed to serve. Of those students 41% of all those given scholarships breached their contract (failed to serve).[16] In contrast, under the "new law" requiring triple payback for failure to serve, only 17% of those eligible to serve are now in default.[17] It may be that with this new penalty in place the NHSC scholarship program will be able to effectively balance

its ability to provide needed scholarship funds to disadvantaged medical students with the ultimate provision of health personnel to underserved communities.

Chapter 8

Providing Physicians for Underserved Communities

The historical overview of the NHSC scholarship program provides evidence that the specific objectives of its parent program, the National Health Service Corps, underwent considerable evolution in the years between its establishment and the present time. Indeed, an evaluation by Rosenblatt and Moscovice documented this rapid evolution of objectives by constructing a chronological list of stated goals based on a review of the NHSC administrative documents and published literature.[18] Their findings, which examined the years through 1979, are presented in Table 15. Throughout the program's history there has remained, nonetheless, a single unifying NHSC goal that can best be summarized as: The deployment of physicians to serve communities whose supply of physicians has been inadequate; and the retention on a long-term basis of the physicians in those settings. The commonly accepted objective of the NHSC scholarship program has been to supply appropriately trained physicians to the NHSC who will collectively serve as the NHSC manpower pool. This chapter will, therefore, examine the NHSC scholarship program's implied overall objective of supplying appropriately trained physicians to underserved areas, who ultimately stay to serve in the area on a long-term basis. To maximize clarity in this process, the commentary will be divided into five sections:

-Are NHSC scholars appropriately trained for the service they will provide?

TABLE 15

Evolution of the Major Program Objectives of NHSC

Period*	Objectives
1970–1974	Improve the delivery of health services in HMSAs. Assign federal health providers to HMSAs to remedy access problems created by poor distribution of physicians. Develop independent medical practices that will persist in HMSAs after withdrawal of federal support. Retain medical providers in underserved areas after they have completed NHSC service.
1975–1976	Integrate NHSC providers into existing and new rural and urban grant programs in underserved areas. Develop integrated systems of health care in underserved areas. Encourage the provision of preventive and promotive health services in underserved areas and throughout the United States. Develop cost-effective models of primary health care delivery within federal programs.
1977–1979	Increase the number of available NHSC assignees by providing scholarships to students in the health professions. Develop a manpower pool to ensure adequate staffing of BCHS programs. Create a national cadre of health professionals to assist diverse federal goals. Provide an alternative to the private practice of medicine in underserved areas.

*The temporal scale is approximate and represents the years in which the indicated cluster of objectives became generally accepted.

Source: Roger A. Rosenblatt and Ira Moscovice, "The National Health Service Corps: Rapid Growth and Uncertain Future," Millbank Memorial Fund Quarterly, 58, (1980) p. 290.

-Do NHSC scholars truly go and provide the expected service in shortage areas?

-Are NHSC scholars utilized where they are needed most?

-Do NHSC scholars stay in the shortage area settings?

-What proportion of the total need in shortage areas has been met using NHSC scholars?

1) Are NHSC scholars appropriately trained for the service they will provide?

One of the largest contributions that the NHSC scholarship program has made to the NHSC field program is the infusion of large numbers of board eligible residency trained primary care physicians. Prior to the scholarship program feeder mechanism, most NHSC physicians were internship-trained "general medical officers". By allowing scholarship recipients to pursue residency training, but functionally limiting them to training in the primary care specialties, the scholarship program has succeeded in producing a better trained group of generalists that can be sent to underserved areas. More than 85% of the scholarship recipients becoming eligible to serve this year have been trained in family practice, internal medicine, or pediatrics.[19] The small number electing to serve after only one year of training now are for the most part, scholarship recipients who want to pursue training in an unapproved specialty (e.g. surgery, dermatology) after they complete their obligated service in the NHSC. NHSC officials report that this highly trained group of physicians produced by the scholarship program has significantly improved the quality of care the NHSC field has been able to provide in recent years.[20] Nevertheless, there have still been problems with the matching of this

primary care specialty mix with the needs in the field. Of those eligible to serve, among the specialty trained physicians, almost equal numbers are pediatricians, internists and family physicians. Most rural underserved communities and a growing number of urban underserved communities request family physicians. This problem has in the past resulted in some physicians being asked to take on responsibilities that were outside their scope of training.[21] Currently the specialty mix of scholarship recipients ends up being one determinant of which communities get assignees. There has, however, been virtually no attempt to impact on the specialty choices of scholarship recipients, either through voluntary or mandatory means, to remedy this problem. This response to the specialty mix problem (that is, the willingness of the NHSC to accept and deal with whatever comes out at the end of the pipeline, rather than help this end product) is just one reflection of the general approach to the education of scholarship recipients that prevailed within the NHSC.

There never was any clear consensus among NHSC officials about the role that the NHSC should play in the education of scholarship recipients. Should the academic interests of the scholarship recipients and the priorities of their medical schools be the main determinants of the training received by scholars prior to serving, or should the Corps promote or require supplemental educational experiences relevant to shortage area practice? Some past NHSC administrators like Fitzhugh Mullan felt that there was a role for required "basic training" for underserved area practice, but most did not. The prevailing sentiment among the majority of key NHSC administrators was that appropriate education for shortage

area practice could only occur if the NHSC could somehow change the medical schools the NHSC scholars were attending.[22] Short of this, according to Edward Martin, M.D., there was no way to prepare "those scholarship recipients from Scarsdale" for the kind of medicine they would be practicing in underserved areas.[23] So as a result of these prevailing views about "special education" for NHSC scholars, a very laissez-faire attitude was adopted:

-no NHSC based courses or clinical experience were ever required of scholarship recipients

-no school based courses or clinical experiences were ever required for scholarship recipients

-no recommendations were given to scholarship recipients about courses they ought to take in medical school to best prepare them for their service commitment

-no recommendations were ever made to scholarship recipients entering residency about the type of program (e.g. community hospital, rural setting, certain philosophy?) they should select

-no directiveness about NHSC scholars' residency choices (limiting to only certain types of programs, or limiting the numbers that can go into certain specialties)

-no required rotations (residency based or NHSC based) were ever established for NHSC scholars in residency

What was established was a variety of "acclimation" programs, mentioned earlier, that varied from preceptorships to national conferences for scholarship recipients, which retained as one part of their purpose the education of participants. These programs were, however, elective

experiences and only had the capacity to accomodate a relatively limited proportion of all scholarship recipients. For example, the NHSC student preceptorship program placed 1,210 students between 1979 and 1984.[24] This means that at most (assuming no "repeaters") 15% of the scholarship recipients in school during these years participated. Moreover, less than one fourth of the scholars responding to the Scholarship Recipient Council's survey had ever participated in a regional NHSC Scholarship conference.[25]

No data has been gathered on the appropriateness of scholars' training for their ultimate placement in the NHSC. So it remains only the speculation of some observers,[26,27] that the NHSC's "hands-off" attitude toward the educational process will result in lower quality of care to patients in the HMSA's being served. Nonetheless, other programs which have combined support to students for eventual service have in most cases included relevant supplemental training as a component of the program. Federal examples include the Reserve Officers' Training Corp (ROTC) and the Armed Forces Health Professions Scholarship program. In the latter, which is in many ways analogous to the NHSC scholarship program, students are required to undergo basic training and introduction to military medicine on a military base during the course of medical (or dental) school. There are many anecdotal accounts of NHSC scholars who, for example, train in pediatrics at a major tertiary care children's hospital and never learn to treat an ear infection or diarrhea during their training, and then are placed on a small community as the only pediatrician. The extent to which problems exist in the NHSC field program because of inappropriate training, and the extent to which such problems

could have been circumvented by some intervention during these physicians' training has not been documented. However, given the opportunity that the 7-8 year pipeline presents for supplemental training, it would appear that this is an important area for further research.

2) Do the NHSC scholars truly go and perform the expected service in shortage areas?

One of the most critical issues regarding the success of the NHSC scholarship program is its effectiveness in supplying manpower to the NHSC field program. Most of the statistics relevant to this discussion were presented earlier. These data reflecting NHSC defaults (breach of contract) are summarized in Table 17. Listed in Table 16 are the reported reasons for default for those NHSC scholars who had breached their contract prior to April 1978. No such current statistics exist for all defaulters to date. These data on default reflect a very poor record of service payback on the part of scholarship recipients in the early years of the program. The 59% follow-through on service during those years is lower than has been observed in most of the state contingent aid programs.[28] The triple payback penalty imposed by PL 94-484 seems to be effectively discouraging default in those scholarship recipients coming out more recently. Of those 2,272 either completely or partially affected by the new law, only 350 or 15% have defaulted. It is too early to be sure of the size of the impact of this change in penalty, but it certainly appears to be favorable. It is hard to predict how these data on "new law" defaulters will evolve when these scholars have been out of training longer. Also, most of these hybrid and new law scholars have become eligible for service in the two placement cycles--1982 and

TABLE 16

Summary of Medical Default Cases as of April, 1978
PHS Scholarship Program

Reason for Default	Number of Defaults
Personal or Family Problem[1]	21
Deferment Unacceptable	27
Assignment Unacceptable	10
Program Policies Unacceptable	12
Change in Career Goals	15
Other	14
Unknown	34
Sub-Total	133
Withdrew from Medical School	20
Dismissed from Medical School	23
Grand Total	176

Source: U.S., Department of Health, Education, and Welfare, Health Resources Administration, Bureau of Health Manpower, unpublished data.

Note: [1]Includes 12 waivers for personal hardship or disability.

Source: Jack Hadley, ed., Medical Education Financing: Policy Analysis and Options for the 1980's (New York: Prodist, 1980) p. 265.

TABLE 17

Number and Percent of Breach of Contract by Law

NHSC Scholarship Program

All graduates (total)	9,957
All laws	
Number eligible to serve	5,592
Number who have defaulted	1,702
BOC rate	30%
Old Contract (PL 92-585)	
Number eligible to serve	3,320
Number who have defaulted	1,352
BOC rate	40%
New Contract--Triple Payback (PL 94-484)	
Number eligible to serve	957
Number who have defaulted	160
BOC rate	17%
Hybrid Contracts	
Number eligible to serve	1,315
Number who have defaulted	190
BOC rate	14%

Source: NHSC Unpublished Data.

1983--when placement policies were relaxed (i.e. more people being sent to 03 and 04 HMSA's) and more attractive. The 1984 placement cycle will become a good measure how effective a default disincentive the triple payback penalty is. Currently, the Association of NHSC Scholarship Recipients (ANSR) reports that they have received hundreds of calls and letters from NHSC scholars who have encountered problems with the NHSC that they view as insurmountable, who are planning to go into default rather than honor their service commitments.[29]

The various factors that have contributed to or are in some way responsible for the high (30% overall) default rate seen in the NHSC scholarship program are of two types--those problems that are inherent to a scholarship-for-service program of this type, and those problems that are directly related to the specific characteristics of the NHSC program. In the former category are all the liabilities associated with a program that has a long "pipeline". No matter how honorable their intentions, some students may have difficulty accurately predicting their career interests 7-8 years into the future. Some students who honestly felt they wanted to practice primary care medicine in an underserved area when they accepted the NHSC scholarship, may find out in medical school when they actually are exposed to different opportunities in medicine that they love orthopedic surgery, basic research or some other NHSC "unapproved" field. With an easy mechanism for buyout (as the Corps scholarship program had at first), many such students are likely to go this route, rather than fulfill their service obligation. Over and above changes in career direction, some scholarship recipients may find that they have family situations that are incompatible with

NHSC Service. This could range from a spouse dependent on urban or industrial settings for employment (e.g. corporate lawyer or chemical engineer), a sick parent with ties to a particular locale, or a child that needs special education that is only available in a limited number of areas. How the Corps handles these considerations, which are of importance to the scholar, often determines whether such individuals default or not. Like the scholars with the change in career orientation, many of these obligees did not realize (or intend) that anything would prevent them from serving in the NHSC when they first took the scholarship.

Many characteristics of the NHSC scholarship program may have contributed to the high rate of default. The selection process for NHSC scholars was not very rigorous, and so did not optimize the program's likelihood of accepting individuals who had prior experiences (work/volunteer/academic), personal characteristics and background that would indicate a true commitment to primary care and shortage area practice. Although the multiple choice computerized application utilized in the selection process had questions that touched on these areas, the format had obvious limitations in its ability to measure human potential and discern intentions. No essay questions were used as part of the application after 1974, and neither interviews nor letters of recommendation were ever used in the selection process. In addition, the NHSC scholarship program was accepting such a large proportion of its applicants in its growth years of the late 70's until 1981, there was little opportunity for screening out the unsuitable applicants, even if it were possible. For example, in 1977-78 when there were 2,259 applicants, 1,594 were accepted, and the next year when there were 2,946 applicants,

there were 2,390 accepted. (See Tables 5 and 7).

The quality of the ongoing contact between scholarship recipients and the NHSC may also contribute to a scholar's decision to serve or to buy-out. While a given scholarship recipient may have a sincere interest in underserved area practice when entering medical school, this interest may be lost to the sub-specialty pressures of the medical school environment, if it is not reinforced on a regular basis. The NHSC may lose such scholarship recipients because little was done to maintain their identification (e.g. communication about NHSC program activities, exposure to role models in shortage area practice) with the Corps. In fact, the NHSC has done very little over the years to communicate with NHSC scholars in residency training. Often a resident may get little more than a deferment form to sign from the Corps in the course of an entire year. This dramatic drop off in communication makes it easier for the resident to put the obligation to the Corps out of his or her mind and, if the bond between program and practitioner is never re-established, to eventually default.

3) Are NHSC scholars utilized where they are needed most?

The reason that maximum utility of scholars is an important consideration is the wide spectrum of areas that are designated as health manpower shortage areas. While all, of course, demonstrate a relative shortage of physicians and other health personnel, the severity of this supply problem and the type of incentives that would be necessary to get a physician to the area vary widely. For example, some of the non-priority (03 and 04) sites may only need to advertise to draw a willing physician (unassociated with the NHSC) to set up a private practice.

At the other end of the spectrum are some of the priority (01 and 02) sites that are poor, isolated and culturally desolate (by most physicians' standards). Such areas would probably have trouble drawing anyone but an obligated physician, and since the economic base of the community would probably be unable to support a private practice, a salary would be required as well as possibly funding from outside the community for a clinic and ancillary support (site development). So given that the scholarship recipients are a limited resource, and that each of them is available for service primarily because of a major investment of Federal funds, it is appropriate that they be targeted to those areas that cannot draw a physician through any other means.

Several structural characteristics have been built into the NHSC program which do, indeed, maximize its potential for getting its physicians into the neediest areas. They include:

- -the ability to provide a salary to the physicians that are sent into shortage areas.
- -the development of a <u>priority</u> designation system for identifying HMSA's, making assignment by priority a simpler task.
- -the availability of scholarship recipients that are <u>obligated</u> to serve (presumably wherever the Corps decides to send them).
- -grant and loan authorities (under NHSC and CHC PHS Act provisions) for assisting communities with site development.

The NHSC undoubtedly has the power to be more directive to scholarship recipients about where they must serve out their obligation than they would with volunteers who can opt out of the program if they are not given a satisfactory placement. When this capability is combined with

the other strengths of the NHSC favoring priority area placement, the program's potential for success in this area appears quite good.

Table 18 presents 1983 and 1984 data on NHSC personnel location by HMSA priority designation and by urban/rural breakdown. Unfortunately, these statistics do not differentiate between scholarship and non-scholarship personnel--data on the specifics of NHSC scholar location are not compiled. Since relatively few volunteer personnel have been hired by the Corps in recent years (and turnover is relatively high), these overall NHSC data can be used as a rough estimate of NHSC scholar location in the field. The data show that, of Federally salaried personnel, 87% were in priority HMSA's in 1983, and 90% are currently in priority HMSA's.[30] Of those in private practice or private placements (salary paid by agency other than the Corps; e.g. state health department, city hospital, community health center), 77% were in priority areas in 1983 and 1984 (currently). While the Federally salaried staff seem to be utilized nearly maximally in priority areas, the private practice strategy appears to significantly decrease the percentage of NHSC scholars that are utilized in the neediest areas. It would seem that such a strategy would be appropriate only as priority areas become more and more scarce.

Overall statistics on the current needs in HMSA's show that there are 2,094 designated HMSA's across the country, and that in addition to the NHSC physicians now on duty, an additional 3,967 primary care physicians are needed to fully staff them.[32,33] Unfortunately, statistics do not appear to be available on this part of this need that continues to exist in priority HMSA areas. However, since well over 60% of all HMSA's

TABLE 18

Distribution of NHSC Field Strength

	1983 Actual	1984 Current Est.	1985 Estimate
PPO/PP Assignments			
In rural areas	744	1,027	1,289
In urban areas	669	911	1,144
In 01-02 HMSA's	1,089	1,492	1,873
In 03-04 HMSA's	324	446	560
Sites staffed	868	1,100	1,400
Federal Assignments			
In rural areas	695	500	650
in urban areas	757	522	500
In 01-02 HMSA's	1,263	920	1,035
In 03-04 HMSA's	189	102	115
Sites staffed	739	600	650
Number of People Served			
By Federal physicians	1,200,000	930,000	770,000
By PPO/PP physicians	1,080,000	1,630,000	2,180,000
Total people served	2,280,000	2,560,000	2,950,000
Combined Field Strengths			
Federal assignees	1,452	1,022	1,150
PPO assignees	1,101	1,151	1,216
PP assignees	312	787	1,217
Total Field Strength	2,865	2,960	3,583

Source: NHSC Unpublished Data.

are priority HMSA's, there is good statistical reason to believe that much of the needs in these priority areas continues to be unmet. Indeed, Dr. Edward Martin has stated that many priority areas have in the past been repeatedly passed over for NHSC personnel assignment. This has occurred for two reasons 1) because scholarship recipients have consistently found those particular areas unattractive or undesirable and chosen other (possibly also priority) areas instead, and 2) the lack of site development activities in many of the neediest areas has made it necessary to pass over them for physician assignment repeatedly, despite the availability of scholarship recipients that could be sent to serve them.

Looking more closely at the former problem--that physicians pass over some areas while others are seen as more desirable, we find that traditionally, the West Coast and the Northeast are the most sought after locations by NHSC assignees.[35] Conversely, a 1981 study shows that indeed, there are some common demographic characteristics of the rural NHSC sites that have repeatedly failed in their efforts to draw NHSC physicians.[36] Such areas were found to be generally much poorer, have populations with lower educational attainment, have larger numbers of elderly community members, higher infant mortality, fewer physicians per capita, and more often located in the Southeast.[36] It was discussed in the historical overview that NHSC scholars saw that the NHSC was meeting the needs of a diverse spectrum of communities, leading them to believe they could be placed in communities to which they had a natural tie of some sort (ethnic, geographic, etc.). Yet, the above demographic factors associated with non-selection, combined with the fact that 42% of all scholarship recipients come from eight states (California,

Illinois, Maryland, Massachusetts, Michigan, New Jersey, New York and Virginia),[37] begin to suggest that the careful "matching of site and scholar that many have come to expect may not go very far in meeting the needs of all priority areas. Indeed, a recent study of shortage areas revealed marked regional variations, with residents of the South more likely than residents of other regions to be residing in shortage areas.[38] In addition, residents of shortage areas to tend to be poorer than the general population, and one third of all residents of shortage areas are non-white.[38]

The latter problem of inadequate site development in priority areas is very unfortunate, but appears to be related to the larger issue of financial resource availability within the NHSC. As can be seen in Table 19, while the field strength of the Corps grew substantially between 1981 and 1985 (based on number of scholars beginning service), the budget appropriations have remained relatively constant (and will be cut drastically in FY85, if the President's budget is approved). What this reflects is a poor fit between the resources (manpower) being produced by the NHSC scholarship program, and the ability/capacity of the NHSC field program to absorb and utilize this manpower. To most effectively utilize this prior investment in scholarships, the NHSC would have needed to expand the budget for health personnel salaries and to employ the program grant and loan authorities to facilitate site development in the priority areas that most need physicians (capacity building). This did not happen. In fact, fewer personnel will be salaried by the Corps in 1985 than in 1978, and the granting authority of the NHSC has <u>never</u> been utilized to assist a community with site

TABLE 19

NHSC Budget History

Fiscal Year	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
NHSC											
Appropriation ($000)	20,180	23,662	25,354	39,696	62,969	74,075	84,739	88,309	88,627	91,000	67,174
Positions											
Federal Assignees	701	701	701	1,425	1,850	2,058	1,926	1,891	1,452	1,022	1,150
Private Practice Option	--	--	--	--	2	22	417	891	1,101	1,151	1,216
Private Placement	--	--	--	--	--	--	--	--	312	787	1,217
Total positions	701	701	701	1,425	1,852	2,080	2,343	2,782	2,865	2,960 1/	3,583

1/ $91,000 represents Congressional Appropriation whereas current estimated need for the NHSC program is $84,000 - $85,000 for FY84

Source: NHSC Unpublished Data.

development.[39] It can therefore be concluded that the budgetary austerity that has dominated the program since 1981 has not only impacted on the program's current operations, but also on the effective yield on the investment of past years (in large numbers of scholarships).

4) Do NHSC scholars remain in shortage area settings?

Among the earliest and most enduring objectives of the National Health Service Corps is provider retention in shortage areas. This component of the NHSC strategy has been viewed by Congress and NHSC officials alike as the key to truly eliminating Health Manpower Shortage Areas. Originally, the role that the NHSC would play was seen as something of a "marriage bureau" for physicians and communities--the Federal government would pay the physician's salary during the "honeymoon period" while the physician was establishing his or her practice and developing ties to the community, and when that process was completed the provider would establish an independent private practice that would serve the community for many years to come. The theory behind this long-term retention scenario was, of course, similar to the rural preceptorship model--that once exposed to isolated underserved areas, physicians would be much more likely to locate their practices in such communities.

Many of the programmatic strategies of the NHSC have been directed toward optimizing retention. For example, the placement process has often relied heavily on matching characteristics of provider and community (as well as taking into account their preferences). And, after early NHSC experience demonstrated that physicians serving prior to completing residency training were unlikely to remain, a greater emphasis was put on recruiting physicians at the end of their training. These

efforts did result in major improvement in short term retention for the NHSC (defined as voluntary extension of tours of duty within the NHSC and termination of service to establish private practice in the shortage area), which had reached 48% by 1978.[40] A study was completed in December 1982 which provided a more reliable measure of the type of long-term retention in shortage areas that the Corps had hoped to promote.[41] This study had looked at the percentage of NHSC alumni who were still located in a shortage area when they were contacted several years after their original NHSC service. Of those providers serving in the Corps between 1972 and 1981, 24% were still in shortage areas at the time of inquiry and 66% of those were located in priority HMSA's.[42] Although there is no data available on the comparable percentage of all physicians located in underserved areas, there is reason to suspect that it is significantly lower.

Such data provides a valuable baseline on retention of all NHSC providers to which it would be useful to compare data on NHSC scholar retention beyond obligated service. Unfortunately, no data have been gathered on scholarship recipients' tendency to remain in shortage area communities, and no studies on overall retention have separated out the retention patterns of scholarship and non-scholarship NHSC providers. Such data are critical to any assessment of NHSC scholarship program impact on health care in underserved areas. Does scholarship obligation have an impact on how NHSC service is viewed, making it more likely that the provider will quickly "move on" after his or her required 2-4 years of service? Anecdotal reports from clinic (NHSC sites) administrators in some locations suggest that this may be the case,[43] but the need for further research remains.

Numerous reports from assignees in the field (scholarship obligated) and NHSC scholars in residency suggest that there may be several emerging trends that may serve as major detterents to retention.[43a] These problems, judging from the many letters received in response to the ANSR national mailing, appear to be relatively widespread and quite serious in their effect on the collective morale of scholarship recipients. These reports reflect a fairly high level of frustration with the NHSC, and for the most part, center around several critical issues:

-Dissatisfaction with placement--for reasons ranging from separation from spouse, to lack of ethnic/regional affinity toward assigned site.

-Problems with placement--problems with establishing PPO's in assigned area (sometimes bankruptcy), having to move because private placement money dried up, antagonism from local medical societies, problems of racism or sexism from community, and being (supposedly) assigned to communities that don't exist.

-Problems with NHSC administration--these include reports ranging from having to wait several months before decisions are made concerning seemingly simple issues; decisions that appear to have been made reversed (i.e., on placement and deferrals), people are placed in default without an investigation of problem (i.e., form for deferral went to wrong address) and simple rudeness and insensitivity toward personal and family matters during telephone encounters.

-Dissatisfaction with what are perceived as current Corps policies--i.e., beliefs that the NHSC no longer cares about urban underserved areas or poor people.

These reports do not necessarily reflect substantiated facts about "what really happened" between the NHSC and scholarship recipients: nor do they always represent valid "problems". Nonetheless, these reports are important because the dissatisfaction reflected by these reports will ultimately affect retention of NHSC scholars in underserved areas after they complete their obligation. Possibly it will affect patient care during obligated service as well. The lack of communication from the Corps about its evolving role and the changing needs in the field as well as the previously mentioned problems has clearly played a part in the development of this. The fact that many scholarship recipients encounter a very complex NHSC administrative bureaucracy--consisting of the NHSC central office, the NHSC scholarship central office, NHSC regional offices, NHSC state contractors, local communities, "acclimation" contractors--these misunderstandings may also be a result of mixed messages, general confusion and lack of any direction in "how to negotiate" the NHSC maze. Finally, as was mentioned earlier, expectations of scholarship recipients about Corps service were based on the images they were presented in the late 1970's (since they have rarely heard from the Corps in a substantive fashion more recently). However, this did not just include assumptions about where they would serve--it was much more. The expectation was that they were becoming a part of a medical "Peace Corps" as it were, that would have a sense of pride and purpose. Mose scholarship recipients no longer have a sense of the purpose of the Corps, so pride in their work has been lost. Many NHSC scholars believed that the Corps' special mission went hand-in-hand with a special respect and sensitivity toward the personal development of its own personnel. So

that placement procedures that were viewed as acceptable in the military were, if adopted by the NHSC, viewed as part of a larger scale "selling out" on important principles of health and activism. It appears that to the extent that the Corps by its current practices causes widespread negative responses by NHSC scholars to its current practices, it may have problems with enthusiastic service in the field and observe decreasing retention. The nature of NHSC scholar dissatisfaction needs to be investigated further. In addition, the probable impact of such problems on the future of the NHSC should be examined and if merited, creative solutions developed.

5) What proportion of total need in shortage areas has been met using NHSC scholars?

Currently, the NHSC scholarship program can be characterized by:

-the small number of new scholarships being given out.

-the large proportion of all scholarship recipients still in training.

-the potential of the NHSC using the scholarship recipients who became available to effectively meet all the projected needs on HMSA's through 1990.

The status of the 13,383 NHSC scholarship recipients (all disciplines) for all years, as of January 1982 was:[44]

8,221 (61%) were still in training--(Professional school or deferral for internship and residency)

2,028 (15%) were currently in Health Manpower Shortage Areas fulfilling service obligations

1,169 (9%) had completed their service obligations

1,965 (15%) had breached their contract (some of these were repaying or had completed repayment of financial charges)

Since that time, approximately 300 new scholarships have been given out and 1,244 more scholars have completed training and begun service in shortage areas (including the Indian Health Service).[45]

So from this data it can be surmised that more than 4,400 NHSC scholarship recipients have served in Health Manpower Shortage Areas, while over 2,000 are involved in the provision of health care in shortage areas today. While the magnitude of these figures is significant, it is difficult to draw any conclusions about the proportion of need in underserved areas they have met. As noted earlier, our database on the service of NHSC scholars is incomplete. However, the frequent changing estimates of the total need in HMSA's also make it difficult to measure the impact of the NHSC scholars' contributions. For example, in 1978 there were 1,800 designated HMSA's, in 1979 the number rose to 2,800, while the most current listings (1982) also include 1,094 HMSA's. HRSA officials are currently in the midst of reevaluating all current HMSA's which is expected to result in another readjustment in the total number of designated HMSA's. Recently, however, NHSC officials have stated that even current listings of designated HMSA's are virtually useless as estimates of the true need in shortage areas across the country. They assert that the need is actually much less, and better reflected by the Placement Opportunity List prepared by Dr. Martin for those scholars in the 1983-84 placement cycle.[46] Thus, a retrospective

look at the collective impact on the health care of underserved communities is inhibited by a lack of data and changing estimates of need that span the time of service. A prospective examination of the ability of NHSC scholars to meet current and projected needs may prove more fruitful.

Table 20 provides output projections of NHSC scholarship recipients as of 1982. The expected output in 1989 and 1990 is now somewhat higher due to 300 additional scholarships given to second and third year students since this chart was constructed. The most sophisticated projection of needs in shortage areas during this same time period is contained in a report by Howard Stampler and the staff of the Bureau of Health Professions Office of Data Analysis, entitled, Diffusion and the Changing Geographical Distribution of Primary Care Physicians.[47] This report builds on the findings of three recent reports by the RAND Corporation which document a change in the physician supply in certain areas that appear to be consistent with movement from areas of higher density to those of lower density.[48,49,50] The RAND studies contributed a good deal of evidence that would indicate that diffusion of the physicians from highly saturated areas to areas of previous undersupply may be occuring at our current high levels of physician aggregate supply. The Bureau of Health Professions study provides some indication of what effect this observed "geographic diffusion" may have on the size of the current need in Health Manpower Shortage Areas. The model developed for this purpose, projected changes in current need over time in areas with population to physician ratios of greater than 3,500 to 1 (equivalent to HMSA 01, 02, and 03 by population to physician ratio). Table 21

TABLE 20

Output Projections, 1982-1990

Of the 8,273 scholarship recipients still in training, an estimated 8,177 are expected to begin their service obligation periods during the years 1982 through 1989, as noted in the table below, based upon estimates by the Scholarship Program prepared in October 1981. This estimate assumes no new additions to the pipeline of Scholarship recipients and takes into account an attrition factor which assumes that some recipients will fail to enter their service obligations.

Year	Total	Physicians	Dentists	Others
1982	1,303	915	230	158
1983	1,258	1,003	162	93
1984	1,474	1,369	67	38
1985	1,912	1,901	4	7
1986	1,261	1,261	--	--
1987	836	836	--	--
1988	120	120	--	--
1989	13	13	--	--
1990	--	--	--	--

Source: Fifth Annual Report to the Congress on the NHSC Scholarship Program and "The National Health Service Corps Scholarship Program--A Reference Guide for Students of Medicine and Osteopathy".

presents the predictions based on their model through 1994. Assuming a two to three year period of service for most NHSC scholars, it appears that the NHSC scholar output is fairly well suited to meet this current need through 1990 or 1991. Looking at the projected scholarship output for the current year (1984) and the following year (1985), it appears that all needs could be potentially filled by 1985, with new scholars only needed to fill open positions caused by turnover (completion of service obligation or termination). Currently however, the NHSC expects that it will have real problems identifying placements to absorb all the scholars coming out in 1985.[51] The placement cycles in 1984-86 are seen as producing a "glut" of scholarship recipients eligible to serve. Yet, the available evidence does seem to indicate that the need in shortage areas is sufficient to utilize the scholars; the capacity of the NHSC to effectively utilize the scholars to meet those needs, however, is not. There is little evidence that the issues of site development or NHSC capacity were considered when such large numbers of scholarship recipients were recruited in 1977-80. In 1984, those are critical issues that the NHSC must face if they are to avoid squandering the investment the NHSC scholars represent when even by conservative estimates, they are needed in shortage areas to provide health care.

SUMMARY

The NHSC scholarship program has clearly contributed to the availability of health care in underserved areas since its first recipients began service in 1976 to the present. Whether the size of this contribution actually reflects a cost effective benefit given the level of funds invested deserves investigation when an adequate database

TABLE 21

Number of Wholly or Partly Designated Counties Having a Population-to-Primary Care Physician Ratio Greater than 3500-to-1 and Number of Primary Care Physicians Needed to Reduce the Ratio in these Whole or Part Counties to 3500-to-1, 1982-1994

Year	Number of Wholly or Partly Designated Counties Having a Population-to-Primary Care Physician Ratio Greater than 3500-to-1 1/			Number of Primary Care Physicians Needed to Reduce the Ratio in Whole and Part Counties to 3500-to-1 2/		
	Total	Nonmet	Met	Total	Nonmet	Met
1982	1,501	1,126	375	5,076	2,098	2,979
1983	1,446	1,082	364	4,883	2,018	2,865
1984	1,373	1,033	340	4,696	1,942	2,754
1985	1,311	985	326	4,525	1,859	2,666
1986	1,228	922	306	4,330	1,760	2,570
1987	1,165	865	300	4,114	1,642	2,472
1988	1,095	816	279	3,907	1,542	2,365
1989	1,013	750	263	3,719	1,424	2,295
1990	976	723	253	3,581	1,371	2,210
1991	936	695	241	3,455	1,319	2,135
1992	883	651	232	3,352	1,256	2,096
1993	854	631	223	3,272	1,209	2,063
1994	810	598	212	3,204	1,148	2,056

1/ Counties identified in the county-level projection as having overall ratios greater than 3500-to-1 are combined with counties identified in the subcounty projection as containing designated portions having a population-to-physician ratio above 3500-to-1.

2/ Projected numbers of physicians needed in wholly-designated counties to reduce their ratios to the 3500-to-1 level combined with projected numbers of physicians needed in designated portions of partly designated counties to reduce their ratios to the same level.

Source: U.S. Dept. of HHS, Diffusion and the Changing Geographic Distribution of Primary Care Physicians, p. 52.

on the scholarship program has been gathered. Much more data is needed if the program's impact is ever to be fully evaluated or program structure re-assessed.

Finally, it appears that some portion of the NHSC scholarship program's effectiveness, to date, has been undermined by:

-Administrative complexities

-Changing and/or inappropriate budgetary priorities

-Scholarship recipient attitudes regarding obligations

-Lack of communication between NHSC and scholars

-NHSC scholar selection process; and possibly

-Lack of emphasis on training appropriate to shortage area settings.

FOOTNOTES

[1]Jack Hadley, "The National Health Service Corps," in Jack Hadley, ed., Medical Education Financing: Policy Analysis and Options for the 1980's, (New York: Prodist, 1980), pp. 260-273.

[2]Roger A. Rosenblatt and Ira Moscovice, "The National Health Service Corps: Rapid Growth and Uncertain Future", Millbank Memorial Fund Quarterly, 58, (1980) pp. 283-309.

[3]Fitzhugh Mullan, "The NHSC and Health Personnel Innovations: Beyond Poorhouse Medicine," in Victor and Ruth Sidel, eds., Reforming Medicine, (New York, Pantheon Books, 1984), pp. 178-202.

[4]Rosenblatt and Moscovice, p. 298.

[5]U.S. Department of Health and Human Services, Fifth Annual Report to the Congress on the National Health Service Corps Scholarship Program for Fiscal Year 1981, (January 1982) and NHSC Unpublished data.

[6]Ibid.

[7]Robert H. Lee, "Scholarship Programs and Medical Education Financing," in Jack Hadley, ed., Medical Education Financing: Policy Analysis and Options for the 1980's, pp. 128-148.

[8]Ibid., p. 136.

[9]Calculations based on figures regarding the course of medical student financial aid reported in Journal of the American Medical Association, "Annual Report on Medical Education," 1981-1983.

[10]U.S. Department of Health and Human Services, Characteristics of Medical Students in the National Health Service Corps (NHSC) Scholarship Program, 1973 Through 1980, Bureau of Health Personnel Development and Service, DHHS Publication No. (HSA)81-6034, p. 19.

[11]U.S. Department of Health and Human Services, Fifth Annual Report to the Congress on the National Health Service Corps Scholarship Program for Fiscal Year 1981.

[12]Calculations based on 22.0% and 9.9%, respectively, of 4,815 (total NHSC scholarship recipients in 1980-81) as a percentage of blacks (3,708) and Hispanics (2,797) in medical schools, 1980-81, from the Association of American Medical Colleges, Medical School Requirements 1983-84.

[13]U.S. Department of Helath and Human Services, Characteristics of Medical Students in the NHSC Scholarship Program, pp. 12-13.

[14]Robert H. Lee and Cathy Carlson, Working Paper: The Effects of Reducing Federal Aid to Undergraduate Medical Education (Washington, D.C.: The Urban Institute, June 1981), p. VI-9.

[15]Frances French, "The Financial Indebtedness of Medical School Graduates," New England Journal of Medicine, 304, (March 5, 1981) p. 565.

[16]NHSC unpublished data.

[17]Ibid.

[18]Rosenblatt and Moscovice, pp. 290-291.

[19]NHSC unpublished data.

[20]Interview with Edward Martin, M.D.

[21]Information presented at "National Health Service Corps Program--Program Review," (February 28-29, 1984), Health Resources and Services Administration.

[22]Interviews with Robert Graham, M.D. and Edward Martin, M.D.

[23]Interview with Edward Martin, M.D.

[24]Data extracted from final reports on NHSC Student Preceptorship Program, 1979-1984, AMSA Foundation.

[25]National Health Service Corps Scholarship Recipient Council, "Survey of NHSC Scholars," (Unpublished Findings, compiled October 1981).

[26]Budd Madison and Donald Madison, Leadership for Community-Responsive Practice: Preparing Physicians to Serve the Underserved, (Washington, D.C.: DHEW, Bureau of Health Manpower, 1978.

[27]Interview with Fitzhugh Mullan, M.D.

[28]See Table 5 on default experience of eleven states service contingent aid programs.

[29]Personal communication from Stephan Newman, M.D., president, Association of NHSC Scholarship Recipients.

[30]Data from NHSC officials, prepared for the President's FY85 Budget.

[31]Ibid.

[32]Public Health Service, "Final Notice--Listing of Designated Health Manpower Shortage Areas," Federal Register, 47, (June 15, 1982), pp. 25860-25902.

[33]NHSC unpublished data.

[34]Based on calculations of percentage of all listed HMSA's (Federal Register, June 15, 1982) that are priority HMSA's.

[35]Rosenblatt and Moscovice, p. 303.

[36]Murray A. Woold, Vicki L. Uchill and Itzhak Jacoby, "Demographic Factors Associated with Physician Staffing in Rural Areas: The Experience of the National Health Service Corps," Medical Care, 19, (April 1981), pp. 444-451.

[37]U.S. Department of Health and Human Services, Characteristics of Medical Students in the NHSC Scholarship Program, pp. 8-9.

[38]M.L. Berk, A.B. Bernstein, and A.K. Taylor, "Use and Availability of Medical Care in Federally Designated Health Manpower Shortage Areas," National Center for Health Services Research, (October, 1982).

[39]Statement by NHSC official at "NHSC--Program Review," (February 28-29, 1984).

[40]Hadley, p. 269.

[41]La Jolla Management Corporation, Collection of Data on National Health Service Corps Alumni and Preparation of a 1972-1981 Directory from an Alumni Tracking System, (December 17, 1982), Health Resources and Services Administration.

[42]Ibid., pp. 3-4.

[43] Information presented at "NHSC--Program Review," (February 28-29, 1984).

[43a] Based on responses to Association of NHSC Scholarship Recipients (ANSR) national mailing and calls received in AMSA National Office.

[44] Juan Jimenez, ed., "A Reference Guide for Students of Medicine and Osteopathy," National Health Service Corps Scholarship Program (March 5, 1982) p. 8.

[45] NHSC unpublished data.

[46] Statement by NHSC placement officers at NHSC review meeting February 28-29, 1984.

[47] U.S. Department of Health and Human Services, Diffusion and the Changing Geographic Distribution of Primary Care Physicians, (November 1983), Health Resources and Services Administration.

[48] W.B. Schwartz, J.P. Newhouse, B.W. Bennett, A.P. Williams, The Changing Geographic Distribution of Board-Certified Physicians, (October 1980), RAND Corporation Pub. No. R-2673-HHS/RC.

[49] J.P. Newhouse, A.P. Williams, W.B. Schwartz, and B.W. Bennett, The Geographic Distribution of Physicians: Is the Conventional Wisdom Correct?, (October 1982), RAND Corporation Pub. No. R-2734-HJK/HHS/RWJ/RC.

[50] A.P. Williams, W.B. Schwartz, J.P. Newhouse and B.W. Bennett, "How Many Miles to the Doctor?" The New England Journal of Medicine: 309, (October 20, 1983), pp. 958-63.

SECTION IV

CONCLUSION

Chapter 9

Conclusion

Studies written as early as 1971 and as recently as 1982, have questioned the effectiveness of service contingent aid programs in supplying needed health personnel to truly underserved communities.[1,2,3,4] The program characteristics that most often limited program effectiveness identified by these studies included:

- -Students often use aid and then "buy out" rather than fulfilling service obligation
- -No primary care requirement, so providers with inappropriate training are sent to some shortage areas
- -Scholarship so small that year for year service commitment seems unfair to students (again leading to buy out)
- -Neither salary not site provided by program making it difficult to go to some areas
- -Great deal of flexibility allowed to recipient in choosing placement (needy areas rarely prioritized).
- -Rarely any administrative staff of its own or service program identity

Policy makers who shaped the NHSC scholarship program seem to have carefully incorporated lessons learned from these earlier criticisms of the state service contingent aid programs. By 1976, the NHSC had structured a scholarship program that minimized almost all of the major problems that had plagued that state programs. These program characteristics included:

-High penalty for breach of contract

-Provision of a salary for providers

-Large scholarship award (covering total cost of education)

-Designated HMSA's (with priority areas identified)

-Residency training allowed only for primary care fields

-Large administrative staff to take care of program

-Placement policy that allowed some flexibility but with ultimate control resting with the NHSC.

Yet none of these carefully designed program features changed the basic premise of this and all service contingent aid programs--that by paying for a health professional's schooling you can make that person practice good medicine enthusiastically and devotedly in an isolated area and possibly stay in that setting on a long term basis. Certainly, the NHSC scholarship program's failure to yield consistently positive results in this regard may be due in part to internal problems specific to the NHSC scholarship program, including the complexities of the administrative bureaucracy, changing budgetary priorities and insufficient communication with scholarship recipients. Nonetheless, it appears that the "scholarship for service" strategy may have certain fundamental flaws that limit program success no matter how costly the investment or how optimal the program structure. These fundamental flaws are:

1. Pipeline years--difficulty encountered by students accurately trying to predict career and lifestyle interests 7-8 years ahead
2. Needs assessment--difficulty predicting the magnitude and types of needs in underserved areas 7-8 years ahead

3. "Obligated Attitude" of scholarship recipients,--they are there to pay off an obligation and move on
4. Limited evidence regarding the importance of financial incentives versus other incentives in determining physician location
5. Unclear basic theory of program--Is the program meant to draw on those who have a basic interest in underserved areas to start with or those who would have never considered going to such areas. If it is the former, how much of a net gain for underserved areas is the program actually yielding, how many free educations is it providing to those who would have gone without the program?

These "flaws" are most damaging to this distribution strategy's ability to accurately target resources to needs, and to retain providers in shortage areas on a long term basis. Moreover, the inability to project the <u>character</u> of needs in underserved areas also makes it difficult to avoid disappointing scholarship recipients who emerge from the pipeline 7-8 years later, which again makes it difficult to retain them at the end of obligated service. The conclusion to be drawn here is not necessarily that a program can never be optimally effective, rather that the fundamental link between scholarship payment and service cannot <u>alone</u> have all the desired effects. While many future physicians can be convinced to alter their personal career plans for a limited amount of time, there is little evidence to support that money alone can convince a physician to alter his or her long-term career plans. Almost all the previously discussed evidence on physician location theory supports the

need to provide educational and professional incentives to alter long term location choices. Scholarship and non-scholarship Corps personnel alike, would be more likely to stay in their Corps settings if:

-They had received their residency training in NHSC residencies

-If some of the professional isolation could be eliminated

-If there were identifiable modes of professional development and advancement even in those areas that "can't support a physician."

There is much evidence to suggest that creative experiments with new educational linkages, professional linkages and practice settings in the NHSC could slow down the revolving-door of providers and, thereby, benefit communities greatly in the coming years. Undoubtedly, such initiatives are costly, but providing the same communities with scholarship supported NHSC physicians, time and time again may well be just as costly.

The current expanded supply of physicians makes the options for drawing physicians to underserved areas much broader than they were in 1972, when the establishment of a service contingent scholarship program was the only viable recruitment tool for the National Health Service Corps. Certainly the efforts to recruit colunteers between 1973 and 1975 demonstrated that a powerful incentive was needed at that time. Today, as the manpower needs of the NHSC decline and the physician supply continues to grow, the scholarship mechanism should probably be viewed as just one of a number of mechanisms the NHSC may want to employ to recruit and retain personnel in the 1990's.

While there is no reason to predict that the larger aggregate supply of physicians will make individual providers desperate for jobs, it <u>is</u>

likely that they will grow increasingly more flexible about job settings, responsibilities and degree of independence. The NHSC may find in these years that volunteers are not difficult to attract to the program. The attractiveness of the program could be further enhanced by providing post-degree professional training (such as a special fellowship in community health leadership), an attractive salary and opportunities for advancement. It would also seem that the Corps could, with good public relations and by offering such well-regarded professional benefits, become a prestigious service to be a part of. The scholarship program could and should remain the dependable mechanism for obtaining obligated manpower for unattractive, hard-to-fill sites. As the cost of medical education continues to escalate, students will remain very responsive to this incentive for short-term placements in shortage areas. As the effects of diffusion are observed in communities across the country, it may be possible in the next few years to identify the "hard core under-served" communities that physicians continue to avoid. The scholarship pipeline can then be restocked (possibly with primarily third and fourth year students) with an adequate number of health professional students to respond to the current needs in these areas. Such a combination of scholarship obligated and carefully trained and selected volunteer personnel should enable the NHSC to most effectively meet the diverse, but limited, needs in underserved areas within the United States in the coming 10-15 years.

FOOTNOTES

[1]Martin A. Strosberg, Fitzhugh Mullan, and Gwynne Winsberg, "Service-Conditional Student Aid Programs: The Experience of the States," Journal of Medical Education, 57, (August 1982), pp. 586-592.

[2]John L. Williams, Sheila L. Gibbons, Gwynne Winsberg, "Short-Term Evaluation of State Educational Service Conditional Support Programs for Allopathic, Osteopathic, and Dental Students" (Silver Spring, MD: MACRO Systems, 1980).

[3]Henry R. Mason, "Effectiveness of Student Aid Programs Tied to a Service Commitment," Journal of Medical Education, 46 (July 1971), p. 581.

[4]Charles E. Lewis, Rashi Fein, David Mechanic, A Right to Health: The Problem of Access to Primary Health Care (New York: John Wiley and Sons, 1976), p. 21.

APPENDIX

PUBLIC HEALTH SERVICE ACT

* * * * *

TITLE III—GENERAL POWERS AND DUTIES OF PUBLIC HEALTH SERVICE

* * * * *

PART D—PRIMARY HEALTH CARE

* * * * *

Subpart II—National Health Service Corps Program

NATIONAL HEALTH SERVICE CORPS

SEC. 331. [254d] (a) There is established, within the Service, the National Health Service Corps (hereinafter in this subpart referred to as the "Corps") which[(1) shall consist of such officers of the Regular and Reserve Corps of the Service and such civilian personnel as the Secretary may designate (such officers and personnel hereinafter in this subpart referred to as "Corps members")]

(1) shall consist of—

(A) such officers of the Regular and Reserve Corps of the Service as the Secretary may designate,

(B) such civilian employees of the United States as the Secretary may appoint, and

(C) such other individuals who are not employees of the United States,

(such officers, employees, and individuals hereinafter in this subpart referred to as 'Corps members'), and (2) shall be utilized by the Secretary to improve the delivery of health services in health manpower shortage areas as defined in section 332(a).

(b) The Secretary [shall] *may* conduct at schools of medicine, osteopathy, dentistry, and, as appropriate, nursing and other schools of the health professions and at entities which train allied health personnel, recruiting programs for the Corps and the Scholarship Program.

(c) The Secretary may reimburse applicants for positions in the Corps *(including individuals considering entering into a written agreement pursuant to section 338C)* for actual and reasonable expenses incurred in traveling to and from their places of residence to a health manpower shortage area (designated under section 332) in which they may be assigned for the purpose of evaluating such area with regard to being assigned in such area. The Secretary shall not reimburse an applicant for more than one such trip.

(d)(1) The Secretary may, under regulations promulgated by the Secretary, adjust the monthly pay of each member of the Corps *(other than a member described in subsection (a)(1)(C))* who is directly engaged in the delivery of health services in a health manpower shortage area as follows:

(A) During the first 36 months in which such a member is so engaged in the delivery of health services, his monthly pay *may* [shall] be increased by an amount (not to exceed $1,000) which when added to the member's monthly pay and allowances will provide a monthly income competitive with the average

monthly income from a practice of an individual who is a member of the profession of the Corps member, who has equivalent training, and who has been in practice for a period equivalent to the period during which the Corps member has been in practice.

(B) During the period beginning upon the expiration of the 36 months referred to in subparagraph (A) and ending with the month in which the member's monthly pay and allowances are equal to or exceed the monthly income he received for the last of such 36 months, the member [shall] receive in addition to his monthly pay and allowances an amount which when added to such monthly pay and allowances equals the monthly income he received for such last month. *may*

(C) For each month in which a member is directly engaged in the delivery of health services in a health manpower shortage area in accordance with an agreement with the Secretary entered into under section 741(f)(1)(C), under which the Secretary is obligated to make payments in accordance with section 741(f)(2), the amount of any monthly increase under subparagraph (A) or (B) with respect to such member shall be decreased by an amount equal to one-twelfth of the amount which the Secretary is obligated to pay upon the completion of the year of practice in which such month occurs.

For purposes of subparagraphs (A) and (B), the term "monthly pay" includes special pay received under chapter 5 of title 37 of the United States Code.

(2) In the case of a member of the Corps who is directly engaged in the delivery of health services in a health manpower shortage area in accordance with a service obligation incurred under the Scholarship Program, the adjustment in pay authorized by paragraph (1) may be made for such a member only upon satisfactory completion of such service obligation, and the first 36 months of such member's being so engaged in the delivery of health services shall, for purposes of paragraph (1)(A), be deemed to begin upon such satisfactory completion.

(3) A member of the Corps described in subparagraph (C) of subsection (a)(1) shall when assigned to an entity under section 333 be subject to the personnel system of such entity, except that such member shall receive during the period of assignment the income that the member would receive if the member was a member of the Corps described in subparagraph (B) of such subsection.

(e) Corps members assigned under section 333 to provide health services in health manpower shortage areas shall not be counted against any employment ceiling affecting the Department.

(f) Sections 214 and 216 shall not apply to members of the National Health Service Corps during their period of obligated service under the Scholarship Program.

[(g) The administrative unit which administers section 770—

(1) shall participate in the development of regulations, guidelines, funding priorities, and application forms, and

(2) shall be consulted by, and may make recommendations to, the Secretary in the review of applications and proposals for, and the awarding of, grants and contracts,

with respect to the Corps.]

(g)(1) The Secretary shall, by rule, prescribe conversion provisions applicable to any individual who, within a year after completion of service as a member of the Corps described in subsection (a)(1)(C), becomes a commissioned officer in the Regular or Reserve Corps of the Service.

(2) The rules prescribed under paragraph (1) shall provide that in applying the appropriate provisions of this Act which relate to retirement, any individual who becomes such an officer shall be entitled to have credit for any period of service as a member of the Corps described in subsection (a)(1)(C).

(h) For the purposes of this subpart:

(1) The term "Department" means the Department of [Health, Education, and Welfare] *Health and Human Services*.

(2) The term "Scholarship Program" means the National Health Service Corps Scholarship Program established under [section 751] *section 338A*.

(3) The term "State" includes, in addition to the several States, only the District of Columbia, the Commonwealth of Puerto Rico, the Northern Mariana Islands, the Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands. *Commonwealth of the*

DESIGNATION OF HEALTH MANPOWER SHORTAGE AREAS

SEC. 332. [254e] (a)(1) For purposes of this subpart the term "health manpower shortage area" means (A) an area in an urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services) which the Secretary determines has a health manpower shortage *and which is not reasonably accessible to an adequately served area*, (B) a population group which the Secretary determines has such a shortage, or (C) a public or nonprofit private medical facility or other public facility which the Secretary determines has such a shortage.

(2) For purposes of this subsection, the term "medical facility" means a facility for the delivery of health services and includes—

(A) a hospital, State mental hospital, public health center, outpatient medical facility, rehabilitation facility, facility for long-term care, community mental health center, migrant health center, and community health center;

(B) such a facility of a State correctional institution or of the Indian Health Service;

(C) such a facility used in connection with the delivery of health services under sections 321 (relating to hospitals), 322 (relating to care and treatment of seamen and others), 323 (relating to care and treatment of Federal prisoners), 324 (relating to examination and treatment of certain Federal employees), 325 (relating to examination of aliens), or 326 (relating to services to certain Federal employees), or section 320 (relating to services for persons with Hansen's disease); and

(D) a Federal medical facility.

(b) The Secretary shall establish by regulation, promulgated not later than May 1, 1977, criteria for the designation of areas, population groups, medical facilities, and other public facilities, in the States, as health manpower shortage areas. In establishing such criteria, the Secretary shall take into consideration the following:

(1) The ratio of available health manpower to the number of individuals in an area or population group, or served by a medical facility or other public facility under consideration for designation.

(2) Indicators of a need, notwithstanding the supply of health manpower, for health services for the individuals in an area or population group or served by a medical facility or other public facility under consideration for designation, with special consideration to indicators of—

(A) infant mortality,

(B) access to health services, and

(C) health status.

(3) The percentage of physicians serving an area, population group, medical facility, or other public facility under consideration for designation who are employed by hospitals and who are graduates of foreign medical schools.

(c) In determining whether to make a designation, the Secretary shall take into consideration the following:

(1)(A) The recommendations of each health systems agency (designated under section 1515) for a health service area which includes all or any part of the area, population group, medical facility, or other public facility under consideration for designation.

(B) The recommendations of the State health planning and development agency (designated under section 1521) if such area, population group, medical facility, or other public facility is within a health service area for which no health systems agency has been designated.

(2) The recommendations of the Governor of each State in which the area, population group, medical facility, or other public facility under consideration for designation is in whole or part located.

(3) The extent to which individuals who are (A) residents of the area, members of the population group, or patients in the medical facility or other public facility under consideration for designation, and (B) entitled to have payment made for medical services under title XVIII or XIX of the Social Security Act, cannot obtain such services because of suspension of physicians from the programs under such titles.

(d) In accordance with the criteria established under subsection (b) and the considerations listed in subsection (c), the Secretary shall designate, not later than November 1, 1977, health manpower shortage areas in the States, publish a descriptive list of the areas, population groups, medical facilities, and other public facilities so designated, and at least annually review and, as necessary, revise such designations.

(e) *(1)* Prior to the designation of a public facility, including a Federal medical facility, as a health manpower shortage area, the Secretary shall give written notice of such proposed designation to the chief administrative officer of such facility and request comments within 30 days with respect to such designation.

(2) Prior to the designation of a health manpower shortage area under this section, the Secretary shall, to the extent practicable, give written notice of the proposed designation of such area to appropriate public or private nonprofit entities which are located or have a demonstrated interest in such area and request comments from such entities with respect to the proposed designation of such area.

(f) The Secretary shall give written notice of the designation of a health manpower shortage area, not later than 60 days from the date of such designation, to—

(1) the Governor of each State in which the area, population group, medical facility, or other public facility so designated is in whole or part located;

(2)(A) each health systems agency (designated under section 1515) for a health service area which includes all or any part of the area, population group, medical facility, or other public facility so designated; or

(B) the State health planning and development agency of the State (designated under section 1521) if there is a part of such area, population group, medical facility, or other public facility within a health service area for which no health systems agency has been designated; and

(3) appropriate public or nonprofit private entities which are located or which have a demonstrated interest in the area so designated.

(g) Any person may recommend to the Secretary the designation of an area, population group, medical facility, or other public facility as a health manpower shortage area.

(h) The Secretary [shall] conduct such information programs in areas, among population groups, and in medical facilities and other public facilities designated under this section as health manpower shortage areas as may be necessary to inform public and nonprofit private entities which are located or have a demonstrated interest in such areas of the assistance available under this title by virtue of the designation of such areas. — *may*

ASSIGNMENT OF CORPS PERSONNEL

SEC. 333. [254f] (a)(1) The Secretary may assign members of the Corps to provide, under regulations promulgated by the Secretary, health services in or to a health manpower shortage area during the assignment period (specified in the agreement described in section 334) only if—

(A) a public or nonprofit private entity, which is located or has a demonstrated interest in such area, makes application to the Secretary for such assignment;

(B) such application has been approved by the Secretary;

(C) an agreement has been entered into between the entity which has applied and the Secretary, in accordance with section 334; and

(D) [in the case of an application made by an entity which has previously been assigned a Corps member for a health manpower shortage area under an agreement (entered into under section 334 or under section 329 as in effect before October 1, 1977) which has expired] the Secretary has (i) conducted an evaluation of the [continued need] for health manpower for the area, the use of Corps members [previously] assigned to the area, community support for the assignment of Corps members to the area, the area's efforts to secure health manpower for the area, and [fiscal management by the entity with respect to Corps members previously assigned] *the fiscal management capability of the entity to which Corps members would be assigned* and (ii) on the basis of such evaluation has determined that— — *need and demand* — *to be* — *intended*

(I) there is a [continued need] for health manpower for the area; — *need and demand*

(II) there [has been] appropriate and efficient use of Corps members [previously] assigned to the entity for the area; — *will be*

(III) there is general community support for the assignment of Corps members to the entity;

(IV) the area has made [continued] efforts to secure health manpower for the area; and — *unsuccessful*

(V) there [has been] sound fiscal management, including efficient collection of fee-for-service, third-party, and other appropriate funds, by the entity with respect to Corps members [previously] assigned to such entity. — *is a reasonable prospect of*

An application for assignment of a Corps member to a health manpower shortage area shall include a demonstration by the applicant that the area or population group to be served by the applicant has a shortage of personal health services and that the Corps member will be located so that the member will provide services to the greatest number of persons residing in such area or included in such population group. Such a demonstration shall be made on the basis of the criteria prescribed by the Secretary under section 332(b) and on additional criteria which the Secretary shall prescribe to determine if the area or population group to be served by the applicant has a shortage of personal health services.

(2) Corps members may be assigned to a Federal health care facility, but only upon the request of the head of the department or agency of which such facility is a part.

(3) In approving applications for assignment of members of the Corps the Secretary shall not discriminate against applications from entities which are not receiving Federal financial assistance under this Act.

(b) The Secretary may not approve an application under this section for assignment of a Corps member to a health manpower shortage area unless the Secretary has afforded—

(1) each health systems agency (designated under section 1515) for a health service area which includes all or part of the area in which the area, population group, medical facility, or other public facility so designated is located, or

(2) if there is a part of such area, population group, medical facility, or other public facility located within a health service area for which no health systems agency has been designated, the State health planning and development agency (designated under section 1521) of the State in which such part is located,

an opportunity to review the application and submit to the Secretary its comments respecting the need for, and proposed use of, the Corps member requested in the application.

(c) In considering, and giving approval to, applications made under this section for the assignment of Corps members, the Secretary shall—

(1) give priority to an application which provides for the assignment of Corps members to an area, population group, medical facility, or other public facility with the greatest health manpower shortage, as determined under criteria established under section 332(b);

[(2) give special consideration to an application which provides for the use of physician assistants, nurse practitioners, or expanded function dental auxiliaries;]

(2) [(3)] take into consideration the willingness of individuals in the area or population group, or at the medical facility or other public facility, and of the appropriate governmental agencies or health entities, to assist and cooperate with the Corps in providing effective health services; and

(3) [(4)] take into consideration comments of medical, osteopathic, dental, or other health professional societies serving the area, population group, medical facility, or other public facility, or, if no such societies exist, comments of physicians, dentists, or other health professionals serving the area, population group, medical facility, or other public facility.

* *(d)(1) The Secretary may not approve an application for the assignment of a member of the Corps described in subparagraph (C) of section 331(a)(1) to an entity unless the application of the entity contains assurances satisfactory to the Secretary that the entity (A) has sufficient financial resources to provide the member of the Corps with an income of not less than the income to which the member would be entitled if the member was a member described in subparagraph (B) of section 331(a)(1), or (B) would have such financial resources if a grant was made to the entity under paragraph (2).*

(2)(A) If in approving an application of an entity for the assignment of a member of the Corps described in subparagraph (C) of section 331(a)(1) the Secretary determines that the entity does not have sufficient financial resources to provide the member of the Corps with an income of not less than the income to which the member would be entitled if the member was a member described in subparagraph (B) of section 331(a)(1), the Secretary may make a grant to the entity to assure that the member of the Corps assigned to it will receive during the period of assignment to the entity such an income.

(B) The amount of any grant under subparagraph (A) shall be determined by the Secretary. Payments under such a grant may be made in advance or by way of reimbursement, and at such intervals

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* *Effective October 1, 1981*

and on such conditions, as the Secretary finds necessary. No grant may be made unless an application therefor is submitted to and approved by the Secretary. Such an application shall be in such form. submitted in such manner, and contain such information, as the Secretary shall by regulation prescribe.

(e) [(d)] The Secretary shall assign Corps members to entities in health manpower shortage areas without regard to the ability of the individuals in such areas, population groups, medical facilities, or other public facilities to pay for such services.

(f) [(e)] In making the assignment of a Corps member to an entity in a health manpower shortage area which has had an application approved under this section, the Secretary shall seek to assign to an area a Corps member who has (and whose spouse, if any, has) those characteristics which are characteristics which increase the probability of the member's remaining to serve the area upon completion of his assignment period.

(g) [(f)](1) The Secretary [shall] *may* provide technical assistance to a public or nonprofit private entity which is located [or has a demonstrated interest] in a health manpower shortage area and which desires to make an application under this section for assignment of a Corps member to such area. *Assistance provided under this paragraph may include assistance to an entity in (A) analyzing the potential use of health professions personnel in defined health services delivery areas by the residents of such areas, (B) determining the need for such personnel in such areas, (C) determining the extent to which such areas will have a financial base to support the practice of such personnel and the extent to which additional financial resources are needed to adequately support the practice, and (D) determining the types of inpatient and other health services that should be provided by such personnel in such areas.*

(2) The Secretary [shall] *may* provide, to public and nonprofit private entities which are located [or have a demonstrated interest] in a health manpower shortage area to which area a Corps member has been assigned, technical assistance to assist in the retention of such member in such area after the completion of such member's assignment to the area.

(3) The Secretary [shall] *may* provide, to health manpower shortage areas to which no Corps member has been assigned, (A) technical assistance to assist in the recruitment of health manpower for such areas, and (B) current information on public and private programs which provide assistance in the securing of health manpower.

(4)(A) The Secretary shall undertake to demonstrate the improvements that can be made in the assignment of members of the Corps to health manpower shortage areas and in the delivery of health care by Corps members in such areas through coordination with States, political subdivisions of States, agencies of States and political subdivisions, and other public and nonprofit private entities which have expertise in the planning, development, and operation of centers for the delivery of primary health care. In carrying out this subparagraph, the Secretary shall enter into agreements with qualified entities which provide that if—

(i) the entity places in effect a program for the planning, development, and operation of centers for the delivery of primary health care in health manpower shortage areas which reasonably addresses the need for such care in such areas, and

(ii) under the program the entity will perform the functions described in subparagraph (B),

the Secretary will assign under this section members of the Corps in accordance with the program.

(B) For purposes of subparagraph (A), the term 'qualified entity' means a State, political subdivision of a State, an agency of a State or political subdivision, or other public or nonprofit private entity operating solely within one State, which the Secretary determines is able—

(i) to analyze the potential use of health professions personnel in defined health services delivery areas by the residents of such areas;

(ii) to determine the need for such personnel in such areas and to recruit, select, and retain health professions personnel (including members of the National Health Service Corps) to meet such need;

(iii) to determine the extent to which such areas will have a financial base to support the practice of such personnel and the extent to which additional financial resources are needed to adequately support the practice;

(iv) to determine the types of inpatient and other health services that should be provided by such personnel in such areas;

(v) to assist such personnel in the development of their clinical practice and fee schedules and in the management of their practice;

(vi) to assist in the planning and development of facilities for the delivery of primary health care; and

(vii) to assist in establishing the governing bodies of centers for the delivery of such care and to assist such bodies in defining and carrying out their responsibilities.

(h) [(g)]The Secretary [shall] *may* conduct, or enter into contracts for the conduct of, studies of the methods of assignments of Corps members to health manpower shortage areas. Such studies shall include studies of—

(1) the characteristics of physicians, dentists, and other health professionals who are more likely to remain in practice in health manpower shortage areas;

(2) the characteristics, including utilization and reimbursement patterns, of areas which have been able to retain health manpower personnel; and

(3) the appropriate conditions for the assignment and use of nurse practitioners, physician assistants, and expanded function dental auxiliaries in health manpower shortage areas.

(i) [(h)]Notwithstanding any other law, any member of the Corps licensed to practice medicine, osteopathy, [or dentistry] *dentistry, or any other health profession* in any State shall, while serving in the Corps, be allowed to practice such profession in any State.

COST SHARING

SEC. 334. [254g] (a) The Secretary shall require, as a condition to the approval of an application under section 333 *for the assignment of a member of the Corps*, that the entity which submitted the application enter into an agreement for a specific assignment period (not to exceed 4 years) with the Secretary under which—

(1) the entity shall be responsible for charging, in accordance with subsection (d), for health services provided by Corps members assigned to the entity;

(2) the entity shall take such action as may be reasonable for the collection of payments for such health services, including, if a Federal agency, an agency of a State or local government, or other third party would be responsible for all or part of the cost of such health services if it had not been provided by Corps members under this subpart, the collection, on a fee-for-service or other basis, from such agency or third party, the portion of such cost for which it would be so responsible (and in determining the amount of such cost which such agency or third party would be responsible, the health services provided by Corps members shall be considered as being provided by private practitioners);

(3) the entity shall pay to the United States, as prescribed by the Secretary in each calendar quarter (or other period as may be specified in the agreement) during which any Corps member is assigned to such entity, the sum of—

[(A) the portion of the salary (including amounts paid in accordance with section 331(d)) and allowances of any Corps member received by such member during such cal-

endar quarter (or other period) while such member was assigned to such entity;

[(B) for any Corps member assigned to such entity, an amount which bears the same ratio to the amount paid under the Scholarship Program to or on the behalf of such Corps member as the number of days of obligated service, provided by such member during such quarter (or other period) bears to the number of days in his period of obligated service under such Program; and]

(A) an amount calculated by the Secretary to reflect the average salary (including amounts paid in accordance with section 331(d)) and allowances of comparable Corps members for a calendar quarter (or other period);

(B) that portion of an amount calculated by the Secretary to reflect the average amount paid under the Scholarship Program to or on behalf of comparable Corps members that bears the same ratio to the calculated amount as the number of days of service provided by the member during that quarter (or other period) bears to the number of days in his period of obligated service under the Program; and

(C) if such entity received a loan under section 335(c) *or a grant under section 333(d)(2)*, an amount which bears the same ratio to the amount of such loan *or grant* as the number of days in such quarter (or other period) during which any Corps members were assigned to the entity bears to the number of days in the assignment period after such entity received such loan *or grant*; and

(4) the entity shall prepare and submit to the Secretary an annual report, in such form and manner, as the Secretary may require.

(b)(1) The Secretary may waive in whole or in part the application of the requirement of subsection (a)(3) for an entity if he determines that the entity is financially unable to meet such requirement or if he determines that compliance with such requirement would unreasonably limit the ability of the entity to provide for the adequate support of the provision of health services by Corps members.

(2) The Secretary may waive in whole or in part the application of the requirement of subsection (a)(3) for any entity which is located in a health manpower shortage area in which a significant percentage of the individuals are elderly, living in poverty, or have other characteristics which indicate an inability to repay, in whole or in part, the amounts required in subsection (a)(3).

(3) In the event that the Secretary grants a waiver under paragraph (1) or (2), the entity shall be required to use the total amount of funds collected by such entity in accordance with subsection (a)(2) for the improvement of the capability of such entity to deliver health services to the individuals in, or served by, the health manpower shortage area.

(4) In determining whether to grant a waiver under paragraph (1) or (2), the Secretary shall not discriminate against a public entity.

(c) The excess (if any) of the amount of funds collected by an entity in accordance with subsection (a)(2) over the amount paid to the United States in accordance with subsection (a)(3) shall be used by the entity to expand and improve the provision of health services to the individuals in the health manpower shortage area for which the entity submitted an application or to recruit and retain health manpower to provide health services for such individuals.

(d) Any person who receives health services provided by a Corps member under this subpart shall be charged for such services on a fee-for-service or other basis, at a rate approved by the Secretary, pursuant to regulations. Such rate shall be computed in such a way as to permit the recovery of the value of such services, except that if such person is determined under regulations of the Secretary to be unable to pay such charge, the Secretary shall provide for the furnishing of such services at a reduced rate or without charge.

(e) Funds received by the Secretary under an agreement entered into under this section shall be deposited in the Treasury as miscellaneous receipts and shall be disregarded in determining the amounts of appropriations to be requested and the amounts to be made available from appropriations made under section 338 to carry out [this subpart] *sections 331 through 335 and section 337.*

PROVISION OF HEALTH SERVICES BY CORPS MEMBERS

SEC. 335. [254h] (a) In providing health services in a health manpower shortage area, Corps members shall utilize the techniques, facilities, and organizational forms most appropriate for the area, population group, medical facility, or other public facility, and shall, to the maximum extent feasible, provide such services (1) to all individuals in, or served by, such health manpower shortage area regardless of their ability to pay for the services, and [(2) in connection with (A) direct health services programs carried out by the Service, (B) any other direct health services program carried out in whole or in part with Federal financial assistance, or (C) any other health services activity which is in furtherance of the purposes of this subpart.] *(2) in a manner which is cooperative with other health care providers serving such health manpower shortage area.*

(b)(1) Notwithstanding any other provision of law, the Secretary may (A) to the maximum extent feasible make such arrangements as he determines necessary to enable Corps members to utilize the health facilities in or serving the health manpower shortage area in providing health services; (B) make such arrangements as he determines are necessary for the use of equipment and supplies of the Service and for the lease or acquisition of other equipment and supplies; and (C) secure the permanent or temporary services of physicians, dentists, nurses, administrators, and other health personnel. If there are no health facilities in or serving such area, the Secretary may arrange to have Corps members provide health services in the nearest health facilities of the Service or may lease or otherwise provide facilities in or serving such area for the provision of health services.

(2) If the individuals in or served by a health manpower shortage area are being served (as determined under regulations of the Secretary) by a hospital or other health care delivery facility of the Service, the Secretary may, in addition to such other arrangements as he may make under paragraph (1), arrange for the utilization of such hospital or facility by Corps members in providing health services, but only to the extent that such utilization will not impair the delivery of health services and treatment through such hospital or facility to individuals who are entitled to health services and treatment through such hospital or facility.

(c) The Secretary may make one loan to any entity with an approved application under section 333 to assist such entity in meeting the costs of (1) establishing medical, dental, or other health profession practices, including the development of medical practice management systems; (2) acquiring equipment for use in providing health services; *and* (3) renovating buildings to establish health facilities[; and (4) establishing appropriate continuing education programs]. No loan may be made under this subsection unless an application therefor is submitted to, and approved by, the Secretary. The amount of any such loan shall be determined by the Secretary, except that no such loan may exceed $50,000.

(d) Upon the expiration of the assignment of all Corps members to a health manpower shortage area, the Secretary may (notwith-

standing any other provision of law) sell, to any appropriate local entity, equipment and other property of the United States utilized by such members in providing health services. Sales made under this subsection shall be made at the fair market value (as determined by the Secretary) of the equipment or such other property; except that the Secretary may make such sales for a lesser value to an appropriate local entity, if he determines that the entity is financially unable to pay the full market value.

(e)(1)(A) It shall be unlawful for any hospital to deny an authorized physician or dentist member of the Corps admitting privileges when such Corps member otherwise meets the professional qualifications established by the hospital for granting such privileges and agrees to abide by the published bylaws of the hospital and the published bylaws, rules, and regulations of its medical staff.

(B) Any hospital which is found by the Secretary, after notice and an opportunity for a hearing on the record, to have violated this subsection shall upon such finding cease, for a period to be determined by the Secretary, to receive and to be eligible to receive any Federal funds under this Act or under titles XVIII or XIX of the Social Security Act.

(2) For purposes of this subsection, the term "hospital" includes a State or local public hospital, a private profit hospital, a private nonprofit hospital, a general or special hospital, and any other type of hospital (excluding a hospital owned or operated by an agency of the Federal Government), and any related facilities.

PREPARATION FOR PRACTICE

SEC. 336. (a) The Secretary may make grants to and enter into contracts with public and private nonprofit entities for the conduct of programs which are designed to prepare individuals subject to a service obligation under the National Health Service Corps scholarship program to effectively provide health services in the health manpower shortage area to which they are assigned.

"(b) No grant may be made or contract entered into under subsection (a) unless an application therefor is submitted to and approved by the Secretary. Such an application shall be in such form, submitted in such manner, and contain such information, as the Secretary shall by regulation prescribe.

ANNUAL REPORTS

336A SEC. [336.] [254i] The Secretary shall submit an annual report to Congress on May 1 of each year, and shall include in such report with respect to the previous calendar year—

(1) the number, identity, and priority of all health manpower shortage areas designated in such year and the number of health manpower shortage areas which the Secretary estimates will be designated in the subsequent year;

(2) the number of applications filed under section 333 in such year for assignment of Corps members and the action taken on each such application;

(3) the number and types of Corps members assigned in such year to health manpower shortage areas, the number and types of additional Corps members which the Secretary estimates will be assigned to such areas in the subsequent year, and the need for additional members for the Corps;

(4) the recruitment efforts engaged in for the Corps in such year and the number of qualified individuals who applied for service in the Corps in such year;

(5) the number of patients seen and the number of patient visits recorded during such year with respect to each health manpower shortage area to which a Corps member was assigned during such year;

(6) the number of Corps members who elected, and the number of Corps members who did not elect, to continue to provide health services in health manpower shortage areas after termination of their service in the Corps and the reasons

(as reported to the Secretary) of members who did not elect for not making such election;

(7) the results of evaluations and determinations made under section 333(a)(1)(D) during such year; and

(8) the amount charged during such year for health services provided by Corps members, the amount which was collected in such year by entities in accordance with agreements under section 334, and the amount which was paid to the Secretary in such year under such agreements.

NATIONAL ADVISORY COUNCIL

SEC. 337. [254j] [(a) There is established a council to be known as the National Advisory Council on the National Health Service Corps (hereinafter in this section referred to as the "Council"). The Council shall be composed of fifteen members appointed by the Secretary as follows:

(1) Four members shall be appointed from the general public to represent the consumers of health care, at least two of whom shall be individuals who are residents of, members of, or served by Corps members assigned to, a health manpower shortage area.

(2) Three members shall be appointed from medical, dental, and other health professions.

(3) One member shall be appointed from a State health planning and development agency (designated under section 1521), one member shall be appointed from a Statewide Health Coordinating Council (designated under section 1524), and one member shall be appointed from a health systems agency (designated under section 1515).

(4) Three members shall be appointed from the Service, at least two of whom shall be members of the Corps directly engaged in the provision of health services in a health manpower shortage area.

(5) Two members shall be appointed from the National Council on Health Planning and Development (established under section 1503).

No individual who is a provider of health care (as defined in section 1531(3)) may be appointed as a member of the Council under paragraph (1), (3), or (5). The Council shall consult with, advise, and make recommendations to, the Secretary with respect to his responsibilities in carrying out this subpart, and shall review and comment upon regulations promulgated by the Secretary under this subpart.]

(a) There is established a council to be known as the National Advisory Council on the National Health Service Corps (hereinafter in this section referred to as the 'Council'). The Council shall be composed of not more than 15 members appointed by the Secretary. The Council shall consult with, advise, and make recommendations to, the Secretary with respect to his responsibilities in carrying out this subpart, and shall review and comment upon regulations promulgated by the Secretary under this subpart.

(b)(1) Members of the Council shall be appointed for a term of three years, except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which the member's predecessor was appointed shall be appointed for the remainder of such term. No member shall be removed, except for cause. Members may [handwritten: not] be reappointed to the Council.

(2) Members of the Council (other than members who are officers or employees of the United States), while attending meetings or conferences thereof or otherwise serving on the business of the Council, shall be entitled to receive for each day (including traveltime) in which they are so serving the daily equivalent of the

annual rate of basic pay in effect for grade GS-18 of the General Schedule; and while so serving away from their homes or regular places of business all members may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5 of the United States Code for persons in the Government service employed intermittently.

(c) Section 14 of the Federal Advisory Committee Act shall not apply with respect to the Council.

AUTHORIZATION OF APPROPRIATION

SEC. 338. [254k] (a) To carry out the purposes of this subpart, there are authorized to be appropriated $47,000,000 for the fiscal year ending September 30, 1978; $64,000,000 for the fiscal year ending September 30, 1979; [and] $82,000,000 for the fiscal year ending September 30, 1980;

$110,000,000 for the fiscal year ending September 30, 1982; $120,000,000 for the fiscal year ending September 30, 1983; and $130,000,000 for the fiscal year ending September 30, 1984.

(b) An appropriation under an authorization under subsection (a) for any fiscal year may be made at any time before that fiscal year and may be included in an Act making an appropriation under an authorization under subsection (a) for another fiscal year; but no funds may be made available from any appropriation under such authorization for obligation under [this subpart] *sections 331 through 335, section 336A, and section 337* before the fiscal year for which such appropriation is authorized.

NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM

338A SEC. [751.] [294t] (a) The Secretary shall establish the National Health Service Corps Scholarship Program (hereinafter in this subpart referred to as the "Scholarship Program") to assure an adequate supply of trained physicians, dentists, and nurses for the National Health Service Corps (hereinafter in this subpart referred to as the "Corps") and, if needed by the Corps, podiatrists, optometrists, pharmacists, *clinical psychologists,* graduates of schools of veterinary medicine, graduates of schools of public health, graduates of programs in health administration, graduates of programs for the training of physicians assistants, expanded function dental auxiliaries, and nurse practitioners (as defined in section 822), and other health professionals.

(b) To be eligible to participate in the Scholarship Program, an individual must—

(1) be accepted for enrollment, or be enrolled, as a full-time student (A) in an accredited (as determined by the Secretary) educational institution in a State and (B) in a course of study or program, offered by such institution and approved by the Secretary, leading to a degree in medicine, osteopathy, dentistry, or other health profession;

(2) be eligible for, or hold, an appointment as a commissioned officer in the Regular or Reserve Corps of the Service or be eligible for selection for civilian service in the Corps;

(3) submit an application to participate in the Scholarship Program; and

(4) sign and submit to the Secretary, at the time of submittal of such application, a written contract (described in subsection (f)) to accept payment of a scholarship and to serve (in accordance with this subpart) for the applicable period of obligated service in a health manpower shortage area.

(c) In disseminating application forms and contract forms to individuals desiring to participate in the Scholarship Program, the Secretary shall include with such forms—

(1) a fair summary of the rights and liabilities of an individual whose application is approved (and whose contract is accepted) by the Secretary, including in the summary a clear explanation of the damages to which the United States is entitled under [section 754] in the case of the individual's breach of the contract: and *section 338D*

(2) *information respecting meeting a service obligation through private practice under an agreement under section 338C and* such other information as may be necessary for the individual to understand the individual's prospective participation in the Scholarship Program and service in the Corps.

The application form, contract form, and all other information furnished by the Secretary under this subpart shall be written in a manner calculated to be understood by the average individual applying to participate in the Scholarship Program. The Secretary shall make such application forms, contract forms, and other information available to individuals desiring to participate in the Scholarship Program on a date sufficiently early to insure that such individuals have adequate time to carefully review and evaluate such forms and information.

(d) In determining which applications under the Scholarship Program to approve (and which contracts to accept), the Secretary shall give priority—

(1) first, to applications made (and contracts submitted) by individuals who have previously received scholarships under the Scholarship Program or under section 758; and

(2) second, to applications made (and contracts submitted)—

(A) for the school year beginning in calendar year 1978, by individuals who are entering their first, second, or third year of study in a course of study or program described in subsection (b)(1)(B) in such school year;

(B) for the school year beginning in calendar year 1979, by individuals who are entering their first or second year of study in a course of study or program described in subsection (b)(1)(B) in such school year; and

(C) for each school year thereafter, by individuals who are entering their first year of study in a course of study or program described in subsection (b)(1)(B) in such school year.

(e)(1) An individual becomes a participant in the Scholarship Program only upon the Secretary's approval of the individual's application submitted under subsection (b)(3) and the Secretary's acceptance of the contract submitted by the individual under subsection (b)(4).

(2) The Secretary shall provide written notice to an individual promptly upon the Secretary's approving, under paragraph (1), of the individual's participation in the Scholarship Program.

(f) The written contract (referred to in this subpart) between the Secretary and an individual shall contain—

(1) an agreement that—

(A) subject to paragraph (2), the Secretary agrees (i) to provide the individual with a scholarship (described in subsection (g)) in each such school year or years for a period of years (not to exceed four school years) determined by the individual, during which period the individual is pursuing a course of study described in subsection (b)(1)(B), and (ii) to accept (subject to the availability of appropriated funds for carrying out [subpart II of part D of title III]) the individual into the Corps (or for equivalent service as otherwise provided in this subpart); and *sections 331 through 335 and section 337*

(B) subject to paragraph (2), the individual agrees—

(i) to accept provision of such a scholarship to the individual;

(ii) to maintain enrollment in a course of study described in subsection (b)(1)(B) until the individual completes the course of study;

(iii) while enrolled in such course of study, to maintain an acceptable level of academic standing (as determined under regulations of the Secretary by the educational institution offering such course of study); and

(iv) to serve for a time period (hereinafter in the subpart referred to as the "period of obligated service") equal to—

(I) one year for each school year for which the individual was provided a scholarship under the Scholarship Program, or

(II) two years,

whichever is greater, in a health manpower shortage area (designated under section 332) to which he is assigned by the Secretary as a member of the Corps, or as otherwise provided in this subpart;

(2) a provision that any financial obligation of the United States arising out of a contract entered into under this subpart and any obligation of the individual which is conditioned thereon, is contingent upon funds being appropriated for scholarships under this subpart and to carry out the purposes of [subpart II of part C of title III]; *sections 331 through 335 and sections 337 and 338*

(3) a statement of the damages to which the United States is entitled, under [section 754] *section 338D* for the individual's breach of the contract; and

(4) such other statements of the rights and liabilities of the Secretary and of the individual, not inconsistent with the provisions of this subpart.

(g)(1) A scholarship provided to a student for a school year under a written contract under the Scholarship Program or under section 758 (relating to scholarships for first-year students of exceptional financial need), shall consist of—

(A) payment to, or (in accordance with paragraph (2)) on behalf of, the student of the amount (except as provided in section 711) of—

(i) the tuition of the student in such school year; and

(ii) all other reasonable educational expenses, including fees, books, and laboratory expenses, incurred by the student in such school year; and

(B) payment to the student of a stipend of $400 per month (adjusted in accordance with paragraph (3)) for each of the 12 consecutive months beginning with the first month of such school year.

(2) The Secretary may contract with an educational institution, in which a participant in the Scholarship Program is enrolled, for the payment to the educational institution of the amounts of tuition and other reasonable educational expenses described in paragraph (1)(A). Payment to such an educational institution may be made without regard to section 3648 of the Revised Statutes (31 U.S.C. 529).

(3) The amount of the monthly stipend, specified in paragraph (1)(B) and as previously adjusted (if at all) in accordance with this paragraph, shall be increased by the Secretary for each school year ending in a fiscal year beginning after September 30, 1978, by an amount (rounded to the next highest multiple of $1) equal to the amount of such stipend multiplied by the overall percentage (as set forth in the report transmitted to the Congress under section 5305 of title 5, United States Code) of the adjustment (if such adjustment

is an increase) in the rates of pay under the General Schedule made effective in the fiscal year in which such school year ends.

(h) Notwithstanding any other provision of law, individuals who have entered into written contracts with the Secretary under this section, while undergoing academic training, shall not be counted against any employment ceiling affecting the Department.

(i) The Secretary shall report to Congress on March 1 of each year—

(1) the number, and type of health profession training, of students receiving scholarships under the Scholarship Program;

(2) the educational institutions at which such students are receiving their training;

(3) the number of applications filed under this section in the school year beginning in such year and in prior school years; and

(4) the amount of tuition paid in the aggregate and at each educational institution for the school year beginning in such year and for prior school years.

[(j) The administrative unit which administers section 770 shall—

(1) participate in the development of regulations, funding priorities, and application forms, and

(2) be consulted by, and may make recommendations to, the Secretary in the review of applications for scholarships and grants,

with respect to the Scholarship Program.]

OBLIGATED SERVICE

338B SEC. [752.] [294u] (a) Except as provided in [section 753], *section 338C* each individual who has entered into a written contract with the Secretary under [section 751] *section 338A* shall provide service in the full-time clinical practice of such individual's profession as a member of the Corps for the period of obligated service provided in such contract.

[(b)(1) The Secretary shall notify each individual required to provide service under the Scholarship Program, not later than 60 days before the date described in paragraph (5), of the opportunity of such individual to serve in the full-time clinical practice of his profession either as a commissioned officer in the Regular or Reserve Corps of the Service or as a civilian member of the Corps. The Secretary shall include in such notice sufficient information regarding the advantages and disadvantages to each alternative to enable an individual to make a decision on an informed basis.

[(2) To be eligible to provide obligated service as a commissioned officer in the Service, an individual shall notify the Secretary, not later than 30 days before the date described in paragraph (5), of the individual's desire to provide such service as such an officer.

[(3) If an individual who has notified the Secretary under paragraph (2) qualifies for an appointment as such an officer, the Secretary shall, as soon as possible after the date described in paragraph (5), appoint the individual as a commissioned officer of the Regular or Reserve Corps and of the Service and shall designate the individual as a member of the Corps. If an individual who has notified the Secretary under paragraph (2) does not so qualify, the Secretary shall, as soon as possible after the date described in paragraph (5), appoint such individual in accordance with paragraph (4).

[(4) Except as provided in paragraph (3) and in section 753, the Secretary shall appoint each individual, as soon as possible after the date described in paragraph (5), to serve in the full-time clinical practice of his profession as a civilian member of the Corps.]

(b)(1) If an individual is required under subsection (a) to provide service as specified in section 338A(f)(1)(B)(iv) (hereinafter in this subsection referred to as 'obligated service'), the Secretary shall, not later than ninety days before the date described in paragraph (5), determine if the individual shall provide such service—

(A) as a member of the Corps who is a commissioned officer in the Regular or Reserve Corps of the Service or who is a civilian employee of the United States, or

(B) as a member of the Corps who is not such an officer or employee,

and shall notify such individual of such determination.

(2) If the Secretary determines that an individual shall provide obligated service as a member of the Corps who is a commissioned officer in the Service or a civilian employee of the United States, the Secretary shall, not later than sixty days before the date described in paragraph (5), provide such individual with sufficient information regarding the advantages and disadvantages of service as such a commissioned officer or civilian employee to enable the individual to make a decision on an informed basis. To be eligible to provide obligated service as a commissioned officer in the Service, an individual shall notify the Secretary, not later than thirty days before the date described in paragraph (5), of the individual's desire to provide such service as such an officer. If an individual qualifies for an appointment as such an officer, the Secretary shall, as soon as possible after the date described in paragraph (5), appoint the individual as a commissioned officer of the Regular or Reserve Corps of the Service and shall designate the individual as a member of the Corps.

(3) If an individual provided notice by the Secretary under paragraph (2) does not qualify for appointment as a commissioned officer in the Service, the Secretary shall, as soon as possible after the date described in paragraph (5), appoint such individual as a civilian employee of the United States and designate the individual as a member of the Corps.

(4) If the Secretary determines that an individual shall provide obligated service as a member of the Corps who is not an employee of the United States, the Secretary shall, as soon as possible after the date described in paragraph (5), designate such individual as a member of the Corps to provide such service.

(5)(A) With respect to an individual receiving a degree from a school of medicine, osteopathy, or dentistry, the date referred to in paragraphs (1) through (4) shall be the date upon which the individual completes the training required for such degree, except that the Secretary shall, at the request of such individual, defer such date until the end of the period of time (not to exceed three years or such greater period as the Secretary, consistent with the needs of the Corps, may authorize) required for the individual to complete an internship, residency, or other advanced clinical training. With respect to an individual receiving a degree from a school of veterinary medicine, optometry, podiatry, or pharmacy, the date referred to in paragraphs (1) through (4) shall be the date upon which the individual completes the training required for such degree, except that the Secretary shall, at the request of such individual, defer such date until the end of the period of time (not to exceed one year or such greater period as the Secretary, consistent with the needs of the Corps, may authorize) required for the individual to complete an internship, residency, or other advanced clinical training. No period of internship, residency, or other advanced clinical training shall be counted toward satisfying a period of obligated service under this subpart.

(B) With respect to an individual receiving a degree from an institution other than a school referred to in subparagraph (A); the date referred to in paragraphs (1) through (4) shall be the date upon which the individual completes his academic training leading to such degree.

(c) An individual shall be considered to have begun serving a period of obligated service—

(1) on the date such individual is appointed as an officer in a Regular or Reserve Corps of the Service [or as a member of the Corps], or *or is designated as a member of the Corps under subsection (b)(3) or (b)(4)*

(2) in the case of an individual who has entered into an agreement with the Secretary under [section 753] *section 338C*, on the date specified in such agreement,

whichever is earlier.

(d) The Secretary shall assign individuals performing obligated service in accordance with a written contract under the Scholarship Program to health manpower shortage areas in accordance with [subpart II of part D of title III] *sections 331 through 335 and sections 337 and 338*. If the Secretary determines that there is no need in a health manpower shortage area (designated under section 332) for a member of the profession in which an individual is obligated to provide service under a written contract *and if such individual is an officer in the Service or a civilian employee of the United States*, the Secretary may detail such individual to serve his period of obligated service as a full-time member of such profession in such unit of the Department as the Secretary may determine.

[(e) Notwithstanding any other provision of this title, if the Secretary determines that an individual who is or has been a participant in the Scholarship Program demonstrates exceptional promise for medical research, the Secretary may permit such individual to perform his service obligation under the National Research Service Award program established under section 472.]

(e) Notwithstanding any other provision of this title, service of an individual under a National Research Service Award awarded under subparagraph (A) or (B) of section 472(a)(1) shall be counted against the period of obligated service which the individual is required to perform under the Scholarship Program.

Note: The amendments made by paragraphs (1) through (4) of section 338B(b), section 338B(c)(1), and the second sentence of section 338B(d) *shall apply with respect to contracts entered into under the National Health Service Corps scholarship program under subpart III of part C of title VII of the Public Health Service Act after the date of the enactment of this Act. An individual who before such date has entered into such a contract and who has not begun the period of obligated service required under such contract shall be given the opportunity to revise such contract to permit the individual to serve such period as a member of the National Health Service Corps who is not an employee of the United States.*

(See section 2709(h) of the Act.)

PRIVATE PRACTICE

338C SEC. [753] [294v] (a) The Secretary shall, to the extent permi[tted] and consistent with requirements of app[licable] State law, release an individual from all or part of his service obligation under [section 752(a)] if the (section 338B(a) [or under section 225 as in effect on September 30, 1977)] individual applies for such a release under this section and enters into a written agreement with the Secretary under which the individual agrees to engage for a period equal to the remaining period of his service obligation in the full-time private clinical practice (including service as a salaried employee in an entity directly providing health services) of his health profession—

(1) in the case of an individual who is performing obligated service as a member of the Corps in a health manpower shortage area on the date of his application for such a release, in the health manpower shortage area in which such individual is serving on such date; or

(2) in the case of any other individual, in a health manpower shortage area (designated under section 332) [which has a priority for the assignment of Corps members under section 333(c)].

(b) The written agreement described in subsection (a) shall—

(1) provide that during the period of private practice by an individual pursuant to the agreement—

(A) any person who receives health services provided by the individual in connection with such practice will be charged for such services at the usual and customary rate prevailing in the area in which such services are provided, except that if such person is unable to pay such charge, such person shall be charged at a reduced rate or not charged any fee; and

(B) the individual in providing health services in connection with such practice *(i)* shall not discriminate against any person on the basis of such person's ability to pay for such services or because payment for the health services provided to such person will be made under the insurance program established under part A or B of title XVIII of the Social Security Act or under a State plan for medical assistance approved under title XIX of such Act,

and (ii) shall agree to accept an assignment under section 1842(b)(3)(B)(ii) of such Act for all services for which payment may be made under part B of title XVIII of such Act and enter into an appropriate agreement with the State agency which administers the State plan for medical assistance under title XIX of such Act to provide services to individuals entitled to medical assistance under the plan; and

(2) contain such additional provisions as the Secretary may require to carry out the purposes of this section.

For purposes of paragraph (1)(A), the Secretary shall by regulation prescribe the method for determining a person's ability to pay a charge for health services and the method of determining the amount (if any) to be charged such person based on such ability.

(c) If an individual breaches the contract entered into under section 338A by failing (for any reason) to begin his service obligation in accordance with an agreement entered into under subsection (a) or to complete such service obligation, the Secretary may permit such individual to perform such service obligation as a member of the Corps.

(d) The Secretary may pay an individual who has entered into an agreement with the Secretary under subsection (a) an amount to cover all or part of the individual's expenses reasonably incurred in transporting himself, his family, and his possessions to the location of his private clinical practice.

(e)(1) The Secretary may make such arrangements as he determines are necessary for the individual for the use of equipment and supplies and for the lease or acquisition of other equipment and supplies.

(2) Upon the expiration of the written agreement under subsection (a), the Secretary may (notwithstanding any other provision of law) sell to the individual who has entered into an agreement with the Secretary under subsection (a), equipment and other property of the United States utilized by such individual in providing health services. Sales made under this subsection shall be made at the fair market value (as determined by the Secretary) of the equipment or such other property, except that the Secretary may make such sales for a lesser value to the individual if he determines that the individual is financially unable to pay the full market value.

(f) The Secretary may, out of appropriations authorized under section 338, pay to individuals participating in private practice under this section the cost of such individual's malpractice insurance and the lesser of—

(1)(A) $10,000 in the first year of obligated service;

(B) $7,500 in the second year of obligated service;

(C) $5,000 in the third year of obligated service; and

(D) $2,500 in the fourth year of obligated service; or

(2) an amount determined by subtracting such individual's net income before taxes from the income the individual would have received as a member of the Corps for each such year of obligated service.

(g) The Secretary shall, upon request, provide to each individual released from service obligation under this section technical assistance to assist such individual in fulfilling his or her agreement under this section.

BREACH OF SCHOLARSHIP CONTRACT

338D

SEC. [754.] [294w] [(a) An individual (other than an individual described in subsection (b)) who has entered into a written contract with the Secretary under section 751 and who fails to accept payment, or instructs the educational institution in which he is enrolled not to accept payment, in whole or in part, of a scholarship under such contract, shall, in addition to any service or other obligation or liability under the contract, be liable to the United States for the amount of $1,500 as liquidated damages.]

(a)—[(b)] An individual who has entered into a written contract with the Secretary under [section 751] *section 338A* and who—

(1) fails to maintain an acceptable level of academic standing in the educational institution in which he is enrolled (such level determined by the educational institution under regulations of the Secretary),

(2) is dismissed from such educational institution for disciplinary reasons, [or]

(3) voluntarily terminates the training in such an educational institution for which he is provided a scholarship under such contract, before the completion of such training, *or*

(4) fails to accept payment, or instructs the educational institution in which he is enrolled not to accept payment, in whole or in part, of a scholarship under such contract,

in lieu of any service obligation arising under such contract, shall be liable to the United States for the amount which has been paid to him, or on his behalf, under the contract.

(b)—[(c)] *(1) Except as provided in paragraph (2), if* an individual breaches his written contract by failing [(for any reason)] *(for any reason not specified in subsection (a) or section 338F(b))* either to begin such individual's service obligation in accordance with [section 752 or 753] *section 338B or 338C* or to complete such service obligation, the United States shall be entitled to recover from the individual an amount determined in accordance with the formula

$$A = 3\phi(t - s/t)$$

in which "A" is the amount the United States is entitled to recover, "ϕ" is the sum of the amounts paid under this subpart to or on behalf of the individual and the interest on such amounts which would be payable if at the time the amounts were paid they were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States; "t" is the total number of months in the individual's period of obligated service; and "s" is the number of months of such period served by him in accordance with [section 752] *section 338B* or a written agreement under [section 753] *section 338C*. Any amount of damages which the United States is entitled to recover under this subsection shall, within the one year period beginning on the date of the breach of the written contract *(or such longer period beginning on such date as specified by the Secretary for good cause shown)*, be paid to the United States.

(2) If an individual is released under section 753 from a service obligation under section 225 (as in effect on September 30, 1977) and if the individual does not meet the service obligation incurred under section 753, subsection (f) of such section 225 shall apply to such individual in lieu of paragraph (1) of this subsection.

(c)—[(d)](1) Any obligation of an individual under the Scholarship Program (or a contract thereunder) for service or payment of damages shall be canceled upon the death of the individual.

(2) The Secretary shall by regulation provide for the *partial or total* waiver or suspension of any obligation of service or payment by an individual under the Scholarship Program (or a contract thereunder) whenever compliance by the individual is impossible or would involve extreme hardship to the individual and if enforcement of such obligation with respect to any individual would be unconscionable.

(3) Any obligation of an individual under the Scholarship Program (or a contract thereunder) for payment of damages may be released by a discharge in bankruptcy under title 11 of the United States Code only if such discharge is granted after the expiration of the five-year period beginning on the first date that payment of such damages is required.

SPECIAL [GRANTS] FOR FORMER CORPS MEMBERS TO ENTER PRIVATE PRACTICE

338E

SEC. [755] [294x] (a) The Secretary may, *out of appropriations authorized under section 338*, make one grant *or one loan* to an individual [(other than an individual who has entered into an agreement under section *338C*)]—

(1) who has completed *at least two years of* his period of obligated service in the Corps, and

(2) who has agreed in writing—

(A) to engage in the private full-time clinical practice of his profession in a health manpower shortage area (designated under section 332 [and described in paragraphs (1) and (2) of section *338C(a)*]) for a period (beginning not later than one year after the date he completed his period of obligated service in the Corps) of not less than one year;

(B) to conduct such practice in accordance with the provisions of [section 753(b)(1)] *section 338C(b)(1)*; and

(C) to such additional conditions as the Secretary may require to carry out the purposes of this section;

to assist such individual in meeting the costs of beginning the practice of such individual's profession in accordance with such agreement, including the costs of acquiring equipment and renovating facilities for use in providing health services, and of hiring nurses and other personnel to assist in providing health services. Such grant may not be used for the purchase or construction of any building.

(b) The amount of the grant *or loan* under subsection (a) to an individual shall be—

(1) $12,500, if the individual agrees to practice his profession in accordance with the agreement for a period of at least one year, but less than two years; or

(2) $25,000 if the individual agrees to practice his profession in accordance with the agreement for a period of at least two years.

(c) The Secretary may not make a grant *or loan* under this section unless an application therefor has been submitted to, and approved by, the Secretary. *The Secretary shall, by regulation, set interest rates and repayment terms for loans under this section.*

(d) If the Secretary determines that an individual has breached a written agreement entered into under subsection (a), he shall, as soon as practicable after making such determination notify the individual of such determination. [If within 120 days after the date of giving such notice, such individual is not practicing his profession in accordance with the agreement under such subsection and has not provided assurances satisfactory to the Secretary that he will not knowingly violate such agreement again, the United States shall be entitled to recover from such individual an amount determined under section 754(c), except that in applying the formula contained in such section "ϕ" shall be the sum of the amount of the grant made under subsection (a) to such individual and the interest on such amount which would be payable if at the time it was paid it was a loan bearing interest at the maximum legal prevailing rate, "t" shall be the number of months that such individual agreed to practice his profession under such agreement, and "s" shall be the number of months that such individual practices his profession in accordance with such agreement.] *If within 60 days after the date of giving such notice, such individual is not practicing his profession in accordance with the agreement under such subsection and has not provided assurances satisfactory to the Secretary that he will not knowingly violate such agreement again, the United States shall be entitled to recover from such individual—*

(1) in the case of an individual who has received a grant under this section, an amount determined under section 338D(c), except that in applying the formula contained in such section "ϕ" shall be the sum of the amount of the grant made under subsection (a) to such individual and the interest on such amount which would be payable if at the time it was paid it was a loan bearing interest at the maximum legal prevailing rate, "t" shall be the number of months that such individual agreed to practice his profession under such agreement, and "s" shall be the number of months that such individual practices

(2) in the case of an individual who has received a loan under this section, the full amount of the principal and interest owed by such individual under this section.

AUTHORIZATION OF APPROPRIATIONS

338F

SEC. [756.] [294y] (a) There are authorized to be appropriated for scholarships under this subpart $75,000,000 for the fiscal year ending September 30, 1978, $140,000,000 for the fiscal year ending September 30, 1979, and $200,000,000 for the fiscal year ending September 30, 1980. *For the fiscal year ending September 30, 1982, and each of the two succeeding fiscal years, there are authorized to be appropriated such sums as may be necessary to make 550 new scholarship awards in accordance with section 338A(d) in each such fiscal year and to continue to make scholarship awards to students who have entered into written contracts under the Scholarship Program before October 1, 1984.* For the fiscal year ending September 30, [1981] *1985*, and for each of the two succeeding fiscal years, there are authorized to be appropriated such sums as may be necessary to continue to make scholarship awards to students who have entered into written contracts under the Scholarship Program before October 1, [1980] *1984*

(b) Of the sums appropriated under this section (1) 90 percent shall be obligated for scholarships for medical, osteopathic, and dental students, and (2) 10 percent of such 90 percent shall be obligated for scholarships for dental students.

INDIAN HEALTH SCHOLARSHIP PROGRAM

338G

SEC. [757.] [294y-1] (a) In addition to the sums authorized to be appropriated under section 756(a) to carry out the Scholarship Program, there are authorized to be appropriated $5,450,000 for the fiscal year ending September 30, 1978, $6,300,000 for the fiscal year ending September 30, 1979, $7,200,000 for the fiscal year ending September 30, 1980, $9,000,000 for the fiscal year ending September 30, 1981, $10,300,000 for the fiscal year ending September 30, 1982, $11,800,000 for the fiscal year ending September 30, 1983, and $13,600,000 for the fiscal year ending September 30, 1984, to provide scholarships under the Scholarship Program to provide physicians, osteopaths, dentists, veterinarians, nurses, optometrists, podiatrists, pharmacists, public health personnel, and allied health professionals to provide services to Indians. Such scholarships shall be designated "Indian Health Scholarships" and shall be made in accordance with this subpart, except as provided in subsection (b).

(b)(1) The Secretary, acting through the Indian Health Service, shall determine the individuals who shall receive the Indian Health Scholarships, shall accord priority to applicants who are Indians, and shall determine the distribution of the scholarships on the basis of the relative needs of Indians for additional services by specific health professions.

(2) The active duty service obligation prescribed in the written contract entered into under this subpart shall be met by the recipient of an Indian Health Scholarship by service in the Indian Health Service, in a program assisted under title V of the Indian Health Care Improvement Act, or in the private practice of the applicable profession if, as determined by the Secretary in accordance with guidelines promulgated by the Secretary, such practice is situated in a physician or other health professional shortage area and addresses the health care needs of a substantial number of Indians.

(c) For purposes of this section, the term "Indians" has the same meaning given that term by subsection (c) of section 4 of the Indian Health Care Improvement Act and includes individuals described in clauses (1) through (4) of that subsection.

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
Bureau of Health Manpower

NATIONAL HEALTH SERVICE CORPS SCHOLARSHIP PROGRAM CONTRACT

Section 751 of the Public Health Service Act (42 U.S.C. 294t) establishes the National Health Service Corps Scholarship Program ("Scholarship Program") and authorizes the Secretary of Health, Education, and Welfare ("Secretary") to provide applicants selected to be participants in the Scholarship Program with scholarship awards. In return for awards, applicants must agree to provide health services in a manner determined by the Secretary for a period of obligated service equal to one year for each year of scholarship award received, or two years, whichever is greater. The regulations implementing the Scholarship Program are set forth in Title 42, Code of Federal Regulations, Part 62.

Section 751 requires applicants to submit with their applications a signed contract stating the terms and conditions of participation in the Scholarship Program. The Secretary shall sign only those contracts submitted by applicants who are selected for participation. The terms and conditions of the contract are set forth below.

Section A — Obligations of the Secretary

Subject to the availability of funds appropriated by the Congress of the United States for the Scholarship Program and the National Health Service Corps ("Corps"), the Secretary agrees to:

1. Provide the undersigned applicant ("applicant") with a scholarship award for the school year 1980-81 during which the applicant:
   a. is enrolled, or is accepted for enrollment, as a full-time student in an accredited (as determined by the Secretary) educational institution in one of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Northern Mariana Islands, the Virgin Islands, Guam, American Samoa, or the Trust Territory of the Pacific Islands, and
   b. is pursuing a course of study leading to a degree in medicine, osteopathy, dentistry, or other health profession which has been approved by the Secretary for participation in the Scholarship Program.

   The scholarship award consists of tuition, an amount for all other reasonable educational expenses incurred by the student, and a monthly stipend for the 12-month period beginning with the first month of each school year in which the applicant is a participant in the Scholarship Program.
2. Utilize the applicant to provide health services in accordance with Section B(4) of this contract.
3. Defer performance of an applicant's period of obligated service if the applicant (1) receives a degree from a school of medicine, osteopathy, dentistry, veterinary medicine, optometry, podiatry or pharmacy, and (2) requests a deferment of this period to complete internship, residency or advanced clinical training.

   The period of deferment may not exceed (1) three years for applicants receiving degrees from schools of medicine, osteopathy or dentistry, or (2) one year for applicants receiving degrees from schools of veterinary medicine, optometry, podiatry or pharmacy. The Secretary may, however, extend this period of deferment if the Secretary determines that the extension is consistent with the needs of the Corps.

Section B — Obligations of the Applicant

The applicant agrees to:

1. Accept the scholarship award provided by the Secretary under section A(1) of this contract for the school year 1980-81.
2. Maintain full-time enrollment until completion of the course of study for which the scholarship award is provided.
3. Maintain an acceptable level of academic standing while enrolled in the course of study for which the scholarship award is provided.
4. Serve his or her period of obligated service by providing health services, as determined by the Secretary:
   a. In the full-time clinical practice of his or her health profession as a commissioned officer in the Regular or Reserve Corps of the Public Health Service or as a civilian member of the Corps in a health manpower shortage area designated under Section 332 of the Public Health Service Act ("Act"); or
   b. In a unit of the Department of Health, Education, and Welfare designated by the Secretary, if there is no need in a health manpower shortage area for a Corps member of the profession in which the applicant is obligated to provide health services under this contract; or
   c. In the full-time private clinical practice of his or her health profession as set forth under Section 753 of the Act in a health manpower shortage area which has: (1) a priority for the assignment of Corps members under Section 333(c) of the Act, and (2) a sufficient financial base to provide the applicant with an income not less than the income of Corps members.
5. Serve one year of obligated service for each year the scholarship award is provided, with a minimum obligation of 2 years.
6. Comply with the provisions of Title 42, Code of Federal Regulations, Part 62.

Section C — Breach of Scholarship Contract

If the applicant:

1. Fails to accept payment or instructs the educational institution to which scholarship payments are to be made not to accept payments under this contract, the applicant (other than an applicant under paragraph 2 of this section) shall, in addition to the service or other obligations incurred under this contract, pay to the United States the sum of $1,500 as liquidated damages. Payment of this amount must be made within 30 days of the date on which the participant fails to accept payment of scholarship award or instructs the school not to accept payment.

2. Fails to maintain an acceptable level of academic standing in the course of study for which the scholarship award is provided, or voluntarily terminates academic training before the completion of such training, or is dismissed from the educational institution for disciplinary reasons, the applicant shall, instead of performing the service obligation incurred under this contract, repay to the United States all funds paid to the applicant and to the educational institution under this contract. Payment of this amount must be made within 2 years of the date the participant becomes liable to make payment under this paragraph.
3. Fails to begin or complete the period of obligated service incurred under this contract for any reason other than those in paragraph 2 of this section, the United States shall be entitled to recover an amount equal to three times the scholarship funds awarded, plus interest, as determined by the formula

$$A = 3\emptyset \left(\frac{t - s}{t}\right)$$

in which:

'A' is the amount the United States is entitled to recover,
'Ø' is the sum of the amounts paid to or on behalf of the applicant and the interest on such amounts which would be payable if at the time the amounts were paid they were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States,
't' is the total number of months in the applicant's period of obligated service, and
's' is the number of months of such period served by the applicant in accordance with Section 752 of the Act or with a written agreement under Section 753 of the Act.

The amount the United States is entitled to recover shall be paid within one year of the date the Secretary determines that the applicant has failed to begin or complete the period of obligated service.

Section D — Creditability of Graduate Training Toward the Period of Obligated Service

1. Except as provided in paragraph 2 of this section, no period of internship, residency, or other advanced clinical training will be counted toward satisfying the period of obligated service incurred under this contract.
2. Applicants who received funds under the Public Health and National Health Service Corps Scholarship Training Program (Section 225 of the Act as in effect September 30, 1977) for any school year beginning before October 12, 1976, will receive credit toward the period of obligated service for any period of internship or residency served in a Public Health Service or National Health Service Corps facility. Applicants who received funds for the first time under the Public Health and National Health Service Corps Scholarship Training Program as in effect September 30, 1977, for the school year 1977-78 will receive credit toward the period of obligated service for only one year of internship or residency served in a Public Health Service or National Health Service Corps facility.

Section E — Cancellation, Suspension, and Waiver of Obligation

1. Any service or payment obligation incurred by the applicant under this contract will be canceled upon the applicant's death.
2. The Secretary may waive or suspend the applicant's service or payment obligation incurred under this contract if:
   a. compliance by the applicant with the terms and conditions of this contract is impossible or would involve extreme hardship, and
   b. enforcement of such obligation would be unconscionable.

Section F — Contract Extension

1. The applicant may annually request extension of this contract, for a period not to exceed 12 months, if the request is submitted in accordance with procedure established by the Secretary.
2. Subject to the availability of funds appropriated by the Congress of the United States for the Scholarship Program and the Corps, the Secretary shall approve requests for contract extension if:
   a. the request does not extend the total period of scholarship award beyond four years, and
   b. the applicant is otherwise eligible for continued participation in the Scholarship Program.

The Secretary or his authorized representative must sign this contract before it becomes effective.

Applicant Name (Please Print)	Applicant Signature	Date
Secretary of Health, Education, and Welfare or Authorized Representative		Date

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dk28:08577

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