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Report to the Chairman, Committee on Labor and Human Resources, U.S. Senate

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NATIONAL HEALTH SERVICE CORPS

Opportunities to Stretch Scarce Dollars and Improve Provider Placement

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Health, Education, and
Human Services Division

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November 24, 1995

The Honorable Nancy L. Kassebaum
Chairman
Committee on Labor and Human Resources
United States Senate

Dear Madam Chairman:

The National Health Service Corps (NHSC) is the federal government's main program for placing physicians and other health care providers in locations with identified shortages of health professionals. For many years, NHSC recruited health care providers primarily by awarding scholarships to students who agreed to serve in shortage areas after their health professions training was completed—generally several years later. In the late 1980s, the Congress authorized an additional approach—a loan repayment program for health care providers who had completed their training and could begin serving in a shortage area immediately. Under this second approach the government repaid a set amount of educational loan debt for each year of service in a shortage area.

In recent years, funding for NHSC scholarships and loan repayments has increased nearly 10-fold, from about $8 million in fiscal year 1989 to nearly $80 million in fiscal year 1994. To provide information that would be useful to the Congress in dealing with health professional shortage issues, you asked us to (1) compare the costs and benefits of the NHSC scholarship and loan repayment programs and (2) determine whether NHSC has distributed available providers to as many eligible areas as possible.

To address these objectives, we analyzed cost, retention, and other data related to the scholarship and loan repayment programs. In addition, we analyzed NHSC placements in relation to such factors as the priority of placement sites and the number of providers needed to remove an area's shortage designation. Appendix I explains our scope and methodology in detail. We conducted our review from June 1994 through August 1995 in accordance with generally accepted government auditing standards.

Results in Brief

Overall, compared with the scholarship program, the NHSC loan repayment program offers a better long-term investment of scarce federal resources to address shortages of primary care providers. One reason is that it costs less. Loan repayment recipients cost the federal government one-half to

one-third less than scholarship recipients for each year of promised service in a shortage area. A second reason is that loan repayment recipients are more likely to complete their agreed-upon period of service in a shortage area and to extend their stay for an even longer time. Moreover, neither program appears to outweigh the other in terms of how well it directs resources to those areas identified as having the severest shortages. Technically, the scholarship program offers a better guarantee that providers will serve in the neediest shortage areas because it gives the recipients less freedom of choice in deciding where to serve. However, the available evidence suggests that there is generally little difference, on average, in the priority of the sites where scholarship and loan repayment recipients practice.

Regardless of which approach it uses, however, NHSC does not distribute provider resources as effectively as it could to alleviate health care needs in the greatest number of eligible shortage areas. NHSC has placed more providers than are needed to remove the shortage designations in some areas, while concurrently being unable to place providers in over one-half of all shortage areas requesting assistance. By allowing excess placements in some shortage areas, NHSC limits its ability to address needs in others, including some shortage areas that may lack the infrastructure or information necessary to request assistance. Some criteria are available to NHSC for measuring need within shortage areas and prioritizing site requests for providers that, if improved, could enhance its ability to alleviate shortages in as many eligible areas as possible.

Background

NHSC was established under the Emergency Health Personnel Act of 1970 (P.L. 91-623) as a program of the U.S. Public Health Service (PHS), an agency of the Department of Health and Human Services (HHS).[1] NHSC was intended to meet America's most critical health care needs. Until 1980, NHSC providers were federal employees; today, however, few NHSC providers receive their pay and benefits directly from the federal government. Instead, they are generally employed by the community health center or other facility at which they serve. These sites are required to provide NHSC health professionals with salaries and benefits at least commensurate with federal positions.

For most NHSC providers, direct federal assistance takes the form of scholarships or loan repayments. The scholarship program was

[1]For a history of this act, see Eric Redman, The Dance of Legislation (New York: Simon and Schuster, 1973).

established under amendments adopted in 1972; loan repayment programs at the federal and state level were established under amendments adopted in 1987. Scholarship recipients are generally recruited before or during their health professions training. As a result, several years usually lapse between a scholarship recipients' agreeing to serve and actually beginning service. Loan repayment recipients have already completed their training and are generally able to begin service immediately. Table 1 summarizes some of the key points of these programs.

Table 1: Scholarship and Loan Repayment Programs

	Scholarship	Loan repayment	State loan repayment
Total funds awarded (fiscal year 1994)[a]	$36 million	$38 million	$5 million
Number of awards (fiscal year 1994)	429	536[b]	Grants to 29 states
Support for each year of promised service in a shortage area	1 year of tuition and fees, related educational expenses, and a monthly stipend	Up to $25,000[c] in educational loans repaid, plus 39 percent of award to cover increased tax liability	Varies, but may not be more favorable than the federal loan repayment program
Time at which provider commits to service	While still in training, several years before service	After completing training, when provider is licensed and a site is selected	Follows federal loan repayment program
Penalty for breach of contract	Generally three times the award amount received, plus interest, times the portion of the contract not served	Varies—for a 2-year contract, the provider owes the award amount received, plus an unserved obligation penalty	Future federal grants to state programs are reduced by the federal share for providers who breach their contracts. State penalties cannot be more favorable than the federal loan repayment program.

[a]Does not include $45 million provided under the NHSC field appropriation to support scholarship and loan repayment recipients in moving to and being at their sites as well as support of other NHSC programs and activities. See appendix II for further discussion of these costs.

[b]Does not include 1-year extensions on prior loan repayment contracts.

[c]Up to $35,000 per year for third and subsequent years of service, if qualified loans are still outstanding.

NHSC has some flexibility in apportioning funds between the scholarship and loan repayment programs. By law, at least 40 percent of amounts appropriated each year must fund scholarships[2] and the rest may be allocated at the Secretary's discretion. In practice, for the past several years HHS has split its funding for NHSC scholarship and loan repayment awards about evenly between the two types of programs. See appendix II for more information on NHSC program funding.

NHSC providers are placed in what are called health professional shortage areas, locations for which HHS has determined that a shortage of primary care, dental, or mental health providers exists.[3] When the shortage area designation was developed, federal intervention was considered justified only if the supply of health care providers was significantly less than adequate. In December 1994, 2,736 urban and rural areas were designated as primary care health professional shortage areas—those areas designated as having a critical shortage of primary health care providers. Our report focuses on these areas because most NHSC recipients work in them.

Amendments passed in 1990 required HHS to prioritize the health professional shortage areas, and NHSC began prioritizing the individual sites requesting providers within shortage areas as well. To be eligible for an NHSC provider, a site must be located in an area of greatest shortage. Providers can then choose where they wish to serve from the list of eligible sites, although providers who have received scholarships are limited to a narrower list of higher priority sites. The number of choices available to scholarship recipients is provided for by statute: three vacancies for each scholar in a given discipline and specialty, up to a maximum of 500 vacancies. For example, if there are 10 pediatricians available for service, NHSC would provide a list of 30 eligible vacancies for the group.

More than 18,000 providers have served in NHSC. At the end of fiscal year 1994, 1,867 NHSC providers were serving in shortage areas. Of these, 1,147

[2]At least 30 percent of the amount appropriated must fund new scholarships for individuals who have not previously received one and an additional 10 percent or more must fund scholarships for nurse practitioner, nurse midwifery, and physician assistant students. According to HHS officials, because NHSC awards multiyear scholarship contracts, all scholarship awards are new each year.

[3]Health professional shortage areas may be a distinct geographic area (such as a county), a specified population group within the area (such as migrant farmworkers), or a public or nonprofit facility (such as a prison). For the purposes of this report, we will refer to all three types generally as shortage areas. Our recent report, Health Care Shortage Areas: Designations Not a Useful Tool for Directing Resources to the Underserved (GAO/HEHS-95-200, Sept. 8, 1995), discusses health professional shortage areas in detail.

were physicians; the remaining 720 NHSC providers were nurse practitioners, nurse midwives, physician assistants, dentists, and other health professionals. About one-half were providing care in federally funded community and migrant health centers,[4] with the remainder in facilities such as Indian Health Service sites, Bureau of Prisons locations, nonfederally funded health centers, or private practice sites. Most of those who were serving in fiscal year 1994 had entered NHSC through the loan repayment program.[5] In addition to the 1,800-plus providers in service, another 1,300-plus were in school or residency training and committed to future service under the scholarship program.

Officials at sites where NHSC providers have served are generally supportive of NHSC and believe that this program is important for attracting primary care providers to medically underserved rural and inner-city communities. In April 1994, HHS's Office of the Inspector General reported that in a survey of directors of facilities at which NHSC providers have served, 90 percent indicated that their facilities could not adequately serve patients without NHSC's assistance.[6] These views were echoed by many of the respondents to a survey that we conducted as part of our field work.

Loan Repayment Program Has Favorable Costs and Benefits

The loan repayment program costs the federal government less than the scholarship program for a year of promised service, while also showing (1) a higher rate of retention at NHSC service sites after providers complete their service obligation and (2) a lower rate of breach of contract. In addition, we found no significant difference in the priority of the sites where the scholarship and loan repayment recipients served or in the rate of minority participation in the programs.

Scholarship Recipients Cost More Than Loan Repayment Recipients

While federal law requires that at least 40 percent of funding go to scholarships, scholarships are considerably more costly than loan repayment awards. For physicians, the average net cost to the federal government for a year of service under the scholarship program was $40,000 in fiscal year 1994, while the average net cost for a year of service in the same year under the loan repayment program was $23,500, about

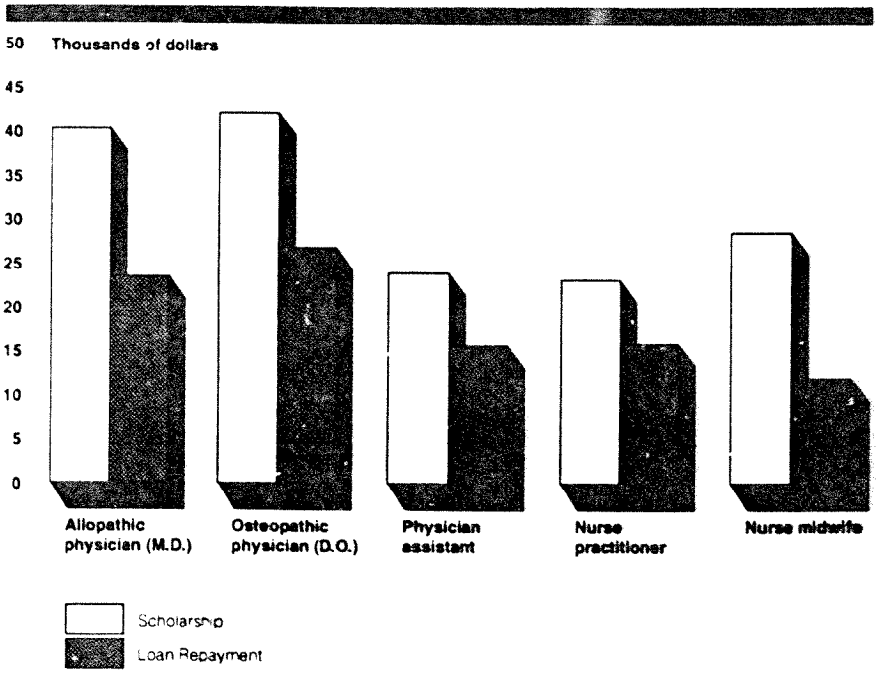
[4]HHS authorizes and funds community and migrant health centers to provide primary care services to medically underserved populations, including the poor, uninsured, minorities, women, children, and the elderly.

[5]Because of the time lag between awarding a scholarship and the recipient providing patient care, the smaller number of NHSC scholarship recipients in service at the end of fiscal year 1994 reflects the lower number of awards several years earlier.

[6]National Health Service Corps: A Survey of Providers, Facilities, and Staff, HHS, Office of the Inspector General, OEI-09-91-01310 (Apr. 1994) p. 6.

41 percent less. Results are similar for other provider types (see fig. 1). For example, net federal cost for physician assistants averaged $24,000 per year under scholarships; under loan repayment, the federal costs for these providers averaged $15,600 per year, about 35 percent less. Appendix III explains our cost comparisons in further detail.

Figure 1: **Net Federal Cost Per Service Year for Scholarship and Loan Repayment Awards** (Fiscal Year 1994)



Two main factors account for the difference in net costs: (1) scholarships cost more due to the time value of money and (2) part of the payments to the loan repayment recipients are returned to the federal government in the form of federal income taxes. Because 7 or more years can elapse between a provider receiving a scholarship and starting to practice in an underserved area, the federal government is making an investment for a service in the future. Interest costs during that time, for either investment opportunities lost or interest paid on amounts borrowed, should be added to reflect the time value of money.

Net costs to the federal government under the loan repayment program are lower because a relatively large portion of the payments made under this program, the tax allowance portion, is immediately returned to the federal government in the form of federal income taxes. The tax allowance, paid by NHSC, covers the cost of the additional federal tax burden the recipient will incur as a result of the loan repayment award, which is subject to federal income taxes. Therefore, the tax allowance is essentially a payment from the federal government back to the U.S. Treasury through the NHSC loan repayment program. In fiscal year 1994, payments for the tax allowance amounted to about $11 million of the $38 million awarded under the NHSC loan repayment program. In contrast, under the scholarship program, only the monthly stipends are subject to federal income taxes, and the NHSC does not provide any additional payments to cover this tax amount.

Available cost data also indicate that the state loan repayment program is an even more economical option than the federal loan repayment program.[7] For service starting in fiscal year 1994, the combined federal and state costs under this program averaged less than $17,000 a year for physicians and less than $8,000 for physician assistants, nurse practitioners, or nurse midwives.

Our cost estimates do not include the administrative costs associated with making and tracking scholarship and loan repayment awards. We were unable to attribute the administrative costs for each scholarship and loan repayment recipient because (1) many of the HHS personnel support both programs and (2) we could not separate costs for other NHSC activities, such as recruitment and retention activities, between the two programs. Although we were unable to determine these administrative costs, we believe that they are higher for scholarships than for loan repayment recipients. One reason is that scholarship recipients are supported and tracked over a longer period of time. Scholarships are awarded up to 7 or more years before the start of service for physicians and several years before the start of service for other health professionals, and HHS has to cover the administrative costs of supporting and tracking scholarship recipients longer than for loan repayment recipients during this time. A second reason is that NHSC bears the expense of interviewing scholarship applicants but does not interview loan repayment applicants. Finally, NHSC covers travel and moving expenses for scholarship recipients but generally does not cover these expenses for loan repayment recipients.

[7]However, information on the relative benefits of the state loan repayment program is limited. The specific requirements and benefits of each state loan repayment program may vary and according to NHSC officials, HHS has not conducted any detailed evaluations of the state loan repayment program.

Loan Repayment Recipients Have Higher Retention Rates

One of NHSC's goals is to retain providers at the facilities after they complete their service obligations. Between 1991 and 1993, we estimate that 48 percent of loan repayment recipients and 27 percent of scholarship recipients were still at the site where they completed their service one year after fulfilling their program obligation, a statistically significant difference. (See app. I for our scope and methodology.)

The higher retention rate on the part of providers who receive loan repayments may be partly related to the timing of their decisions. Loan repayment recipients do not commit to service until after they have completed training and selected a practice site, while scholarship recipients make the commitment while still in training. The extra years between commitment and service may mean that scholarship recipients are more likely to change their minds about what they want to do and where they want to live and practice.

Retention is an issue that NHSC needs to know more about, and NHSC is planning some action in this regard. For the past several years, NHSC has collected some information about whether providers remain at their sites after completing their service obligation, but HHS officials told us that this information does not include how long providers remain—whether it be 1 day or 1 year. However, NHSC officials told us that they plan to create a database of NHSC alumni, to track providers after their obligations are completed, using a broader definition of retention and a 3-month period as the threshold for considering someone as retained. NHSC officials expect to establish a baseline retention rate for fiscal year 1995 by January 1996.

Scholarship Recipients Have Higher Rate of Breach of Contract

The success of the NHSC programs relies on scholarship and loan repayment recipients fulfilling their service obligations. Of the 4,073 scholarship recipients since fiscal year 1980, 12 percent have breached their contracts and have not served their NHSC obligation. In contrast, only 2 percent of the loan repayment program's 1,857 recipients have breached their contracts. For state loan repayment programs, the figure is about 3 percent. The long time lag between a scholarship recipient's commitment to serve in a shortage area and the actual service is probably an important factor in this difference. Scholarship recipients enter into their contracts up to 7 or more years before beginning their service obligation, during which time their professional interests and personal circumstances may change.

The difference in the rate at which NHSC scholarship and loan repayment recipients breach their contracts, however, may be considered somewhat lower because some recipients subsequently pay the government the amounts owed or have their debt terminated. For example, of the 12 percent of scholarships awarded since fiscal year 1980 for which the recipient did not fulfill his or her NHSC service obligation, some recipients paid back the amount owed (3 percent) and some were in the process of service or payback (4 percent). The remainder had not begun service or payback (5 percent).[8,9] Under the loan repayment program, only 1 of the 1,857 recipients had breached his NHSC contract and paid back the amount owed, while 2 percent of the recipients had not completed their NHSC service obligation or paid the amounts owed.[10] Even if this additional information is taken into account, the percentage of persons who have breached their contracts and have not begun service or payback is still higher under the scholarship program. And even though some scholarship recipients who breach their contracts pay back the amounts owed, their departure represents a loss in the program's ability to meet health care needs in shortage areas.

Research Option Limits Scholarship Program's Effectiveness

Another way in which the benefits of the scholarship program appear diminished when compared with the loan repayment program, at least as far as helping shortage areas is concerned, is the option for scholarship recipients to fulfill their service obligations through the National Research Service Award program.[11] Instead of providing direct patient care in underserved areas, these scholarship recipients may conduct biomedical and behavioral research through the National Institutes of Health. This research is not limited to primary care. As of March 1995, 354 NHSC scholarship recipients had completed their NHSC service obligation through this provision and over 40 others were in the process of doing so.

[8]This includes scholarship recipients whose debt has been terminated and who therefore no longer owe service or breach of contract penalties to the NHSC.

[9]The amounts paid by NHSC recipients who breach their contracts are returned to the U.S. Treasury. During fiscal years 1989 through 1994, HHS collected about $55.4 million from scholarship recipients who breached their NHSC contracts. During this same period, HHS wrote off about $21.8 million in amounts owed by NHSC recipients who breached their contracts. When debts are written off, they are generally reported to the Internal Revenue Service as income and the individuals have a federal income tax liability on these amounts.

[10]Similar data were not available for state loan repayment programs. Because the participating states are responsible for repaying the federal government for its portion of state loan repayment awards and for collecting penalties from those who do not fulfill their service obligations, HHS does not collect detailed information on state loan repayment recipients who breach their contracts.

[11]Section 42 U.S.C. 254m(e), amended in 1981 under Public Law 97-35.

When the provision was initially authorized by the Congress in 1976, NHSC scholarship recipients could fulfill their obligations through the National Research Service Award program only if the Secretary of HHS determined that the recipient demonstrated exceptional promise for medical research.[12] The Congress changed the provision in 1981 to allow any service under a National Research Service Award to be counted against the NHSC period of obligated service—the Secretary no longer has the discretion to allow it or not. While the research efforts of these scholarship recipients may be important in their own right, the costs borne by NHSC do not result in any benefits related to meeting the program's goal of providing primary care providers to health professional shortage areas.

Scholarship Program Not Decidedly Better Than Loan Repayment Program in Other Respects

In addition to examining cost effectiveness, we also sought to determine whether the superiority of the loan repayment program might be counterbalanced by other benefits of the scholarship program. Accordingly, we examined whether there were differences between the two programs in the extent to which they (1) serve the neediest of shortage areas and (2) attract underrepresented minorities and other disadvantaged groups into the health professions. Although HHS asserts that the scholarship program is particularly important in achieving these goals, our own analysis of the data found little difference between the scholarship and loan programs.

Priority of Scholarship Placement Sites Is Not Significantly Higher

Scholarship recipients have less flexibility than loan repayment recipients in deciding where to fulfill their service obligation. As explained earlier, providers who have received scholarships are limited to a list of the highest priority sites, while providers who receive loan repayments can work at other NHSC-approved sites in addition to those available for scholarship recipients. This emphasis on scholarship recipients serving the neediest areas has been one of the main reasons advanced in support of the scholarship program. However, the extent to which the scholarship recipients are placed in the neediest areas depends, in part, on the number of scholarship recipients ready to begin service in a given year. Because NHSC is required to give scholarship recipients a choice of practice sites, the list of sites eligible for them will be broader when a greater number have completed training and are ready for placement.

[12]The conference report (H. Conf. Rep. 94-1612, supra, p. 106) stated that the conferees' intent was that the Secretary would use his authority to release individuals who demonstrated extraordinary promise with respect to biomedical research "given the fact that the principal purpose of awarding National Health Service Corps scholarships is to provide health services to medically underserved areas and not simply to provide financial support for health professions students."

To prioritize NHSC placements, HHS scores both the shortage areas eligible for NHSC providers and the individual sites requesting NHSC providers. Using available data for NHSC providers who started service between July 1993 and June 1994, we found that while some scholarship recipients went to higher priority shortage areas, there was no significant difference, on average, between the priority of the areas where scholarship and loan repayment recipients worked. Similarly, we found no significant difference in the priority level of the individual sites where NHSC providers were placed during the 1993 vacancy year.[13] (See app. IV for additional information on the priority of the NHSC placement sites.)

Scholarship and Loan Repayment Programs Have Comparable Minority Representation

Data for fiscal year 1994 indicate that the proportion of minority group members is comparable in both programs. In fiscal year 1994, 33 percent of the loan repayment awards went to minority providers, compared with 34 percent of the fiscal year 1994 scholarship awards.[14] Also, while the scholarship program may assist some disadvantaged students in completing their health professions education, the primary goal of NHSC is to provide health professionals to underserved areas—as such, HHS does not recognize it as an educational assistance program. HHS has other educational assistance programs available to minorities and disadvantaged individuals seeking health professions education.[15] (See app. V for additional information on the ethnic background of the recipients of fiscal year 1994 NHSC scholarship and loan repayment awards.)

[13]The picture with regard to state loan repayment recipients is less clear. Available data for these recipients indicate that those providers worked, on average, in shortage areas with similar priority levels as the federal loan repayment recipients. However, NHSC does not score the priority level of the state loan repayment program placement sites, and according to Bureau officials, HHS has not conducted any comprehensive evaluations of the program.

[14]The percentage within state loan repayment programs is unknown; HHS does not collect information on the ethnic background of state loan repayment recipients.

[15]For example, the Health Education Assistance Loan (HEAL) program provides guaranteed student loans for students. In addition, HHS has school-based loan and scholarship programs for minority and disadvantaged and other financially needy health professions students. These include Exceptional Financial Need Scholarships, Financial Assistance to Disadvantaged Health Professions Students, Scholarships for Disadvantaged Students, and Loans for Disadvantaged Students.

Placement Process Could Distribute Providers to More Areas Eligible for Assistance

Many respondents to our retention survey commented that they viewed NHSC as important to their ongoing ability to recruit health professionals and provide health care services. Despite these favorable views of the program, the question remains whether NHSC has effectively distributed provider resources to as many of the eligible shortage areas as possible; other aspects of our analysis suggest that it does not.

NHSC Has Placed More Providers Than Needed to Remove the Shortage Designations in Some Areas

In 1983, HHS published a program policy in the Federal Register stating that NHSC will not place more providers in any single area than are necessary to dedesignate or remove its shortage designation.[16] However, we found that NHSC does not limit provider placements within shortage areas in accordance with this policy. In all, at least 22 percent of the 397 shortage areas that had an identified need level and received at least one NHSC provider in vacancy year 1993 received more providers than were necessary to remove their designations.[17]

Although NHSC officials provided a rationale for not restricting provider placements to the identified need level, the rationale did not pertain to many of the examples we identified. HHS officials stated that NHSC does not follow the 1983 policy because it does not allow program officials adequate flexibility to address need in some shortage areas, such as those with dedesignation need levels of less than one provider. Because NHSC providers are required under the Public Health Service Act to serve full time, placing a provider full time in any area with need for less than one-half a full-time provider[18] would exceed the level needed for dedesignation. However, we identified a number of instances in which NHSC placed multiple providers in these shortage areas. Of the shortage areas requiring less than one-half a full-time provider that received an NHSC provider during vacancy year 1993, 31 percent were oversupplied by at least one and as many as three providers. One shortage area with a dedesignation need of 0.1 full-time providers received two NHSC physicians and two nonphysicians in the 1993 vacancy year alone. Our analysis

[16]See 48 Federal Register 54538 (1983).

[17]To calculate oversupply, we counted physicians as one full-time provider and nonphysicians (nurse practitioners, nurse midwives, or physician assistants) as one-half a full-time provider, using NHSC's criteria for counting staff vacancies at requesting sites. If only physician placements are counted, 6 percent of these shortage areas would still be identified as oversupplied. We consider these estimates of oversupply to be conservative because our analysis does not include (1) NHSC placements in shortage areas with dedesignation thresholds of zero or no assigned value and (2) NHSC providers placed in prior years that were still in service during vacancy year 1993. See appendix I for additional information on our scope and methodology.

[18]The equivalent of a single NHSC nonphysician provider.

indicates that problems in NHSC's placement criteria (a point we will discuss later) played a substantial role in allowing these overplacements to occur.

Potential alternatives exist to address need in shortage areas requiring less than one full-time provider. For example, some PHS regional officials said that their ability to effectively place NHSC providers would be improved if the Public Health Service Act was amended to allow them to consider alternatives to the full-time service requirement. They suggested allowing NHSC providers to fulfill their obligation in two or more adjacent shortage areas or allowing a provider to work part time for twice the length of required service.[19] NHSC officials stated that the program has begun allowing NHSC providers to serve concurrently in two or more shortage areas as long as the practice is full time, but it does not allow providers to work concurrently in two nonadjacent areas or to work part time in a single shortage area for a longer period of obligation. In our view, such alternatives could help address need in remote areas requiring less than a single provider, while providing for more flexible and optimal use of NHSC resources.

NHSC Cannot Address Need in Many Other Shortage Areas

Oversupplying some areas limits NHSC's ability to address needs within other shortage areas. We identified unmet need existing in two types of shortage areas: (1) those that request but do not receive NHSC providers and (2) those that want providers but appear to face barriers to requesting them.

Areas Requesting but Not Receiving Providers

Many eligible shortage areas requesting NHSC providers do not receive one and they may unsuccessfully request assistance year after year. Sixty-five percent of the 1,207 shortage areas requesting an NHSC provider in vacancy year 1993 did not receive one, and 143 of these areas had requested but not received an NHSC provider for 3 or more years. In a number of cases, the unfilled requests from such shortage areas involved sites with priority scores equal to or above those of sites that did receive a provider. For example, we identified 34 shortage areas in which sites that had requested but not received NHSC providers for 3 or more years had higher priority scores than the average score of sites that did receive a provider in vacancy year 1993. On average, however, priority scores for sites that did

[19]A similar recommendation was made by HHS' Office of the Inspector General in an April 1994 report. See National Health Service Corps, OEI-09-91-01310 (Apr. 1994).

receive an NHSC provider in vacancy year 1993 were slightly higher than those that did not.

NHSC officials pointed out that one reason so many requests go unfilled is that they must create a pool of vacancies that is larger than the number of providers. By law, NHSC must identify at least three vacancies for every scholarship recipient becoming available each year.[20] NHSC faces no such requirement for loan repayment recipients, but in practice it has chosen to do so, adding positions from eligible but less needy sites to those highest-need positions from which scholarship recipients must choose. Thus, the total pool of vacancies is about three times as large as the pool of providers NHSC is trying to place. To target more providers to the highest priority vacancies, NHSC officials said that they planned to reduce the number of vacancies available for the loan repayment recipients to select from.

Areas Unable to Request Assistance

The shortage areas that request but do not receive NHSC providers are not the only shortage areas that wished to participate in NHSC programs but have been unable to do so. Of the 2,600 primary care shortage areas that had current designations as of July 1994, just over 50 percent did not request NHSC providers in vacancy year 1993 and 36 percent had not requested providers in the prior 8 years. We surveyed a random sample of 125 geographic and special population shortage areas to assess why this designation was obtained but sites located therein have not requested NHSC providers. On the basis of the responses, we estimate that 22 percent of all such areas have obtained designations at least in part to be eligible for NHSC providers, but lack adequate resources, information on NHSC, or infrastructure within the community to apply for providers.[21]

NHSC has begun limited efforts to address needs in sites requiring additional assistance to access its programs. NHSC officials said that site development is critical to the program's ability to manage expanding provider numbers and to place providers in many needy areas. As a result, in fiscal year 1994, NHSC began providing technical assistance grants and producing a manual to assist the sites in developing or expanding their health care services. However, the amount of program funding allocated to these efforts has been relatively small—just under $547,000 in fiscal years

[20]Or a total of 500 vacancies, whichever is less, as long as the total number of scholars is fewer than 500. If the number of scholars is 500 or more, the Secretary has the discretion to determine the total number of vacancies that must be identified.

[21]See appendix I for the scope, methodology, and statistical details of our survey.

1994 and 1995.[22] Additional efforts may be necessary to address the barriers to accessing NHSC programs faced by many shortage areas with no pre-existing health care infrastructure. (See app. II for additional information on NHSC technical assistance.)

Modified Criteria Could Improve Provider Placements

In an earlier report,[23] we identified a number of weaknesses that hampered HHS' ability to use the health professional shortage area system to accurately identify areas with a shortage of primary health care access or to effectively target federal resources to needy populations. Among these weaknesses was the failure of these criteria to count many types of providers already providing care in the areas when calculating the number of primary care providers needed to dedesignate a shortage area. However, modifications to this measure and NHSC's own placement criteria could assist NHSC in better distributing limited provider resources to as many needy areas as possible.

Measurement of Dedesignation Need

As noted in our earlier report, HHS' current measure of full-time providers needed to dedesignate a shortage area does not take into account the presence of nonphysician providers (such as nurse practitioners, nurse midwives, or physician assistants) practicing in an area. Instead, HHS counts only the presence of primary care physicians when identifying total available provider resources. This measure of dedesignation need could assist NHSC in identifying the baseline of providers needed within each shortage area and to target future placements based on that need, if modified to account for all provider types requested from and placed by the program. However, by omitting nonphysician practitioners, HHS' current dedesignation need measure ignores providers that account for a substantial portion of both the demand within shortage areas and providers placed in recent years by NHSC. In vacancy year 1993, 16 percent of all shortage areas requesting NHSC providers asked exclusively for nonphysicians, and another 50 percent asked for both nonphysicians and physicians. In addition, 44 percent of all NHSC placements in vacancy year 1993 were nonphysician providers. HHS' measure of dedesignation need could serve as a valuable tool for improving NHSC's allocation of providers,

[22]To date, about $384,000 has been spent on contract start-up costs, technical assistance for 64 individual sites, and for projects such as developing guidance materials, conducting training, and educating state and regional officials on NHSC's programs. Just over $383,000 was spent on the site development manual. Funding for fiscal year 1995 is reported as of August 1995.

[23]Health Care Shortage Areas: Designations Not a Useful Tool for Directing Resources to the Underserved (GAO/HEPS-95-200, Sept. 8, 1995).

if it was made more reflective of the full extent of primary care available within a given area.

Site Prioritization Criteria

To assist in distributing program resources, NHSC has also developed criteria to prioritize requests by individual sites within shortage areas.[24] However, the criteria for prioritizing these requests do not include any measure of overall need within the shortage area in which the requesting site is located nor do they account for prior NHSC placements in the same area.[25] As a result, requests from multiple sites within the same shortage area are separately scored and considered for NHSC placements. As we discussed earlier, this results in an oversupply of providers to some areas which, in time, limits available placements for others. Further, NHSC's criteria do not account for NHSC providers currently serving in a shortage area, so there is no formal mechanism to ensure that some shortage areas are not consistently oversupplied. NHSC could more effectively direct provider resources to as many needy areas as possible by (1) incorporating some measure of the overall shortage area need in site-specific criteria and (2) tracking the number of NHSC providers in each shortage area.

Improvements Undertaken by NHSC, but Additional Steps Are Needed

To address the issue of placing too many providers in some shortage areas, NHSC officials told us that they have revised their placement policies, effective in 1996. This new process will limit multiple NHSC placements within a shortage area based on the primary care physician-to-population ratio for that area. While we agree with the need to limit provider placements, this new placement process falls short of assuring that NHSC providers are distributed to as many eligible areas as possible. For example:

- Under the revised policy, physician placements at multiple sites within a single shortage area will be limited once the area has reached a primary

[24]As a first step in the process, HHS scores all shortage areas and NHSC establishes a cutoff score to identify which areas qualify as areas of greatest shortage. In 1994, more than 90 percent of all designated primary care shortage areas qualified as being of greatest shortage for NHSC loan repayment recipients and scholarship nonphysician providers; over 70 percent of all shortage areas qualified as being of greatest shortage for NHSC scholarship physicians. Once an area is identified as being of greatest shortage, NHSC does not consider an area's relative ranking when making placement decisions at individual sites.

[25]NHSC scores each request on a scale of 0 to 40 based on (1) rate of staff vacancies at the site, (2) rate of low birth-weight or infant mortality rates in the area, (3) percentage of poverty patients at the site or within the entire shortage area, and (4) travel time or distance to the next available source of primary care.

care physician-to-population ratio of 1:1,500.[26] According to NHSC officials, the ratio of 1:1,500 was chosen, in part, because it more closely represents health maintenance organization and industry standards for physician-to-patient ratios and NHSC considers it more representative of the level needed for comprehensive primary care than the current shortage area dedesignation standard of 1:3,500.[27] In our view, this revised policy substitutes an optimum standard for a minimum standard. Opinions may differ as to whether the 1:3,500 ratio constitutes the most appropriate minimum standard for identifying a critical shortage of primary care providers that warrants NHSC resources. Thus, it may be advisable for HHS to reassess this standard. However, we question whether it is advisable to substitute an optimum standard when many eligible areas remain below minimum standards.

- The limitation would apply only to primary care physicians, not to other types of providers such as nurse practitioners, certified nurse midwives, and physician assistants. Applying a standard that omits these nonphysician providers leaves open the possibility that some shortage areas will receive more assistance than needed to meet minimal standards while needs in other shortage areas remain unmet.

Conclusions

Based on available indicators, NHSC loan repayment recipients appear to be less costly and more effective than NHSC scholarship recipients, in terms of completing their obligations and continuing to practice in shortage areas. As such, increased reliance on the loan repayment program offers opportunities to improve the program's cost effectiveness over time. HHS has some flexibility in allocating funding between the scholarship and loan repayment programs; however, legislation limits the ability of the Secretary to use greater discretion in distributing the funds. In addition, the state loan repayment program offers an opportunity to reduce NHSC costs while maintaining the number of health professionals available in shortage areas, although less is known about its benefits compared with the national programs.

NHSC is intended to be a program of last resort for those areas where the supply of health care providers is significantly less than adequate. Given that the number of areas identified as being in greatest need of NHSC providers far exceeds the number of providers available each year, it is critical that NHSC target its finite program resources to address the

[26]Once this ratio is reached, all of the remaining vacancies in a shortage area will be eliminated from the NHSC placement list. However, requests will be reconsidered in the next NHSC placement cycle.

[27]A ratio of 1:3,000 may be used for areas that are considered high need, such as those with high poverty or high infant mortality rates.

minimum needs of as many of these needy areas as possible. At present, this is not occurring. Instead, some shortage areas are receiving more than enough providers to remove their shortage designations, while the needs of other eligible areas go unmet.

Changes by the Congress and HHS are needed to help ensure that available providers cover as many eligible shortage areas as possible. Statutory provisions currently pose barriers to part-time service and allow providers to fulfill their service obligation by doing research rather than providing patient care. For its part, NHSC will be limited in its ability to alleviate shortages in many areas until it determines why some areas face barriers to accessing its programs and develops additional mechanisms for reaching out to these areas. Further, given the extensive limitations of the health professional shortage area designation in identifying need and targeting resources, NHSC must modify available measures of need for its program resources and its own criteria for targeting placements. In particular, it appears appropriate to develop a measurement of need that (1) counts nonphysician providers and NHSC providers currently in service and (2) specifies the minimum number of providers needed to relieve shortages, rather than an optimal number.

Matters for Congressional Consideration

To assist HHS in these efforts, the Congress should consider amending the Public Health Service Act to

- direct the Secretary of HHS to use the loan repayment program rather than the scholarship program, to meet future NHSC needs, or authorize the Secretary greater discretion to allocate larger amounts of NHSC funding than currently allowed through loan repayment awards;
- eliminate the option for NHSC scholarship recipients to fulfill the service obligation under the National Research Service Award; and
- eliminate any existing statutory barriers to the use of flexible work schedules for providers fulfilling their obligations.

Recommendations

To better target limited resources, we recommend that the Secretary of HHS:

- Apportion future NHSC funding to use the loan repayment program to the maximum extent allowed by law. Similarly, assess whether the benefits of the state loan repayment program, which is less costly, are such that they would warrant greater use of the program.

- Assess the reasons why a significant number of eligible areas are not applying for NHSC resources, and expand technical assistance and other efforts to address potential barriers to accessing this program.
- Position NHSC to assist as many shortage areas as possible by discontinuing the practice of placing providers in shortage areas in excess of identified need while other eligible applicants are underserved. In addition, modify placement criteria to include a single measure of need that (1) counts nonphysician providers and NHSC providers currently in service and (2) specifies the minimum number of providers needed to relieve shortages.

Agency Comments and Our Evaluation

HHS commented on a draft of our report in a letter dated October 20, 1995 (see app. VIII). HHS agreed with some of the matters for congressional consideration and recommendations, but disagreed with others.

With regard to the changes we put forward for congressional consideration, HHS agreed with discontinuing the option of allowing scholarship recipients to fulfill their service obligation under the National Research Service Award. HHS also agreed with eliminating statutory barriers to more flexible work schedules, but opposed allowing part-time service. HHS agreed with the option of granting the Secretary greater discretionary authority in apportioning money to the loan repayment program, but disagreed with eliminating the scholarship program altogether.

HHS presented two main reasons for continuing the scholarship program. One is that it establishes a pipeline of future providers. The other is that many scholarship recipients come from disadvantaged backgrounds and from families that would have great difficulty obtaining student loans, thus preventing them from participating in the loan repayment program.

We agree that the scholarship program does establish a pipeline by obligating future providers years in advance. However, there is a risk in obtaining commitments from individuals before they choose their specialties, before they know which sites will be available, and at a time when future family circumstances are unknown. Our work suggests that the loan repayment program reduces this risk because it responds to current demands for providers and has a lower rate of breach of contract. With regard to the argument that the scholarship program helps disadvantaged students, we agree that this is a worthy goal. However, both the legislative history and NHSC's own scholarship application material

make clear that the program's primary purpose is to serve medically underserved areas. Further, our analysis indicates that the number of participants who were ethnic minorities was comparable under the scholarship and loan repayment programs and other HHS educational assistance programs are available to students from disadvantaged backgrounds. For these reasons, we continue to believe that exclusive use of the loan repayment program remains an option for accomplishing NHSC's goals in a more cost-effective manner.

With regard to the recommendations addressed specifically to the Secretary, HHS agreed with the need to determine why some areas are not applying for NHSC resources and noted that NHSC is expanding its technical assistance efforts. HHS' comments also indicate agreement with our recommendation to assess the benefits of the state loan repayment program. HHS did not indicate agreement or disagreement with the recommendation that maximum funding be directed to the loan repayment program. However, it commented that outlays for educational costs could be considered lower for the scholarship program because, unlike the loan repayment program, the tuition payments do not include accrued interest.

In response, our analysis shows that a year of service under the scholarship program costs the federal government significantly more, on average, than a year of service under the loan repayment program. Our analysis focused on the average costs to the federal government for a year of service in a shortage area, based on actual scholarship and loan repayment awards made in fiscal year 1994. Our analysis also includes adjustments for the time lag between the scholarship award and service in a shortage area.

Regarding our recommendation to discontinue placing providers in excess of identified need and to develop a single measure of need, HHS did not agree. HHS argued that placements in excess of dedesignation need were important in providing communities with continuous and comprehensive primary care and to enhance the possibility for retaining providers. They emphasized that sites need to be viable for a provider to stay. Finally, HHS agreed that, in concept, nonphysician providers should be considered in assessing the relative need for providers, but said doing so was too complicated to be practical.

We continue to disagree with HHS' views on these matters. We do not think the strategy of placing providers in excess of dedesignation need is consistent with (1) the main purpose of the program—to eliminate

shortages of health professionals in shortage areas—or (2) HHS' longstanding published policy of not placing providers in areas above the level needed to remove shortage area designations. While we agree that the prospect for retention is an important factor, it could still be considered without making excessive placements. Concerning the viability of sites to support NHSC providers, our analysis of unmet placement requests only considered sites that NHSC had determined to be part of a system of care and to have a documented record of sound fiscal management. Finally, given the emphasis that NHSC places on nonphysician providers, we think it important that HHS develop a mechanism for counting or approximating the number of nonphysician providers in an area to use in measuring relative need for NHSC providers.

HHS also made a number of technical and other comments that we considered in finalizing this report.

As arranged with your office, unless you announce its contents earlier, we plan no future distribution of this report until 7 days after the date of this letter. At that time, we will send copies to the Secretary of Health and Human Services. We also will make copies available to others on request.

Please contact me on (202) 512-7119 if you or your staff have any questions. Major contributors to this report are listed in appendix IX.

Sincerely yours,

Mark V. Nadel

Mark V. Nadel
Associate Director, Health
Financing and Public Health Issues

Contents

Figures

Abbreviations

HHS	Department of Health and Human Services
ICPS	Interamerican College of Physicians and Surgeons
NHMRN	National Hispanic Mentor Recruitment Network
NHSC	National Health Service Corps
NMA	National Medical Association
PHS	Public Health Service

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Scope and Methodology

To accomplish both our objectives, we (1) reviewed relevant legislation, policies, procedures, and studies; (2) interviewed HHS officials from headquarters and two PHS regional offices; (3) interviewed officials from the National Association of Community Health Centers and the Indian Health Service; (4) interviewed health center directors, state officials, and NHSC scholarship and loan repayment recipients; (5) conducted a telephone survey of shortage areas that had not requested a provider; and (6) tracked the retention rate of a sample of former NHSC providers. We also obtained and analyzed data on shortage areas, requests for NHSC providers, and NHSC scholarship and loan repayment recipients from HHS' Bureau of Primary Health Care; however, we did not verify the accuracy of the Bureau's computer-generated data. In addition, we did not examine whether or not providers would have worked in shortage areas without NHSC assistance.

Cost of Scholarship and Loan Repayment Programs

To analyze the net federal costs of the scholarship and loan repayment programs, we used fiscal year 1994 data provided by HHS to calculate the average cost in 1994 dollars per promised year of service.[28] To obtain the net cost to the federal government, we excluded payments for the loan repayment tax allowance (39 percent of the loan repayment award),[29] as well as the federal taxes that scholarship recipients would pay on their stipend payments, assuming a 15-percent tax rate. We adjusted the costs for scholarship recipients using a real interest rate (nominal interest rate minus inflation rate) of 3.5 percent, compounded annually. In making these adjustments, we assumed a 7-year time lag between the first year of training and the beginning of NHSC service for physicians and a 2-year time lag for nurse practitioners, physician assistants, and nurse midwives.[30] We did not include dentists in our cost analysis, as no scholarships were awarded to dentists in fiscal year 1994. We also factored in default rates of 5 percent for the scholarship program (the percentage of scholarships awarded since fiscal year 1980 for which the recipients breached their contracts and had not begun service or started paying back the amounts owed) and 2 percent for the loan repayment program (the percentage of

[28]Because HHS was unable to provide complete data on disbursements made to individual NHSC recipients in prior years, we were unable to use historical data for our cost analysis.

[29]The tax allowance payment under the loan repayment program is equal to 39 percent of the loan repayment award. This payment is intended to cover the additional tax liability resulting from both the loan repayment award and the tax allowance payment, assuming a 28-percent tax rate.

[30]On average, it takes a student 7 years to complete medical school and residency training. The average physician assistant, nurse practitioner, and nurse midwifery programs take about 2 years to complete.

recipients who breached their contracts and had not completed service or paid back the amounts owed).

Because we were unable to break out the $45 million field support budget to identify the administrative costs associated with each program, we did not include the administrative overhead in our cost analysis. However, we believe that administrative costs are higher for scholarship recipients because (1) recipients receive their awards while still in training and must be tracked and supported for a longer period of time, (2) NHSC bears the expense of interviewing scholarship recipients but does not interview loan repayment recipients, and (3) NHSC covers site visit and moving expenses for scholarship recipients. In addition, we did not include the amounts that NHSC collects for services provided by NHSC members. NHSC bills some sites with NHSC providers for a reasonable share of the costs of NHSC members. We excluded these collections because (1) the amount collected has been relatively small—about $2.8 million for calendar years 1990 and 1991, the most recent years for which data are available; (2) the collection policy does not apply to all NHSC providers (for example, those serving under private practice are excluded); (3) NHSC officials told us that the amounts include collections for some providers who are not under NHSC obligations; and (4) sites may request that the payment requirement be waived.

State Loan Repayment Program

To determine the costs of the state loan repayment program, we used data that HHS officials said was compiled from participating states' quarterly reports. We used data for those state loan repayment recipients funded with fiscal year 1993 grant funds who began their service in fiscal year 1994, including the federal and nonfederal funding. HHS officials assume that, unless otherwise indicated, federal grant funds are used to pay for one-half of the state loan repayment awards. Administrative costs for the state loan repayment program are funded by the states and were excluded from our analysis.

Our analysis of benefits of the state loan repayment program was limited for several reasons. First, funding for the state loan repayment program is small compared with that of the federal scholarship and loan repayment programs. Second, several states have only recently begun to participate in the program and have made very few awards (for example, only 2 or 3 recipients). Finally, the data available from HHS are limited, and data for some participating states were not available. We did, however, match the information available from HHS with the data file we obtained from the Bureau of Primary Health Care on health professional shortage areas to

look at the priority of the areas where these providers served. We looked at the 133 state loan repayment recipients who (1) were supported by federal funds (2) were not dental or mental health providers, and (3) began their obligation between July 1993 and June 1994.[31] We calculated the average priority score for 104 of the 133 providers meeting these three criteria for whom data were available. We also used HHS' March 1995 data to calculate the default rate for 470 state loan repayment recipients who were supported by both state and federal funds.

Retention of Scholarship and Loan Repayment Recipients

To measure the retention of NHSC scholarship and loan repayment recipients, we selected random samples of 85 from the 596 scholarship recipients and 52 of the 240 loan repayment recipients who completed their NHSC obligations between 1991 and 1993.[32] We sent a questionnaire to the last site at which NHSC scholarship and loan repayment recipients worked before completing their NHSC service obligations. We asked each site to tell us (1) if the provider was still providing patient care at the facility, and (2) for those who were no longer at the facility, the date the provider left and whether or not the provider was still working within the shortage area. We received responses for 73 of the 85 scholarship recipients and for 46 of the 52 loan repayment recipients in our samples.

We used the results of this survey to estimate the rate of retention among all NHSC scholarship and loan repayment recipients who finished their service obligation between 1991 and 1993. We counted those who continued to practice at the same site for at least 1 year after completing their NHSC obligation as retained. At a 95-percent confidence level, the sampling error associated with our estimate of the retention rate among scholarship recipients (27 percent) is plus or minus 10.5 percentage points; the sampling error for our estimate of retention among loan recipients (48 percent) is plus or minus 14.6 percentage points. The difference between these two estimates is significant at the 0.05-percent confidence level.

We also used the questionnaire for this survey to obtain comments from the sites on NHSC. See appendix VI for a copy of this questionnaire.

[31]We used this time period to be comparable to our analysis of the NHSC scholarship and federal loan repayment programs.

[32]In each case, the universe from which we sampled was limited to primary care providers and did not include providers who received a scholarship award and subsequently received a loan repayment award. From our universe of scholarship recipients we also excluded those who served after breaching their contract.

Rate of Default for NHSC Providers

We used data provided by HHS' Bureau of Primary Health Care to determine the number of scholarship and loan repayment providers who breached their NHSC contracts. We used the data to count those individuals who were in the process of training, residency, or serving their obligation; those who had completed their obligation; and those who breached their contracts. We also used these data to determine the status of those who breached their contract. In order to better compare the rate of default for the scholarship program with the loan repayment program, we used data for scholarships awarded since fiscal year 1980. We used fiscal year 1980 because, assuming a 7-year time lag between award and start of service, physicians that were awarded scholarships in 1980 would be available for service in 1987, the year the loan repayment program was authorized. As a result, we compared the rate of default for 4,073 NHSC scholarship recipients and 1,857 loan repayment recipients in various health disciplines, the majority of whom were physicians. Because our analysis of the rates at which scholarship and loan repayment recipients breached their contracts included recipients still in training or in service, the information presented is incomplete. That is, some of these providers may breach their contracts before completing their NHSC service obligations, resulting in a higher rate of breach of contract.

Comparison of Shortage Area and Site Priority Scores

To compare the shortage area priority scores for scholarship and loan repayment recipients, we used the provider and shortage area data provided by the Bureau of Primary Health Care. We matched the data for primary care scholarship and loan repayment recipients who had in service status codes and who had start dates between July 1993 and June 1994 with the shortage area data, which included priority scores as of July 1994. We used these matched data to determine the shortage area scores for the areas where NHSC scholarship and loan repayment recipients worked.

To compare the site priority scores for scholarship and loan repayment recipients, we used the data for vacancy year 1993 that we matched for our analysis of NHSC placements.

Minority Representation

To determine the level of minority representation in the NHSC scholarship program, we analyzed data obtained from HHS' Bureau of Primary Health Care for scholarship awards made in fiscal year 1994. For the loan repayment program, we obtained ethnic background information directly from Bureau officials. The information reported on the recipients' ethnic

backgrounds is volunteered by the applicants. HHS does not collect information on the ethnic backgrounds of state loan repayment recipients.

Placement of NHSC Providers

We included only primary care shortage areas and providers in our analysis of NHSC placements. Our analysis relied on NHSC vacancy year 1993[33] data for two reasons: (1) it was the most recent year for which complete data were available at the time of our analysis, and (2) data for prior years might be less accurate or consistent because several data fields used are not historical, according to an official in HHS' Bureau of Primary Health Care. To assess NHSC's placement process, we obtained the following data files from HHS' Bureau of Primary Health Care on the dates noted: (1) scholarship award recipients as of November 1994, (2) loan repayment award recipients as of December 1994, (3) site requests for NHSC providers as of July 1994,[34] and (4) health professional shortage area designations, with data provided as of July 1994. We also used health professional shortage area data reported as of December 1992 to identify dedesignation levels assigned during vacancy year 1993.

We matched site requests for a provider in vacancy year 1993 against NHSC's scholarship and loan repayment recipient data files based on provider social security numbers and site identifiers. We also screened the data to ensure that providers' dates of obligation ended after the matched vacancy's date of need. Based on discussions with an official in the Bureau's Office of Data Management, we included providers identified as being in some stage of default as a valid match in our sample only if they matched on the above criteria and also had a start of service date at the identified site. Using this methodology, we identified a total of 728 NHSC provider placements at a 1993 vacancy on all three criteria—555 of which were loan repayment recipients and 173 of which were scholarship recipients at the time of the match.[35] These numbers do not account for total NHSC providers still in service during vacancy year 1993 because we were unable to accurately match NHSC placements made in prior years. We used this matched placement data to analyze health professional shortage area prioritization scores, site priority scores, and other placement characteristics.

[33]NHSC's vacancy year 1993 covered July 1992 through June 1993.

[34]Data on sites requesting NHSC providers begins with NHSC's vacancy year 1987 because data for prior years were not available in an automated format.

[35]These 728 provider placements account for a total of 722 individual providers—since 6 providers were placed and served at 2 different sites during vacancy year 1993.

NHSC's Placement of Excess Providers in Some Shortage Areas

Using the matched placement data, we identified the number of primary care shortage areas that had received one or more NHSC providers in vacancy year 1993, and the number that had requested but did not receive any NHSC providers. We then identified the dedesignation level assigned to each shortage area,[36] which is calculated based on the number of full-time-equivalent primary care physicians necessary to bring the physician-to-population ratio in a shortage area up to 1:3,500, or 1:3,000 for areas with high need.[37] To determine the number of shortage areas that received more providers than needed for dedesignation in vacancy year 1993, we compared the dedesignation need for each shortage area receiving a NHSC provider in vacancy year 1993 against (1) the total number of NHSC physicians and (2) the total number of NHSC physicians and nonphysicians (nurse practitioner, nurse midwife, or physician assistant) placed within the area.[38]

Using the first criteria, we considered any shortage area that received one physician or more in excess of dedesignation need as oversupplied. When calculating oversupplied shortage areas using the second criteria, we considered a physician as one full-time-equivalent provider and a nonphysician as one-half a full-time-equivalent provider, because NHSC uses these counts when calculating staff vacancies at sites requesting assistance.[39] Using this criteria, we considered any shortage area that received the equivalent of one nonphysician provider (one-half a full-time-equivalent) or more in excess of dedesignation need as oversupplied. We consider the latter count of oversupplied shortage areas to be conservative, given that nonphysicians currently practicing in shortage areas are not included when determining the existing level of primary care providers within the areas. Further, these calculations do not include NHSC providers placed in prior years that were still serving within these shortage areas during vacancy year 1993. To identify shortage areas requiring less than a full-time provider that were oversupplied, we

[36]We used dedesignation levels reported as of December 1992 for all shortage areas designated before that date and dedesignation levels reported as of July 1994 for shortage areas designated after December 1992.

[37]Some shortage areas did not have a positive dedesignation need level in the data file. To ensure conservative estimates of oversupply, we excluded from our analysis those shortage areas requesting a provider in vacancy year 1993 that had a dedesignation level of zero or no identified need level.

[38]NHSC providers placed in more than one site during vacancy year 1993 were counted once in this analysis. We also excluded identified oversupplied shortage areas for which the oversupply could be attributed to one or more providers replacing others, based on overlapping dates of service.

[39]Although NHSC incorporates these values for physicians and nonphysicians practicing at sites when prioritizing requests for providers, the presence of nonphysician providers located in a shortage area is not counted by HHS in calculating the area's overall level of need for providers.

considered any shortage area that received more than one-half a full-time provider in excess of dedesignation need as oversupplied.

NHSC's Inability to Address Unmet Need in Other Shortage Areas

To identify how many shortage areas had requested a NHSC provider but never received one, we used NHSC's data on site vacancy requests since vacancy year 1987 to count requests for providers and placements of any type—NHSC or otherwise.[40] We then counted total provider placements within each shortage area to determine (1) total number of shortage areas requesting a NHSC provider since vacancy year 1987, (2) total number that had received a provider of any type, and (3) total number that had never received a provider. Because our methodology counts any provider placed at a NHSC-eligible site it overstates actual NHSC placements in shortage areas,[41] but we considered this the most accurate methodology available to us given the nature of NHSC's data system. As a result, our calculations of the number of shortage areas that have requested but not received NHSC assistance are conservative.

Reasons Shortage Areas Did Not Request NHSC Providers

To determine the reasons why designated shortage areas were not requesting NHSC providers, we surveyed a sample of primary care shortage areas that (1) were currently designated as of July 1994 and (2) had not requested a NHSC provider since 1987. Using data provided by HHS' Bureau of Primary Health Care, we identified a total of 847 geographic and special population shortage areas—674 geographic and 173 special populations designations—that met these criteria.[42] From these groups, we selected a random sample of 75 geographic and 50 special population shortage areas. We used information provided by HHS' Division of Shortage Designation to identify the appropriate point of contact, who was generally an individual within the community or at the state level, who had originally requested or was involved in the most recent update of each area's designation. We telephoned the contact person for each of the 125 areas and asked (1) the reasons for requesting or maintaining the shortage area designation, and (2) the reason that facilities in the area had not requested an NHSC

[40]Because many of NHSC's data fields are not historical, placement data on obligated providers are not consistently documented for past vacancy years. As a result, we relied on the entry of a provider social security number or any of seven filled opportunity status codes in NHSC's vacancy request data file to identify a provider placement of any type within each shortage area.

[41]This is because NHSC's site vacancy request data include information on non-NHSC providers, such as those awarded under other federal grant programs, federally employed providers, and volunteers.

[42]An additional 89 prison or other facility designations had also never requested a NHSC provider during this time, but we did not include them in our analysis because they represent a very small segment of all shortage areas.

provider. We obtained responses from 116 of the surveyed areas—69 geographic and 47 special population shortage areas—for an overall response rate of 93 percent.[43] For those respondents indicating that being eligible for NHSC programs[44] was a factor to some extent, to a great extent, or was the primary reason for updating or requesting their designations, we assessed the reasons they provided for not having requested NHSC providers in recent years. Based on this methodology, our survey results are generalizable to the entire universe of geographic and special population primary care shortage areas designated as of July 1994 that had not requested an NHSC provider since 1987. At a 95-percent confidence level, the sampling error for our estimate of the percentage of such areas that wished to obtain NHSC assistance but perceived barriers to doing so related to a lack of resources, information, or infrastructure (22 percent), is plus or minus 8 percentage points. See appendix VII for the script of our telephone interview.

Site Prioritization Criteria

To evaluate NHSC's site prioritization criteria, we assessed both legislated and agency-developed criteria for prioritizing NHSC provider placements. To determine how many primary care shortage areas make NHSC's first screen and are identified as being of greatest shortage, we compared the shortage area priority score assigned to each area as of July 1994 against the cut-off score used by NHSC for areas of greatest shortage in vacancy years 1994 and 1995.[45] To evaluate NHSC's second screen for prioritizing provider placements, we discussed NHSC's site prioritization criteria with NHSC officials in headquarters and in two PHS regional offices. We also compared relative site priority scores assigned to vacancies in those shortage areas that received a provider in vacancy year 1993 against unfilled vacancies in those shortage areas that requested but did not receive a provider. Further, we compared the relative priority score assigned to site vacancies that were filled by NHSC scholars and those filled by NHSC loan repayment recipients.

[43]Of the nine nonrespondents, HHS indicated that the designations were no longer current for four of the shortage areas. State contacts for the remaining five said that no state or local contacts were available to respond to our survey.

[44]Including NHSC's State Loan Repayment Program for shortage areas located in participating states.

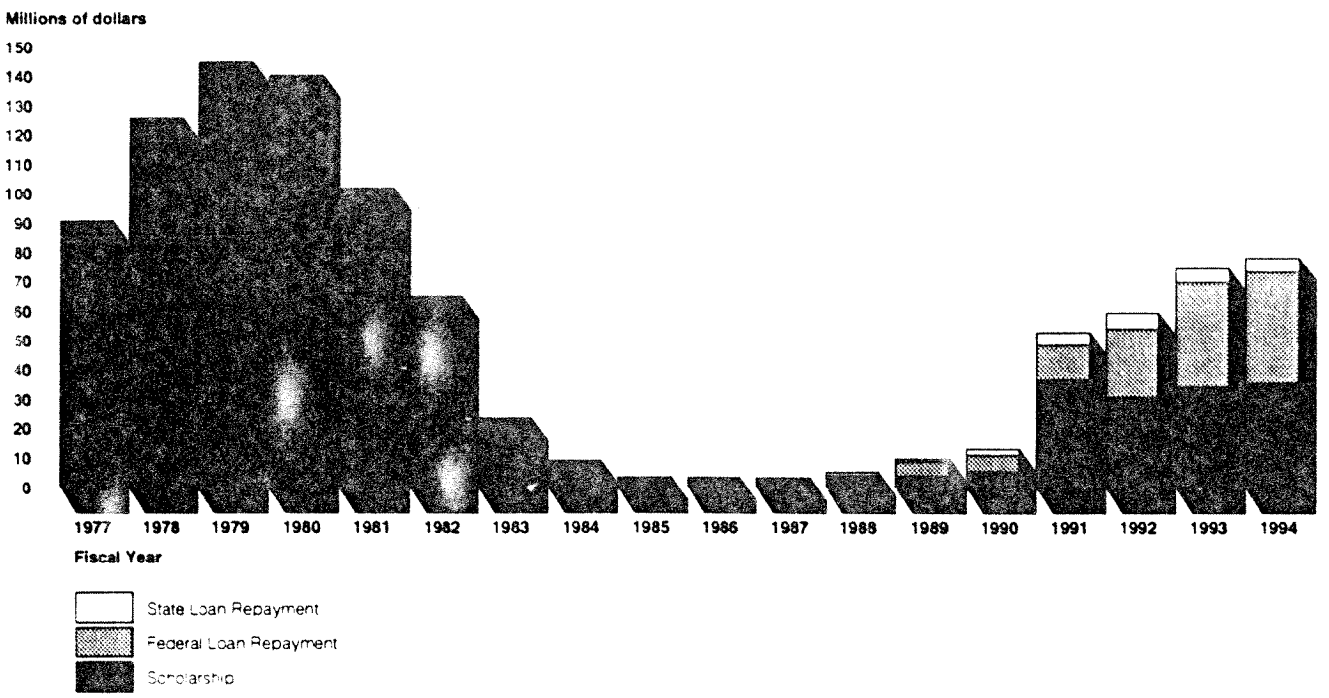
[45]In vacancy year 1994, NHSC required that shortage areas have a minimum score of 7 to be eligible for an NHSC loan repayment recipient or nonphysician scholar and a minimum score of 10 to be eligible for a physician scholar.

NHSC Funding and Activities

The NHSC receives two appropriations: (1) NHSC recruitment, which funds the scholarship and loan repayment awards; and (2) NHSC field, which funds the overhead to support NHSC award recipients as well as other NHSC activities.

As shown in figure II.1, funding for scholarship and loan repayment awards has varied significantly over the past 18 years, declining in the 1980s, and increasing substantially following the addition of the loan repayment programs in 1987.

Figure II.1: NHSC Scholarship and Loan Repayment Funding (Fiscal Years 1977-94, Constant 1994 Dollars)



Source: GAO analysis of information provided by HHS, Bureau of Primary Health Care

In addition to the funding for the scholarship and loan repayment awards, the NHSC received $44.7 million for its field budget in fiscal year 1994. As shown in table II.1, the NHSC field budget covers a variety of activities to

support NHSC recipients as well as to fund other programs designed to increase interest in primary care.

Table II.1: NHSC Field Activity (Fiscal Years 1992-94)

Dollars in Thousands

	Fiscal year		
Activity	**1992**	**1993**	**1994**
Salaries and benefits	$19,905	$20,466	$20,824
Placement travel and transportation costs	1,469	1,364	1,199
Logistics	1,546	312	292
State cooperative agreements	3,255	5,270	5,365
Recruitment	4,621	4,139	6,127
Retention	2,541	1,652	3,884
Mentoring	585	545	554
Technical assistance	1,651	250	953
Junior NHSC	0	0	983
Continuing professional education	1,576	1,864	1,631
Other regional office support	490	565	334
Central office/other logistical	3,751	5,485	2,474
Unobligated	66	108	100
Total	**$41,456**	**$42,020**	**$44,720**

Source: HHS, Health Resources and Services Administration, Bureau of Primary Health Care.

Salaries and Benefits

The NHSC field budget covers the salaries and benefits for (1) HHS staff who administer the NHSC programs, (2) federally employed NHSC providers who are providing patient care, and (3) other groups of federal employees. In fiscal year 1994, $6.4 million of the $20.8 million for salaries and benefits supported those individuals who administered the NHSC programs, $8.8 million covered federally employed NHSC practitioners providing patient care,[46] and the remaining $5.6 million covered salaries and benefits for other groups of federal employees, such as PHS officers serving in the Uniformed Services University of the Health Sciences, fulfilling PHS obligations in NHSC assignments, and serving in nonclinical support programs. For fiscal year 1995, the Bureau projects that for administering NHSC programs, HHS will use 92 full-time-equivalent positions in the Bureau of Primary Health Care and an additional 20 full-time-equivalent positions for PHS regional office staff.

[46]This figure includes $1.3 million for federal employees providing patient care under an NHSC scholarship or loan repayment obligation and $7.5 million for federal employees providing patient care who are not under an NHSC scholarship or loan repayment service obligation.

Placement Travel and Transportation Costs

Once NHSC scholarship recipients are matched to a site, NHSC pays their travel and transportation costs for moving to the selected site.

Logistics

NHSC provides travel costs for scholarship recipients for visits to interview with officials at prospective sites. NHSC also covers travel and lodging costs for these recipients and other NHSC providers who are required to attend orientation conferences and other NHSC-sponsored meetings.

State Cooperative Agreements

NHSC supports State Cooperative Agreement Offices, which help in designating Health Professional Shortage areas and developing and supporting NHSC sites and providers.

NHSC Recruitment and Retention

In fiscal year 1994, NHSC awarded $4.7 million from its recruitment and retention funds to support the NHSC Fellowship of Primary Care Health Professionals. Under this program, NHSC awards grants to state primary care cooperative agreement agencies and state/regional primary care associations to increase the recruitment and retention of health care professionals in underserved areas. To be eligible to participate in the NHSC fellowship student/resident experiences, a student must have completed at least 1 year of medical or dental school or completed 1 year of training in a certified nurse practitioner, physician assistant, certified nurse-midwife, or mental health program.

Other recruitment and retention activities include recruitment through advertising in professional journals, exhibits at professional meetings, a 1-800 telephone line, mailings to students, and application materials as well as continuing professional activities opportunities and materials.

Mentoring

NHSC supports two mentoring networks—one with the National Medical Association (NMA), a professional organization representing minority physicians, and another with the Interamerican College of Physicians and Surgeons (ICPS), a national Hispanic Medical Association. The overall goal of the National Minority Mentor Recruitment Network, supported by NHSC and NMA, is to increase the number of African American and other minority medical students in careers in medicine and to provide support to minority students during their medical school education. The purpose of the National Hispanic Mentor Recruitment Network (NHMRN), supported by NHSC and ICPS, is to establish a linkage between Hispanic medical students

and practicing primary care physicians, primarily of Hispanic background, to foster mentoring relationships. Both mentor networks include a national database of physicians who have volunteered to serve as mentors to assist minority students during their medical training.

Technical Assistance

Until fiscal year 1994, technical assistance was generally limited to existing federally funded health centers—assistance had not been provided to sites eligible for NHSC funding that had not received other federal funds or to communities wishing to develop a facility where one did not exist. Beginning in fiscal year 1994, NHSC began efforts to address the needs of those sites not covered in the past. According to HHS officials, technical assistance is focused on assisting communities and sites to better understand their roles and responsibilities in recruiting and supporting their NHSC health professionals.

NHSC used approximately $163,000 of its fiscal year 1994 technical assistance funding to develop a comprehensive NHSC site development manual. According to NHSC officials, the site development manual is intended to assist communities in setting up the primary health care infrastructure necessary to become viable for NHSC placements. This manual will be provided to PHS regional offices, state cooperative agreements offices, and primary care associations.

NHSC also awarded a technical assistance contract in fiscal year 1994. Under this contract, a site or community interested in obtaining technical assistance initiates a request to NHSC, although PHS regional offices may also initiate a request on the behalf of a community. To be eligible, the community or site must be located in an area that is either designated as or is preparing to become designated as a health professional shortage area; however, the site need not be currently approved for NHSC placement. In fiscal year 1994, NHSC spent about $28,000 for contract start-up costs and spent an additional $56,000 in response to 18 requests for technical assistance. In fiscal year 1995, NHSC has spent about $300,000 in response to 54 requests for technical assistance and for special projects.[47] These activities include developing guidance materials, conducting training, planning a dental site development conference, and educating state and regional health care officials about NHSC and the benefits of technical assistance.

[47]These represent requests from 17 individual sites in fiscal year 1994 and from 47 individual sites in fiscal year 1995.

Junior NHSC/Junior Health Careers Opportunity Program

The Junior NHSC/Junior Health Careers Opportunity Program is a 3-year demonstration grant program. The goal of the program is to increase the number of primary care professionals who come from disadvantaged backgrounds. Federally funded health centers receive funds for projects to expose 6th to 12th grade students from disadvantaged backgrounds to the various primary care fields through on-site and community experiences. The program also provides the students with the necessary prerequisite skills in mathematics, science, and communication and stimulates and reinforces their interest in their own health and in providing care in underserved communities. The projects must involve a formal arrangement between the participating health center and an institution of higher education that has Health Careers Opportunity Program grant funding through fiscal year 1996.

Continuing Professional Education

NHSC provides clinical support funding to NHSC providers so that they can keep current in their professional disciplines. NHSC supports clinical coordinators, and provides stipends to NHSC providers to attend training conferences and professional meetings.

Costs of NHSC Recipients

The NHSC loan repayment program is substantially less costly to the federal government than the scholarship program. In comparing the fiscal year 1994 awards for scholarships and loan repayment, we adjusted the costs as follows:

- To calculate the net cost to the federal government, we excluded the NHSC payment to cover loan repayment recipients' increased tax liability resulting from the award (because this amount will be paid back to the federal government in the form of federal income taxes, generally within 1 year). We also excluded the taxes that scholarship recipients would be expected to pay on the $9,804 annual stipend, assuming a 15-percent tax rate.
- Under the scholarship program, benefits to the federal government occur years after funds are expended. For example, in the case of physicians in their first year of training, 1994 funding purchases their service in 2001. We thus treated scholarship funding as an investment. To compare the loan repayment and scholarship programs, we computed what the cost for a scholarship recipient—including the time value of money—would be in the year when the payback is realized. For example, in the case of physicians beginning training, we computed the cost for 2001, the year in which the recipient of a 1994 scholarship will begin to provide service in a shortage area. We used a real interest rate (nominal interest rate minus inflation rate) of 3.5 percent, compounded annually. The real interest rate reflects the opportunity cost of money (tied up for scholarship funding in this case) or what the money would have earned if invested in real terms. The result is the cost of a physician in 2001 expressed in 1994 dollars (because we used the real interest rate) under the scholarship program. In contrast, under the loan repayment program, outflows of federal funds and benefits to the government occur simultaneously. Thus there is no need to consider the time value of money. If we assume the per recipient cost in future years increases only by the rate of inflation, the cost per recipient in future years will remain unchanged in real dollar terms. For example, the cost of a physician in 2001 will be the same as the cost of a physician in 1994, in 1994 dollars. This enables us to compare the costs of scholarship and loan repayment programs.
- Because NHSC scholarship and loan repayment recipients who receive awards but do not complete their service obligation are an additional cost to the program, we included adjustments based on historical program default rates. For scholarship recipients, we used a 5-percent rate of default—the rate for those awards since fiscal year 1980 where the provider had not begun service or payback or no longer had an obligation

to the NHSC. For loan repayment recipients, we used the program's 2-percent default rate.

To illustrate the effect of these adjustments, table III.1 shows the adjustments on the average costs for fiscal year 1994 awards to allopathic physicians.

Table III.1: Cost Adjustments for Fiscal Year 1994 Scholarship and Loan Repayment Awards to Physicians (M.D.s)

	Fiscal year 1994 average cost per year of service	
Adjustment	**Scholarship**	**Loan repayment**
No adjustments	$32,387	$31,954
Adjusted to make federal tax neutral	30,916	22,989
Adjusted for taxes and for time lag	*38,225*	*22,989*
Adjusted for taxes, time lag, and default	40,237	23,458

To compare costs under the NHSC state loan repayment program with those of the scholarship and loan repayment programs, we used available data for state loan repayment recipients who began their service obligations in fiscal year 1994. Because these providers were funded, in part, by fiscal year 1993 grant funds, we adjusted the costs to be comparable to the fiscal year 1994 grant awards and included a factor for default. Table III.2 shows the adjusted costs for fiscal year 1994 scholarship and loan repayment awards as well as for state loan repayment awards for service beginning in fiscal year 1994.

Table III.2: Adjusted Cost Per Year of Service, by Discipline, for NHSC Awards (Fiscal Year 1994)

Type of discipline	Scholarship[a]	Loan repayment[b]	State loan repayment[c]
Allopathic physician (M.D.)	$40,237	$23,458	$15,508
Osteopathic physician (D.O.)	42,150	26,802	22,548
Physician assistant	23,945	15,642	9,482
Nurse practitioner	23,147	15,857	5,579
Nurse midwife	28,569	11,904	9,119
Discipline not provided (primary care)	not applicable	not applicable	16,630

[a]Includes tuition, stipend, and fees less the federal taxes a scholarship recipient would pay on the stipend, assuming a 15-percent rate. Adjusted at a 3.5-percent real interest rate to reflect the time lag between scholarship award and service and for a 5-percent default rate. Uses a 7-year time lag between the first year of training and service for physicians and a 2-year time lag for nonphysicians.

[b]Excludes 39-percent tax allowance payment and adjusted to reflect a 2-percent default rate.

[c]Amounts for awards made in fiscal year 1994 with fiscal year 1993 grant funds. Adjusted for the 1-year time lag at a 4-percent rate and for a 3-percent default rate.

Comparison of Priority of Placement Sites

Using available data for NHSC placements in recent years, we found no significant difference, on average, between the priority scores of placement sites of NHSC scholarship and loan repayment recipients. Shortage areas are scored on a scale of 0 to 25, while site applications are scored on a scale of 0 to 40, with a higher score indicating a higher priority. While HHS does not maintain historical data on placements as to the priority of the shortage areas, we analyzed the most recent available data for NHSC placements made between July 1993 and June 1994. This analysis shows that although the scholarship recipients had higher average scores for some disciplines, the average scores for total placements were comparable (see table IV.1). Similarly, available data for NHSC placements made in vacancy year 1993[48] show the average site priority score was similar for scholarship and loan repayment recipients (see table IV.2).

Table IV.1: Shortage Area Priority Scores for Providers Beginning Service (July 1993-June 1994)

	Scholarship		Loan repayment	
Provider discipline	**Average score**	**Number placed**	**Average score**	**Number placed**
Physician (osteopathic)	15.40	5	[illegible]52	71
Physician (allopathic)	14.90	21	[illegible]3.95	229
Nurse midwife	14.58	[illegible]2	[illegible].00	18
Nurse practitioner	12.95	21	[illegible]3.75	40
Physician assistant	12.55	44	[illegible]3.63	87
All disciplines	**13.49**	**103**	**13.52**	**445**

Table IV.2: Site Priority Scores for Placements (Vacancy Year 1993)

	Scholarship		Loan repayment	
Provider discipline	**Average score**	**Number placed**	**Average score**	**Number placed**
Physician (osteopathic)	27.75	[illegible]6	26.31	77
Physician (allopathic)	27.31	61	26.83	254
Nurse midwife	29.00	14	24.96	23
Nurse practitioner	28.58	24	26.51	67
Physician assistant	24.79	58	25.61	134
All disciplines	**26.82**	**173**	**26.35**	**555**

Data on the site and shortage area priority for state loan repayment recipients are limited. Because each participating state runs its own program, NHSC does not score the priority of the sites. Available data for state loan repayment recipients who began service during the same

[48]This covers the period from July 1992 to June 1993 and was the most recent year for which site priority scores were available.

timeframe indicate that the average shortage area priority score was not significantly different than the federal program, with an average score of 12.8.

Ethnicity of NHSC Award Recipients (Fiscal Year 1994)

Figures in percent

	Scholarship	Loan repayment
American Indian	0.2	0.0
Asian	4.2	5.0
Black	21.2	17.9
Hispanic	7.7	9.7
White	57.1	55.2
Native Hawaiian/ Pacific Islander	0.4	0.4
Not provided	9.1	11.8

Source: GAO analysis of information provided by HHS, Bureau of Primary Health Care

GAO Survey of Facilities That Use NHSC Providers

Information about National Health Service Corps Providers

Introduction

Please answer the following questions about:

Provider: (provider name)

Date this provider's NHSC (National Health Service Corps) service obligation began at your site: (NHSC start date)

Date this provider's NHSC Obligation Ended: (NHSC end date)

1. **Is (provider name) still working at your facility?**

   [ ] yes
   [ ] no---> *Skip to question 3.*

2. **Not counting vacation, leave (sick, family, or medical), or required training, has (provider name) provided patient care at your facility without interruption since (NHSC end date)?**

   [ ] yes---> *Skip to question 6.*
   [ ] no

3. **On what date did (provider name) leave your facility?**

   __/__/--__/__/--__/__/
   mo. day yr.

4. **Did (provider name) return to your facility to provide patient care at any point after the date you entered in question 3?**

   [ ] yes
   [ ] no

5. **Since (provider name) left your facility, has he/she provided patient service at any other facility within your health professional shortage area (HPSA)?**

   [ ] yes
   [ ] no
   [ ] don't know

(for loan repayment recipients only)

6. **Was (provider name) providing patient care at your facility immediately prior to (NHSC start date)?**

   [ ] yes---> **On what date did this provider first begin serving patients at your facility?**

   __/__/--__/__/--__/__/
   mo. day yr.

   [ ] no

Please continue on next page--->

Information about National Health Service Corps Providers

7. **Please enter any comments you might have on the National Health Service Corps in the space below.**

8. **Please enter the name and telephone number of the individual who completed this survey, and the date the survey was completed.**

name: _____

phone #: (_____) _____

date completed: /__/__/-/__/__/-/__/__/
mo. day yr.

GAO Telephone Survey of Shortage Areas That Have Not Requested NHSC Providers

Please enter the name of the HPSA you are calling:
Enter respondent's Name:
Enter respondent's Telephone Number:

Hello, I'm _____ from the U.S. General Accounting Office. About a week or two ago we sent you a letter notifying you that we were conducting a study for the U.S. Congress on the Health Professional Shortage Area system and the National Health Service Corps.

As part of our study we are collecting information about a random sample of current Health Professional Shortage Areas. According to federal records you are the contact person for one of the Shortage Areas in our sample--[insert name of HPSA here].

We'd like to ask you a few questions about this [insert HPSA type] Health Professional Shortage Area.

More specifically we'd like to know

1) why a Health Professional Shortage Area designation was requested for this community, and

2) what applications, if any, facilities in the community have submitted for National Health Service Corps vacancies.

This interview should take approximately 10 minutes to complete. Is it convenient for you to talk now or would you like to schedule this interview for another time?

1. **According to federal records, [insert HPSA's name]'s designation as a Health Professional Shortage Area was [requested/last updated] on /__/__/__/ [give date].**

   At that time, what were the reasons this [population/area] wished to be designated as a Health Professional Shortage Area?

   (*Record response.*)

   [ ] Don't know

2. **I'm going to read a list of possible reasons why a community might want to be designated a Health Professional Shortage Area. I'd like to know TO WHAT EXTENT each was a reason why you [applied/last updated] _____'s [insert HPSA name] designation. Please indicate your response in 1 of 3 categories--either 'to little or no extent', 'to some extent', or 'to a great extent'.**

To what extent did you request or update this designation...

(If population HPSA skip to b.)

a. **...so that health care providers in your community would receive an additional 10% reimbursement from Medicare...to "little or no," to "some," or to a "great" extent?**

[ ] To little or no extent
[ ] To some extent
[ ] To a great extent
[ ] Don't know

b. **...so that facilities in your community could apply for National Health Service Corps providers...to "little or no," to "some," or to a "great" extent?**

[ ] To little or no extent
[ ] To some extent
[ ] To a great extent
[ ] Don't know

c. **...to qualify clinics in the area as Rural Health Clinics?**

[ ] To little or no extent
[ ] To some extent
[ ] To a great extent
[ ] N/A wouldn't qual. for RHC even with HPSA desig.
[ ] Don't know

d. **...so that facilities in your community could apply for your state's loan repayment or scholarship program, if there is one?**

[ ] To little or no extent
[ ] To some extent
[ ] To a great extent
[ ] N/A--state doesn't have LRP
[ ] Don't know

e. **...to qualify for funding or other resources from any other federal, state, or local programs--such as the J-1 visa or any other program?**

[ ] To little or no extent
[ ] To some extent----------> **What other programs?**

[ ] To a great extent-------> (*List and describe*)
[ ] Don't know

e. **...for any other reasons you haven't mentioned so far?** (*List and describe.*)

3. **Taking all this into account, what was the PRIMARY reason why you [applied for/last updated] _____'s [insert HPSA name] designation as a Health Professional Shortage Area?**
(*Don't read responses. Check one.*)

[ ] So that facilities in the community could apply for NATIONAL HEALTH SERVICE CORPS providers

[ ] [only for geographic HPSAs]: So that health care providers in the community would receive an additional 10% REIMBURSEMENT FROM MEDICARE

[ ] So that facilities in the community would be eligible to apply for the STATE LOAN REPAYMENT Program

[ ] So that clinics in the community would qualify for funding or other resources from the federal RURAL HEALTH CLINIC Program?

[ ] So that facilities in the community would qualify for funding or OTHER resources from other federal, state, or local PROGRAMS---->(*List and describe.*)

[ ] Other--->(*Describe.*)

4. **According to federal records, from October 1, 1986 to the present, there have been no requests from anyone in the _____ [insert HPSA name] Health Professional Shortage Area for National Health Service Corps providers.**

To your knowledge, have there been any requests since October 1, 1986?
[ ] Yes--------->(go to question 4a)
[ ] No (skip to question 5).
[ ] Don't know (skip to question 5).

4a. **Do you know: (1) when these requests were made, (2) how many providers were requested, or (3) what types of providers were requested?**

5. **In your opinion, why haven't facilities in your Health Professional Shortage Area requested any National Health Service Corps providers over the past several years?**

(*Record response.*)

6. **To your knowledge, are any facilities within this Health Professional Shortage Area using your state's loan repayment or scholarship program, rather than the national NHSC programs?**

[ ] Yes---------->(go to question 6a).
[ ] No (skip to question 7).
[ ] Don't know (skip to question 7).

6a. **In your opinion, why have these facilities opted for the state-level program rather than the federal NHSC program?**

7. **That's all the questions I have for you. Is there anything else you'd like to mention about the Health Professional Shortage Area system or the National Health Service Corps?**

(Record response.)

We appreciate your taking the time to respond to our questions. We'll send you a copy of our report when it is issued. Is your current mailing address_____?
(read address we have for the respondent...)

[ ] yes
[ ] no---------->*(enter new address...)*
[ ] doesn't want the report

_____

_____

_____

Thank you again for your time.

Comments From the Department of Health and Human Services

DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of Inspector General

Washington, D.C. 20201

OCT 20 1995

Mr. Mark V. Nadel
Associate Director, National
and Public Health Issues
United States General
Accounting Office
Washington, D.C. 20548

Dear Mr. Nadel:

Enclosed are the Department's comments on your draft report, "National Health Service Corps: Opportunities to Stretch Scarce Dollars and Improve Provider Placement." The comments represent the tentative position of the Department and are subject to reevaluation when the final version of this report is received.

The Department appreciates the opportunity to comment on this draft report before its publication.

Sincerely,

June Gibbs Brown
Inspector General

Enclosure

The Office of Inspector General (OIG) is transmitting the Department's response to this draft report in our capacity as the Department's designated focal point and coordinator for General Accounting Office reports. The OIG has not conducted an independent assessment of these comments and therefore expresses no opinion on them.

Department of Health and Human Services Comments on the General Accounting Office Draft Report, "National Health Service Corps: Opportunities to Stretch Scarce Dollars and Improve Provider Placement"

General Comments:

The Department is appreciative of the work performed by the General Accounting Office (GAO) and the recommendations made concerning maximizing the effective use of scarce dollars and improving provider placement. The report is complimentary overall of the National Health Service Corps (NHSC) efforts to meet the needs of the underserved, and the Department will take into account its recommendations in improving an already effective primary care service program.

The GAO examined the relative merits of the scholarship and loan repayment programs, and concluded that the loan repayment program is both more cost-effective and does as good a job in placing NHSC clinicians in high need sites. The Department is supportive of both programs, which are complementary in nature, and has provided more detailed responses below.

The GAO also criticized the NHSC for not placing clinicians in as many shortage areas as possible. The Department has responded in some detail on this issue, explaining its placement policies and rationale, including trying to balance conflicting placement objectives prescribed by statutory language.

Matters for Congressional Consideration:

Congress should consider amending the Public Health Service Act to:

(1) Either (a) direct the Secretary of HHS to use the loan repayment program, rather than the scholarship program, to meet future NHSC needs, or (b) authorize the Secretary greater discretion to allocate larger amounts of NHSC funding than currently allowed through loan repayment awards.

Department Comment:

The Department does not concur with recommendation (a), and concurs with recommendation (b).

While we understand that the loan repayment program may be seen as a more immediate, flexible response to contemporary needs, we believe that GAO has overlooked some important features of the Scholarship Program which argue for granting the Secretary the flexibility to distribute awards between the Loan Repayment Program (LRP) and the Scholarship

Program. The Scholarship Program offers a planned acquisition of resources and should be recognized as building infrastructure and establishing a pipeline for future providers. It allows the NHSC to compete earlier in the market, thereby influencing the pool of providers available at a later date by obtaining a commitment to primary care. The Scholarship Program enables scholars to meet their goals while meeting our goals. The NHSC Scholarship Program assists communities which are unable to compete equitably and effectively for health care providers in the private marketplace or even within our own systems. Additionally, the Scholarship Program provides important linkages between the NHSC and academia, encouraging scholars to provide hands-on health care to the underserved in settings which offer valuable experiences to scholars before they serve, and better preparation for serving in an underserved area. Through sharing their experiences with classmates who are not scholars, scholars influence the future practices of their contemporaries. The way the LRP is administered, individuals who apply know which sites are being offered before they sign LRP contracts. The LRP's decision to allow individuals to incur obligations at the time they are available, was designed to balance the Scholarship Program provisions which require individuals to commit to service prior to choosing specialties, prior to knowing which sites will be available, and at a point in time when future family circumstances are unknown. The LRP and the Scholarship Program have been and should continue to be used in concert to balance the needs of the NHSC. It is for these reasons that we believe that the Secretary should have the flexibility to distribute awards between the two programs.

Related to this issue is the current statutory requirement that 10 percent of the scholarships be awarded to Nurse Practitioners (NPs), Physician Assistants (PAs), and Certified Nurse Midwives (CNMs). The Department would prefer to have more flexibility to use more loan repayments versus scholarships for NPs, PAs, and CNMs.

In addition, many scholarship recipients come from families which would have great difficulty borrowing the amounts required to pay for college, let alone medical school. They often come from minority and disadvantaged backgrounds. The LRP, as administratively implemented, requires the participants to complete training before entering the program. If a student cannot obtain the money with which to go to school, he/she will never benefit from the LRP. The Scholarship Program enables these students to complete training and become professionals. These students and future clinicians would be lost to the NHSC and underserved populations without the Scholarship Program. Moreover, as health professionals they serve both as providers, frequently to their communities or populations of origin,

and as role models for other members of their groups. It is therefore extremely important to maintain an active Scholarship Program in order to attract economically disadvantaged students to clinical practice.

We believe that the NHSC needs both the scholarship and loan repayment programs. We increased the investment in loan repayments to approximately 60 percent last year.

Congressional Consideration:

(2) Eliminate the option for NHSC scholarship recipients to fulfill the service obligation under the National Research Service Award.

Department Comment:

The Department concurs. The National Research Service Award (NRSA) Program does not accomplish the goals of the NHSC to provide direct patient care in underserved areas and the Department would like to see this option removed from the Program's statute. In fact, due to a 1993 amendment of the NRSA program, which allowed an NHSC scholarship recipient to satisfy an NHSC scholarship obligation by accepting additional NRSA funding, the NRSA option is even less desirable. However, we believe that this option has minimally limited the Scholarship Program's effectiveness. Less than 4 percent of the NHSC scholarship service obligation completions have been through the NRSA Program. As of September 17, 1995, 9,466 NHSC scholarship recipients had completed their obligations by providing direct patient care in underserved areas and only 360 scholars had satisfied their obligations with research and/or teaching through the NRSA Program. At the present time, only 42 scholars remain in the NRSA Program with just 2 scholars submitting their intent to apply for a NRSA research training fellowship to start in July 1996.

Congressional Consideration:

(3) Eliminate any existing statutory barriers to the use of flexible work schedules for providers fulfilling their obligations.

Department Comment:

The Department concurs with the recommendation to permit flexible work schedules (for which there is no statutory barrier) and has been doing so for some time. The program has permitted NHSC clinicians to fulfill their commitment in two or more Health Professional Shortage Areas (HPSAs), provided that each HPSA is a priority HPSA and the total

practice is full-time. These flexible work schedules have helped facilitate meeting the needs of several priority HPSAs.

The Department does not concur with the implied recommendation to permit part-time work, which is precluded by the statute. The statutory requirement is that all NHSC clinicians must be in full-time practice of their clinical specialty during their period of obligated service. We are cognizant that in some cases part-time employment would permit obligated clinicians more flexibility to raise families and meet other objectives. However, there are several other concerns which outweigh this flexibility. The communities to which these clinicians are assigned are truly needy; part-time service would do less to meet a community's needs. In addition, there is concern over the potential for a provider's competing interests to conflict with their commitment to the underserved. However, the program does encourage sites to provide more flexible options to retain providers once they have completed their period of obligated service. Finally, there are additional costs incurred in tracking scholars and loan repayers if their period of obligated service is extended, and in interest costs associated with additional years of loan repayments.

GAO Recommendation:

In order to better target its limited resources, GAO recommends that the Secretary of HHS:

(1) Apportion future NHSC funding to use the loan repayment program to the maximum extent allowed by law. Similarly, assess whether the benefits of the state loan repayment program, which is less costly, are such that would warrant greater use of the program.

Department Comment:

See also the Department's response to the first Congressional Consideration, above. GAO argues that part of their rationale for recommending loan repayment over scholarships, is that loan repayment is more cost-effective. In determining the cost effectiveness of the two programs, it should be noted that the Scholarship Program pays tuition, fees and expenses at the contemporary rate, while the LRP pays a "deferred cost" for the education and the accrued interest. One might argue that the actual cash outlay is less for the Scholarship Program since only the actual costs are paid rather than the additional costs of interest on student loans. An additional complicating factor in the calculation of cost-effectiveness is the fact that some student loans do not allow deferral of the debt

repayment. Therefore, some student loans have been paid down and the LRP is only capturing and repaying a portion of the total cost. This, while advantageous to the Federal Government, is not a true representation of the educational costs. This phenomenon may be seen in the increasing average debt load of the LRP physician participants from approximately $70,000 in 1989 to $109,200 in 1995.

State Loan Repayment Program (SLRP) benefits need to be carefully evaluated since the areas targeted and the financial assistance offered vary significantly among the States.

GAO Recommendation:

(2) Assess reasons why a significant number of eligible areas are not applying for NHSC resources, and expand technical assistance and other efforts to address potential barriers to accessing this program.

Department Comment:

The Department concurs with this recommendation, and is expanding its technical assistance efforts. The NHSC has undertaken efforts to both reach out to new communities which have identified needs, but haven't requested NHSC assistance, and to other communities which have requested NHSC assistance, but who haven't developed support systems and infrastructures to adequately support NHSC providers. The areas identified by GAO will be evaluated; the technical assistance contractor is identifying additional designated areas that have not applied for NHSC assistance in order to target their efforts; and NHSC has begun a "marketing to sites" effort through associations representing communities and populations (National Rural Health Association, Association of State and Territorial Health Officers, National Association of County Health Officers, etc.) to inform them of the NHSC program and the availability of technical assistance.

The NHSC has also sought more State involvement in primary care access planning and systems development, and in providing technical assistance with their own resources directly to communities and sites. The NHSC, through some regional offices, has held site development workshops, inviting site administrators to participate. The NHSC is considering expanding these efforts, and is also considering other ways to reach out to nontraditional partners in this effort, including working with other organizations that represent underserved populations and communities in need.

GAO Recommendation:

(3) To position NHSC to assist as many shortage areas as possible, discontinue the current practice of placing providers in shortage areas in excess of identified need while other eligible applicants are underserved. In addition, modify placement criteria to include a single measure of need that (a) counts nonphysician providers and NHSC providers currently in service, and (b) specifies the minimum number of providers needed to relieve shortages.

Department Comment:

The Department does not concur that the only goal of the NHSC is "...to assist as many shortage areas as possible...." the NHSC attempts to balance this goal of putting providers in as many shortage areas as possible with the need for retention of these providers beyond their periods of obligation, which begins to address long-term needs for primary care professionals. Retention factors are included both by taking provider interests into account in identifying placement opportunities and in assuring adequate support systems at placement sites.

The 1:3,500 threshold of primary care providers to population is a useful tool to identify health professional shortage areas but not for provider placement. A ratio of 1:1,500 or 1:2,000 is more reflective of the number of providers necessary to provide primary-first contact, continuous, comprehensive care based on a preventive foundation. While the "designation threshold" currently remains 1:3,500, NHSC does not consider exceeding the 1:3,500 threshold as "excess placement." There are several factors which govern NHSC placements. Among them are the following:

The number of clinicians that are needed to provide primary care--first contact, continuous, comprehensive care built on a preventive foundation--more closely approaching the 1:1,500-1:2,000 number.

Many sites lack the infrastructure to support providers. To maintain an effective practice, primary care providers need support systems, referral networks, office and patient care space, salary and benefit packages, all of which are a community and/or site responsibility. If a site is not viable, a provider placed there will not be able to function effectively, will not remain at that site after the service obligation is completed, and may even have to be transferred to another site before the service obligation is completed.

Regarding (a) in the GAO recommendation, it needs to be borne in mind that physician assistants must practice under the direct supervision of a physician and most nurse practitioners prefer to have a physician relatively near by for consultation and referral. The GAO argues that NPs, PAs, and CNMs should be counted in determining relative need for high priority sites. However; because of varying practice patterns, lack of uniform data from State-to-State and site-to-site, and due to their required or likely practice as part of inter-disciplinary teams, it is complicated to include their "count" in determining relative need. The Department does agree that if such data were available, NPs, PAs, and CNMs should be considered in assessing the relative need for providers.

Regarding (b) in the GAO recommendation, the Department non-concurs for the reasons cited above. The 1:3,500 ratio is useful for identifying shortages, but not for making placement decisions. The Department must necessarily balance conflicting goals of placing NHSC providers in as many shortage areas as possible, with ensuring that they work in viable sites and they continue to work in service to the underserved beyond their period of obligated service.

GAO Contacts and Staff Acknowledgments

GAO Contacts

Frank C. Pasquier, Assistant Director, (206) 287-4861
Patricia K. Yamane, Evaluator-in-Charge, (206) 287-4772
Lisa C. Dobson, Evaluator, (206) 287-4862

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