

Health Care Workforce: National Health Service Corps

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Summary

The National Health Service Corps (NHSC) was established in the Emergency Health Personnel Act of 1970 (P.L. 91-623) to improve the distribution of health workers in underserved rural areas by providing scholarship support to students in qualified medical professions in exchange for a period of service in a Health Professional Shortage Area (HPSA). The NHSC is authorized in the Public Health Service (PHS) Act, Sections 331, 338A, 338B, and 338I and codified in 42 USC §234. Over the years, Congress has amended and reauthorized these authorities. In 2008, Congress reauthorized the NHSC in the Health Care Safety Net (HCSN) Act of 2008 (P.L. 110-355). Funding for the NHSC is provided in the annual appropriation bill for the Departments of Labor, Health and Human Services, and Education, and Related Agencies. For the FY2009 annual appropriated a total of \$300 million for the NHSC in the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

The Health Resources and Services Administration, which is in the Department of Health and Human Services, oversees NHSC programs. Now in its 38th year, the NHSC consists of a Recruitment Program, which supports scholarships and loan repayments for NHSC recruits, and a Field Program, which oversees recruitment efforts and field placement. In 2008, the NHSC placed nearly 4,000 physicians, nurse practitioners, physician assistants, mental and behavioral health professionals, and others into underserved areas. Public and private health providers describe the NHSC as a significant force in bolstering the supply of primary health care workers. As well, they identify the role of the NHSC as a significant role for the NHSC in plans for health care reform.

This report provides (1) a descriptive summary of the NHSC; (2) appropriation trends; (3) a profile of NHSC programs; (4) a review of selected program goals and outcomes; (5) a survey of the NHSC's workforce capacity; (6) a description of the NHSC National Advisory Committee; and (7) an analysis of policy issues that may be of interest to Congress. It will be updated to report changes in the appropriation and legislation.

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Introduction

The National Health Service Corps (NHSC) was established in the Emergency Health Personnel Act of 1970 (P.L. 91-623) to improve the distribution of health workers in underserved rural areas by providing scholarship support to students in qualified medical professions in exchange for a period of service in a Health Professional Shortage Area (HPSA).¹ Today, the NHSC recruits professionals and students in the health professions who represent a broad range of health fields, including medicine, nursing, physician assistants, dentistry, and mental and behavioral health. These individuals may qualify for scholarships as well as loan repayment awards, and may fulfill their service commitment in a rural or urban HPSA. For more than 38 years, the NHSC has recruited and placed some 28,000 health professionals in rural and urban HPSAs in the 50 states, territories, and the District of Columbia. In FY2007, the NHSC placed more than 4,000 trained health professionals to serve in HPSAs.

The NHSC is a health safety net program that aims to (1) add to the supply of primary health care workers through its recruitment programs, ² (2) retain primary health care workers in underserved areas, ³ and (3) increase access to primary health care for underserved populations. ⁴ As an element of the health safety net, the NHSC program complements other federal health workforce programs that support the education and training of health care professionals. These health workforce programs include various authorizations in the Public Health Service (PHS) Act, ⁵ Social Security Act, ⁶ and authorities administered in the Indian Health Service, Department of Defense, and Department of Veterans Affairs.

NHSC workforce programs intersect with other health safety net programs, such as the Health Centers program, and health care financing structures under Medicare and Medicaid. NHSC clinicians may serve patients at federally supported health centers, and these patients may pay for services through the Medicaid program. The Medicare program provides an incentive payment to qualified physicians who serve in HPSAs (that is, where NHSC providers are placed).⁷ Further, the Secretary of HHS places approximately 50% of NHSC clinicians to serve in health centers. Increases or decreases in the number of NHSC clinicians at community health centers, as precipitated by reductions in the NHSC recruitment appropriation, could have consequences on the quality of health care that is delivered at these centers. Such an imbalance among components of the health safety net, such as a reduction in NHSC clinicians, could result in additional unmet health care needs.⁸ These interrelationships among health safety programs suggest that as changes

¹ A HPSA is a federally designated entity (such as a facility, group of people, or geographic area) that has a shortage of health professionals, which therefore creates barriers to health care access.

² Public Health Service (PHS) Act, Sec. 331; 42 USC 254d. (All references are to the PHS Act, unless noted otherwise.)

³ Sec. 338A and Sec. 338B; 42 USC 254l and 42 USC 254l-1.

⁴ Sec. 331and Sec. 332; 42 USC 254d and 42 USC 254e.

⁵ Title VII (Health Professions) and Title VIII (Nursing Workforce Development) support individuals and institutions, but most of these do not require a service commitment.

⁶ The Graduate Medical Education (GME) program established under Medicare, and the Medicaid matching funds for hospital GME costs.

⁷ The Social Security Act (Sec. 1833(m); 42 U.S.C. 1395l(m))provides bonus payments for physicians who furnish medical care services in geographic areas that are designated by the HRSA as primary medical care HPSAs (PHS Act, Sec. 332 (a)(1)(A); 42 USC 254e(a)(1)) at, http://www.cms.hhs.gov/hpsapsaphysicianbonuses/.

⁸ Anonymous, Physician Workforce: The Special Case of Health Centers and the National Health Service Corps (continued...)

in federal policies affect one part of the health safety net, the effects of those policies are felt by the other parts.

The statutory mandate for the NHSC is unique, as the NHSC is one among a few federally supported health workforce programs that retains various primary care clinicians in exchange for benefits provided. In 2008, Congress passed the Health Care Safety Net (HCSN) Act (P.L. 110-355), which reauthorized the NHSC's programs through 2012.⁹ The NHSC is authorized in the Public Health Service (PHS) Act, Sections 331-338A, 338B, and 338I. The Department of Health and Human Services (HHS) administers the NHSC through the Health Resources and Services Administration (HRSA), Bureau of Clinician Recruitment and Service.

The Omnibus Appropriation, 2009 (P.L. 111-8) provided \$135 million for the NHSC program for FY2009, which is \$12 million more than the FY2008 appropriation of \$123 million.¹⁰ The American Recovery and Reinvestment Act (ARRA) of 2009, the economic stimulus bill that the President signed into law on February 17, 2009, provided an additional \$300 million for the NHSC program, of which \$225 million is available for FY2009.¹¹ Thus the total FY2009 NHSC funding is \$360 million.

Despite the NHSC's recent reauthorization and increase in funding, policymakers face considerable challenges in providing direction for the NHSC in an era of health care reform and economic constraint. Growing demands for primary health care workers, brought on by an aging population, declining medical school and health professional school enrollments, and increases in the number of uninsured persons, add to the list of challenges that policymakers must confront. On the clinician level, some health reformers suggest that an increased level of responsibility be given to nurse practitioners and physician assistants, and if adopted, the size and character of the NHSC's workforce could be significantly affected, and a greater share of funding might support a larger number of nonphysician primary care providers. On a programmatic level, the Institute of Medicine recommends that the NHSC be a model program for developing geriatric specialists.¹² In the 110th Congress, at least two bills were introduced to establish a geriatric loan repayment program, modeled after the NHSC, to train individuals in geriatrics and gerontology to meet growing demands in those fields. Altering the benefits structure for the NHSC is yet another consideration. One proposal is to extend the long-term commitment that is made between the NHSC and the NHSC clinician beyond the current maximum of 4 years to a period of 20 or 30 years, Another proposal suggests that the NHSC clinician commit to work in HPSAs in exchange for more extensive benefits such as a pension plan.¹³

The NHSC's role as a major program for recruiting and retaining primary health care workers is increasingly recognized for its track record in recruiting and retaining primary health care

^{(...}continued)

American Family Physician, July 15, 2005, vol. 72, p. 235.

⁹ Signed into law on October 8, 2008.

¹⁰ Signed by President Barack H. Obama on March 11, 2009.

¹¹ P.L. 111-5 (H.R. 1, Rep Obey, David R.; Conference Report, 111-16). See CRS Report R40181, *Selected Health Funding in the American Recovery and Reinvestment Act of 2009*, coordinated by (name redacted).

¹² Institute of Medicine, *Retooling an Aging America, Building the Health Care Workforce* (2008), at http://www.nap.edu/catalog.php?record_id=12089.

¹³ Testimony of Allan Goroll, M.D., before the Senate Committee on Finance, Workforce Issues in Health Care Reform, March 12, 2009.

workers, given the boost it received from the economic stimulus legislation (ARRA 2009). As legislators consider options for health care reform, the NHSC's potential contributions are of significant interest.

This report provides (1) a descriptive summary of the NHSC; (2) appropriation trends; (3) a profile of NHSC programs; (4) a review of selected program goals and outcomes; (5) a survey of the NHSC's workforce capacity; (6) a description of the NHSC National Advisory Committee; and (7) an analysis of policy issues that may be of interest to Congress. It will be updated to report changes in the appropriation and legislation.

Structure of the NHSC

The HCSN Act of 2008 reauthorized the NHSC through FY2012. The legislation reauthorized and appropriated funds for the NHSC Recruitment and Field Programs, and reauthorized the NHSC Advisory Council.

The Recruitment Program supports loan repayment awards and scholarships. In FY2007, the Recruitment Program awarded 1,828 loan repayments (new and continuing), thereby supporting 1,828 loan repayors who must fulfill a period of service in a HPSA. In the same year, the NHSC awarded 134 scholarships, resulting in the support of 134 scholars (new and continuing) who must serve in a HPSA once their education is completed.

Field Program administrators develop goals and strategies for the NHSC, and arrange placements for NHSC clinicians to serve in HPSAs. NHSC clinicians may serve in health centers, rural health clinics, public or nonprofit medical facilities, federal or state correctional facilities, or within other community based-systems of care. Field Program managers account for NHSC program operations. In FY2007, the Field Program placed nearly 4,000 NHSC clinicians in HPSAs to fulfill their commitment to service. This total included 1,600 physicians; 739 mental and behavioral health professionals; 488 physician assistants; 443 dentists; 421 nurse practitioners; 84 nurse midwives; 44 dental hygienists; and a single chiropractor.

The National Advisory Council (NAC) makes recommendations to the Secretary of HHS on the administration of NHSC.¹⁴ The NAC on NHSC usually meets once annually.

NHSC Appropriations

Each year, Congress appropriates funds for NHSC programs in the annual appropriations bill for the Departments of Labor, Health and Human Services, and Education, and Related Agencies (Labor-HHS-Ed). In FY2009, the NHSC received a supplemental appropriation through ARRA. This section highlights appropriation trends for the NHSC.

At the end of FY2001, in the last year of the William J. Clinton Administration, the NHSC appropriation was \$125.4 million. In FY2008, at the end of the George W. Bush Administration,

¹⁴ Sec. 337; 42 USC 254j. See also *The National Advisory Council on the National Health Service Corps' Priorities for Reauthorization and Legislative Updates*, at http://nhsc.hrsa.gov/about/reports/reauthorization/summary.htm.

the enacted NHSC appropriation was \$123.4 million. The HCSN Act of 2008 authorized funding for the NHSC's programs through FY2012.¹⁵

For FY2009, Congress appropriated a total of \$300 million in the economic stimulus package (in the ARRA). Of this total, \$75 million must be available through FY2011.¹⁶ That leaves \$225.0 million to be spent in FY2009, in addition to the NHSC FY2009 Omnibus funds, which were appropriated at \$134.9 million.¹⁷ **Table 1** shows appropriation trends from FY2001 through FY2009.

Table 1. NHSC Appropriations: FY2002 through FY2009, FY2009 Omnibus, and
Economic Stimulus (P.L. 111-5)

(dollars in millions)									
NHSC Program	FY02	FY03	FY04	FY05	FY06	F¥07	FY08	FY09ª	FY10 Req.
Recruitment	99.2	125.4	124.5	86.4	85.2	85.2	83.7	260.2	
Field	46.2	45.7	45.4	45. I	40.2	40.4	39.7	99.7	
Total	145.3	171.1	169.9	3 .4	125.4	125.6	123.4	359.9	

Sources: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2003-FY2009; Omnibus Appropriations Act, P.L. 111-8; American Recovery and Reinvestment Act of 2009, P.L. 111-5, which is known as the economic stimulus.

Notes: Figures do not add due to rounding.

a. The total FY2009 appropriation includes (1) from the FY2009 Omnibus, \$134.9 million (\$95.2 million for Recruitment and \$39.7 million for Field), and (2) from the ARRA of 2009, \$225 million (\$165 million for Recruitment, \$60 million for Field).

Profile of the NHSC

Appropriated funds support loan repayments and scholarships through the Recruitment Program and administrative activities through the Field Program. This section describes functional aspects of these two programs.

Recruitment Programs

The NHSC's recruitment programs are organized into three major components: loan repayment, scholarships, and emergency preparedness. This section describes these three components.

¹⁵ Section 3(a) of P.L. 110-355 authorizes to be appropriated \$131.5 million (FY2008), \$143.3 million (FY2009), \$156.2 million (FY2010), \$170.3 million (FY2011), and \$185.6 million (FY2012).

¹⁶ Also, \$60 million, must be used for field operations (or the Field Program).

¹⁷ P.L. 111-8 (H.R. 1105) enacted on March 11, 2009.

Loan Repayment Programs

The NHSC's Loan Repayment Programs support federal and state efforts to recruit health professionals. Similar in their structure and function, NHSC federal and state programs specify that all loan repayors must

- sign an agreement with a respective governmental agency (i.e., federal or state);
- work in a HPSA for a minimum of two years, even if only one year of benefits is received; and
- have earned¹⁸ a degree and certification in qualified areas of allopathic medicine, osteopathic medicine, dentistry, nursing, behavioral and mental health, or marriage and family therapy.

Federal

The federal loan repayment program pays up to \$25,000 a year toward a loan repayor's qualified undergraduate or graduate educational loans in exchange for a commitment to serve in a federally designated HPSA. After the initial two-year mandatory enlistment, a federal loan repayor may sign an unlimited number of single-year continuation agreements to work in a HPSA. For continuing awards, the federal loan repayor may receive up to \$35,000 each year toward qualified loans for each year of service in a HPSA.

Figure 1 shows the trend for all (new and continuing) federal loan repayment awards from FY2002 through FY2008. Between FY2002 and FY2005, the number of federal loan repayment awards increased from 879 to 1,819 (or by more than double in a three-year period). However, after FY2005, the number of loan repayment awards has been level at around 1,500.¹⁹

¹⁸ Full-time students are eligible to participate if they are enrolled in an accredited educational institution and are in the final year of a qualified program of study. Source: *National Health Service Corps Loan Repayment Program Fiscal Year 2009, Application Information Bulletin*, at ftp://ftp.hrsa.gov/nhsc/applications/lrp09.pdf.

¹⁹ The American Jobs Creation Act of 2004 (P.L. 108-357), enacted on October 22, 2004, exempts NHSC loan repayments from taxable income (Sec. 320). This change in the law permitted HRSA to make approximately 40% more awards under the loan repayment program because HRSA no longer is required to reimburse loan repayment participants for the tax payment. Scholarship awards are also tax exempt. Source: HHS, HRSA, *Justification of Estimates*, p. 129.



Figure 1. NHSC Federal Loan Repayment Awards, FY2002 through FY2008 (Est.)

Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2006-FY2009. **Notes:** Figures are subject to correction or updates.

State

The NHSC's state loan repayment program is a matching-grant program that requires a 50% contribution from the federal government and a 50% contribution from the state. Awards made to state loan repayors vary depending on the size of the grant that a state receives from the federal government. Unlike federal loan repayors, a state loan repayor may work only one additional year after the initial two-year service commitment. Thus, state loan repayors are limited to no more than three years of service at a time.

Figure 2 shows the trend for student loan repayment awards from FY2002 through FY2008. Each award represents new and continuing recruits in the NHSC. During the period from FY2002 through FY2004, the number of state loan repayment awards remained unchanged at 217. However, in FY2005,²⁰ the number of state loan repayment program awards increased to a high of about 530, but since then this number has been level at around 285.

²⁰ Ibid.



Figure 2. NHSC State Loan Repayment Awards, FY2002 through FY2008 (Est.)

Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2006-FY2009.

Notes: Figures are subject to correction or updates.

Scholarship Programs

In addition to federal and state loan repayment programs, the NHSC administers scholarship programs. This section highlights the NHSC Scholars Program, which is ongoing, and the now-expired NHSC Community Demonstration Scholars Program.

NHSC Scholars

The NHSC Scholarship Program supports qualified scholars who are enrolled in a program of study at an accredited university. All scholars must study at qualified institutions leading to a degree in any of the following fields of study: allopathic medicine; osteopathic medicine; dentistry; family nurse practitioner (master's degree in nursing, post-master's or post-baccalaureate certificate); nurse-midwifery (master's degree in nursing, post-master's or post-baccalaureate certificate); physician assistant (certificate, associate, baccalaureate, or master's program); or behavioral and mental health (graduate program). An NHSC scholarship award covers tuition and fees for one academic year and provides both a monthly stipend to the student and a single annual payment to cover the cost of all other reasonable educational expenses.²¹ Covered expenses include books, supplies, equipment, uniforms, and travel. NHSC scholars are required to commit to a minimum of two years in clinical service within a HPSA. Each additional

²¹ For the 2008-2009 academic year, the NHSC Scholarship Program pays a monthly stipend of \$1,233 (before federal taxes) directly to each recipient. Source: HHS, HRSA, *NHSC Scholarship Program, Applicant Information Bulletin*, June, 2008, at ftp://ftp.hrsa.gov/nhsc/applications/scholarship/08aib.pdf.

year of scholarship support incurs one more year of service. An NHSC scholar may receive a maximum of four years' support.

Figure 3 shows trends in the total number of NHSC scholarships (new and continuing) that have been awarded between FY2002 and FY2008. Each award represents new and continuing scholars. A total of 405 scholarships were awarded in FY2002. For FY2008, an estimated 162 scholarships were awarded.



Figure 3. NHSC Scholarship Awards, FY2002-FY2008 (Est.)

Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2006-FY2009. **Notes:** Figures are subject to correction or updates.

Demonstration Project: Community Scholars Program

In 1990, Congress authorized the Secretary to conduct a pilot project for community scholars.²² The structure for the Community Scholars Program was comparable to that of the NHSC Scholarship Program (see the description above). Appropriation authority for the Program expired in FY2004. The last participants completed their service commitment in FY2007.

Unlike the federally funded NHSC Scholarship Program, state governments or local entities provided funding for community scholars. Federally qualified health centers, universities, Native American tribally operated health centers, and Alaska village clinics are among those groups that used to receive grants through the Community Scholars Program (CSP). These entities recruited individuals from local areas to participate in the CSP in exchange for a period of service in a HPSA. CSP scholars were eligible to complete entry-level degree programs for medicine,

²² The Disadvantaged Minority Health Improvement Act of 1990 (P.L. 101-527. Sec. 338L; 42 USC 254t.

nursing, and other qualified programs of study. Detailed historic data for the Community Scholarship Program are unavailable.

Emergency Response: Ready Responders Program

In 2002, the Secretary of HHS announced that NHSC recruitment activities would be expanded in order to include a new group of providers known as the Ready Responders. The NHSC recruits Ready Responders through the United States Public Health Service (USPHS) Commissioned Corps. USPHS physicians (board certified in family medicine, internal medicine, internal medicine/pediatrics, general psychiatry, or obstetrics/gynecology); general practice dentists (DDS or DMD); primary care certified nurse practitioners; registered nurses; primary care physician assistants; clinical psychologists; and clinical social workers may collaborate with NHSC providers in public health emergencies such as natural disasters, or terrorist attacks. For instance, in the aftermath of the hurricanes that struck the U.S. Gulf Coast in 2005, a total of 36 Ready Responders assisted with public health emergencies in that region.²³ Ready Responders receive federal support through the NHSC Field appropriation.²⁴ In FY2008, an estimated 55 Ready Responders received support.

Summary of Service Commitments Under the Recruitment Program

The structure of the NHSC's programs encourages all loan repayors and scholars to sign up for a minimum two-year commitment in a HPSA. Only federal loan repayors may opt to work for indefinite periods. NHSC Scholars may serve up to four years. State loan repayors are limited to three-year commitments. Ready Responders must commit to work for up to three years at a time. **Table 2** summarizes NHSC service commitments by NHSC clinician type.

²³ HHS, HRSA, *From the HRSA Administrator's Emergency Response Center*, September 14, 2005, at http://www.hrsa.gov/katrina/updatehrsa0926.htm.

²⁴ HHS, HRSA, Justification of Estimates for Appropriations Committees (FY2009), pp. 56, 260. (Hereafter referred to as HRSA Justification of Estimates (and Fiscal Year)).

NHSC Clinician	Type of Service Commitment						
Federal Loan Repayors	A minimum two-year work period in a HPSA is required. This minimum applies to repayors who receive a single year of benefits. For continuations, a loan repayor may sign multiple single-year agreements.						
State Loan Repayors	A minimum two-year work period in a HPSA is required. This minimum applies to repayors who receive a single year of benefits. A state loan repayor may sign an single-year agreement for a maximum of three years of service. This maximum includes the two-year initial agreement.						
Scholars	A minimum two-year work period in a HPSA is required. This minimum applies to scholars who receive a single year of benefits. For continuations, a scholar may sign single-year agreements for a maximum of four years of service. This maximum includes the two-year initial agreement.						
Community Scholars (Demonstration Project)	A minimum two-year work period in a HPSA is required. This minimum applies to scholars who receive a single year of benefits. For continuations, a scholar may sign single-year agreements as the demonstration project permits.						
Ready Responders USPHS commissioned health officers are assigned to work in a HPSA health emergencies for up to three years at a time in a single location, period an officer may work in other locations.							

Table 2. NHSC Service Commitments

Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2009, and HHS Office of Legislation.

Field Program

Field administrators are responsible for implementing activities that will achieve the NHSC's overarching statutory goal, which is to eliminate health workforce shortages in HPSAs.²⁵ Those activities range from the day-to-day management of recruitment efforts to the development of goals and strategies to retain the NHSC's workforce, and serve its target populations. Key activities of the Field Program include recruitment and retention activities, placements and assignments, HPSA designations, and program goals and outcomes.

Recruitment and Retention Activities

Program administrators coordinate activities for recruiting, placing, and retaining the NHSC's clinicians. Examples of routine recruitment and retention activities include (1) implementing orientation programs for new clinicians; (2) developing clinician mentoring and practice enhancement programs; (3) supporting sites and communities that are served by NHSC clinicians; (4) implementing state-based efforts to address health professional shortages and to assist in the recruitment and retention of clinicians; and (5) preparing Ready Responders for public health emergencies throughout the country.

Of several initiatives sponsored by the Field Program, two exemplify ongoing efforts to recruit and retain clinicians to work in HPSAs. The On Campus NHSC Ambassador Program consists of a group of volunteers who do outreach work on campuses and in communities throughout the country. The volunteers speak to students and clinicians who are in training and encourage them to sign up to work as a scholar or loan repayor with the NHSC. The Student/Resident Experiences

²⁵ Sec. 331(a)(1); 42 USC 254d(a)(1).

and Rotations in Community Health Program (or the SEARCH Program) provides health professions students and medical residents with opportunities to work on interdisciplinary health care teams within the community. The SEARCH program works with Primary Care Associations (PCAs)²⁶ and Primary Care Organizations (PCOs)²⁷ so as to coordinate information for placing NHSC clinicians in the most needy locations.²⁸

Placements and Assignments

The Secretary of HHS is responsible for publishing regulations for assigning NHSC clinicians to work sites in HPSAs. NHSC placement sites must meet specific conditions and requirements in order to be considered as an NHSC site. Prospective placement sites must (1) have a HPSA designation status; (2) provide health care services to all individuals, regardless of the ability to pay; (3) participate in the Medicaid, Medicare, and Children's Health Insurance Program; and (4) be determined by the Secretary to have the need and demand for NHSC clinicians.²⁹ The Secretary prioritizes sites by using a scoring system. The higher the score that is assigned to an entity, the greater is the need for health professionals.

Health Professional Shortage Area (HPSA) Designations

The determination of health professional shortages is the criterion that is used to place NHSC clinicians into service areas. A HPSA may be a designated population group, geographic area, or facility. For instance, a migrant population, a whole county, or community health center may be designated as having a severe shortage of health professionals. The Secretary of HHS must designate and publish the list of HPSAs.³⁰

Criteria for designating HPSA are codified in 42 CFR Part 5. Depending on whether the HPSA is a population, geographic area, or facility, those criteria may include such factors as (1) a low ratio of population to primary care physicians; (2) overuse of, or inaccessibility to, primary medical professionals; (3) constituency that belongs to a federally recognized Native American tribe; or (4) status as a public and/or nonprofit medical facility, such as a federally qualified health center.³¹ Each type of HPSA is further differentiated into three specialties: primary medical care, mental health care, and dental care. HHS reports annually on the number of primary care, dental care, and mental health care HPSA designations. As of FY2008, HHS designated a total of 5,987 primary medical HPSAs, 3,951 dental HPSAs, and 2,947 mental health HPSAs.

The process for designating a HPSA is initiated when an individual or group, or sponsor thereof, submits an application to the state Primary Care Office (PCO). PCOs are the primary source for

²⁶ PCAs are private, nonprofit organizations whose members represent HRSA-supported health centers and other safety net providers. HRSA supports 52 PCAs across the country that act as a support network for training and technical assistance to health centers and other safety net providers.

²⁷ State PCOs assist in the coordination of federal, state, local, and territorial resources that contribute to improving primary care service delivery and workforce availability to meet the needs of populations in underserved locations.

²⁸ For more information on the Field Program, see *Fiscal Year 2008 Justification of Estimates for Appropriations Committees, Clinician Recruitment*, at http://www.hrsa.gov/about/budgetjustification08/Clinicianrecruitment.htm.

²⁹ HHS, HRSA, Recruitment Sites for Assignment of Corps Personnel, *Federal Register*, v. 73, no. 116, June 16, 2008, p. 34025.

³⁰ Sec. 332(d)(1); 42 USC 254e(d)(1).

³¹ HHS, HRSA, *Shortage Designation: HPSA*, MUAs and MUPs, at http://bhpr.hrsa.gov/shortage/primarycare.htm.

designation requests.³² For some, the process has been time-consuming and resource-intensive. In order to expedite the designation process, Congress established an automatic designation pilot project that allowed certain facility HPSAs to bypass the standard designation process, from 2002 through the end of FY2008.³³ In conjunction with this temporary designation process, the HHS developed a scoring process for such automatic designations. However, this scoring process has not been applicable to population or geographic HPSAs, nor to facility HPSAs that have not been automatically designated. For those non-automatically designated HPSAs, current regulations at 42 CFR Part 5 remain in effect. In 2008, the Secretary of HHS withdrew the proposed rule and announced that the HPSA designation process and related ranking schemes would be further revised.³⁴

Program Goals and Outcomes

The NHSC routinely sets goals for its recruitment and field programs. Over the years, some of these goals have been accomplished, and others have been difficult to measure because of inadequate data collection or modification in the data set. During the period from FY2002 through FY2008, the Bush Administration identified at least nine goals (or performance plans) for the NHSC.

From FY2002 through FY2008, HHS consistently tracked, for two or more years, the following goals for the NHSC:

- Increase the field strength of the NHSC through scholarships and loan repayment agreements.
- Increase the percent of clinicians retained in service to the underserved.
- Increase the number of individuals served through the placement and retention of NHSC clinicians.
- Increase the number of NHSC-list vacancies filled through all sources.
- Increase the average HPSA score of the sites receiving NHSC clinicians, as a proxy for service to communities of greatest need.³⁵

For some of the above goals that implicate field strength, the HHS reports that the decrease in field strength from 4,109 in FY2006 through FY2008 is the result of two separate but interrelated factors. The first is that the NHSC awarded more than 3,000 new two-year loan repayment contracts in the years 2003 through 2005. The second is that as many of these clinicians apply for continuations for their third, fourth, and fifth year of service, there is less funding for new contracts. The result is a larger number of clinicians with amendments remaining in the field, and a smaller number of new clinicians who are available to begin service in the field.³⁶

³² For links to state PCOs, see http://bhpr.hrsa.gov/shortage/pcos.htm.

³³ Requirement for automatic designation repealed in Sec. 3 of P.L. 110-355, 122 STAT 3993.

³⁴ HHS, HRSA, Proposed Rule: Designation of Medically Underserved Populations and Health Professional Shortage Areas, *Federal Register*, vol. 73, July 23, 2008, Proposed Rule, p. 42743.

³⁵ Program goals and performance measures for single years were excluded since no trends were apparent. Source: *HRSA Justification of Estimates (FY2003-FY2009)*.

³⁶ HRSA Justification of Estimates (FY2009), p. 57.

The first goal, consistent with the NHSC mission, focused on increasing the field strength of the NHSC through scholarships and loan repayments. **Figure 4** graphs the number of individuals that have fulfilled a service commitment in a HPSA from FY2002 through FY2008 (est.). The number of NHSC clinicians serving in HPSAs increased by 73% during the period from FY2002 through FY2005. The spike in the number of clinicians available to serve in FY2005 is the result of an the American Jobs Creation Act of 2004 (P.L. 108-357), which exempts NHSC loan repayments from taxable income (Section 320). As a result of this law, HRSA made approximately 40% more awards under the loan repayment program as tax reimbursements to loan repayors were no longer needed. Scholarship awards are also tax exempt.³⁷ However, for the same years (from FY2004 to FY2005), the NHSC appropriation declined by nearly a quarter, and continued to decline in subsequent years through FY2008. During the period from FY2005 through FY2008, the NHSC did not reach its goal of increasing field strength, as NHSC field strength decreased by nearly 25%.³⁸



Figure 4. NHSC Field Strength, FY2002-FY2008 (Est.)

Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2006-FY2009.

Notes: Figures are subject to corrections or updates.

The second goal, also consistent with the NHSC mission, aimed to increase the percentage of NHSC clinicians who are retained to serve in HPSAs. NHSC clinicians who are retained are those who seek to remain serving in a HPSA for at least one year, after their service commitment has ended. For each of FY2006, FY2007, and FY2008, the NHSC sought to achieve a 79% retention rate for its clinicians. However, actual data for these years have not been consistently reported or

³⁷ HRSA Justification of Estimates (FY2006), p. 129.

³⁸ HRSA Justification of Estimates (FY2009), p. 59.

are incomplete, and therefore it is difficult to determine whether this program goal has been met. 39

A third goal, related to the NHSC mission, focused on increasing the number of individuals served by NHSC clinicians. **Figure 5** shows the number of individuals who received service from NHSC clinicians during the period from FY2004 through FY2007 (and estimates for service through FY2008). Trends show that between FY2004 and FY2006, the population served by the NHSC increased from 3.8 million to 4.5 million, thus meeting the goal for increased service to HPSA populations. However, in fiscal years FY2007 and FY2008, the size of the HPSA population served by the NHSC decrease by nearly a million, thus falling short of the goal to expand service to needy populations.





Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2006-FY2009.

Notes: Figures are subject to corrections or updates.

A fourth goal, initiated by NHSC administrators, sought to increase the number of list-vacancies (which are qualified job postings where NHSC clinicians may fulfill their service commitment). In FY2004, a goal was to increase the number of list-vacancies that are filled each year. **Figure 6** shows the number of list-vacancies filled by NHSC clinicians, during the period from FY2003 through FY2006 (and estimates through FY2008). The trend for filling these vacancies has been uneven. The actual number of list-vacancies filled by NHSC clinicians fluctuated from 3,000 in FY2003 down to 2,600 in FY2004, and up again to more than 3,000 in FY2005. A four-year low of 1,746 list-vacancies were filled in FY2007. Overall, for the period from FY2003 through FY2008, it appears that the goal of increasing the number of list vacancies filled was not consistently achieved.

³⁹ Ibid.



Figure 6. Number of List-Vacancies Filled, FY2003-FY2008 (Est.)

Source: HHS, HRSA, Justification of Estimates for Appropriations Committees, FY2006-FY2009.

Notes: Figures are subject to corrections or updates.

In FY2006, and FY2007, the Senate Appropriations Committee expressed concern that a temporary scoring process placed health centers at a disadvantage for receiving NHSC clinicians, as those scores were not high enough to obtain NHSC clinicians.⁴⁰ A fifth goal aimed to increase the average HPSA score of the sites receiving NHSC clinicians, as a proxy for service to communities of greatest need.

Field Strength/Workforce

The Field Program reports on activities for NHSC clinicians who are practicing in HPSAs throughout the country. This section provides an overview of the NHSC's workforce.

The map in **Appendix A** shows the urban and rural distribution of all NHSC clinicians⁴¹ in the United States, the District of Columbia, and four U.S. territories for FY2007. All states and territories have at least one NHSC clinician serving in a HPSA. The following states placed the highest number of NHSC clinicians: California (351), Florida (184), and Missouri (142). States placing the lowest number of NHSC clinicians were Vermont (4), New Hampshire (11), and Hawaii (18). Six states each placed more than 150 NHSC clinicians, and they were California, Florida, Michigan, New York, Illinois and Texas.

The map in **Appendix B**, is a subset of the map shown in **Appendix A**, showing the distribution of participants in the NHSC State Loan Repayment Program in FY2007. Recently, the Health Care Safety Net Act of 2008 authorized participation in the NHSC State Loan Repayment (SLR) Program by the District of Columbia and the U.S. territories. The SLR Program is a state

⁴⁰ HPSA scores are explained in the preceding section.

⁴¹ The map represents all NHSC Field Strength: federal loan repayors, state loan repayors, and scholars.

matching grant program that allows states to expand NHSC provider capacity. The states of Michigan and California supported the largest number of state loan repayors, while several states supported no state loan repayors.⁴²

Figure 7 shows the NHSC's workforce trends by type of award (loan repayors, scholars and ready responders who were serving in HPSAs) from FY2001 through FY2007, and estimates through FY2008. Between FY2001 and FY2005, the number of all loan repayors (state and federal) who were practicing in HPSAs increased from 1,437 to 3,780 (or by 169%). By comparison, the number of scholars declined during that period.

Figure 7. NHSC Workforce Trends, Distribution by Type of Recruit, FY2001-FY2008 (Est.)



Source: HHS, HRSA, Office of Legislation, January 2009 and CRS Graphics Division.

Notes: Figures are subject to corrections or updates.

Figure 8 presents FY2007 data for professional groups serving in HPSAs. Physicians (41.9%) represented the largest group of NHSC clinicians, followed by mental and behavioral

⁴² States that were not participating in the NHSC State Loan Repayment Program in 2007 included Alabama, Alaska, Arkansas, Florida, Hawaii, Idaho, Mississippi, Minnesota, Nebraska, New York, North Carolina, Oregon, Tennessee, Vermont, and Wyoming.

professionals (19.3%), physician assistants (12.8%), dentists (11.6%), nurse practitioners (11.0%), nurse midwives (2.2%), and others (1.4%).⁴³



Figure 8. NHSC Field Strength, by Profession, FY2007

Note: Abbreviations: MD/DO = Physicians; M & BH Mental and Behavioral Health Professionals; PA=Physician Assistants; NP = Nurse Practitioners; NM=Nurse Midwives; DD=Dentists; DH=Dental Hygienists; DC = Chiropractors.

National Advisory Council on the National Health Service Corps

The NAC was established to consult with, advise, and make recommendations to the Secretary of HHS and the Administrator of HRSA regarding their responsibilities for the NHSC.⁴⁴ The NAC consists of 15 members, including the Chair. Members and the Chair are selected by the Secretary and serve three-year appointments.

The NAC meets annually to discuss issues and develop recommendations in fulfillment of its mandate, and its meetings are open to the public. The following are selected from among several recommendations that the Committee made in 2007 to the Secretary of HHS and HRSA Administrators: (1) double the NHSC's field strength to 10,000 primary care clinicians in underserved areas; (2) authorize an additional appropriation of 8% of the total loan repayment funding for states that administer a State Loan Repayment Program; and (3) authorize the

Source: HHS, HRSA, Office of Legislation, January 2009.

⁴³ HHS, Office of Legislation, faxed document, January 2009.

⁴⁴ National Advisory Council (NAC) on the NHSC. See, *Charter Amendment*, at http://nhsc.hrsa.gov/about/charter.asp.

Secretary to conduct demonstration projects at discretion. Reports for NAC meetings are available through HHS.⁴⁵

Of Interest to Policymakers

As the NHSC approaches its 40th anniversary, some note a record of achievements, while others signal an opportunity for improvements. The NHSC's record for the recruitment and retention of various health professionals is supported by 28,000 health professionals who have served underserved populations. Over the years, Congress has influenced the role of the NHSC to evolve from a program that recruited physicians and physician assistants into one that recruits a wide range of primary health care professionals. In the HCSN Amendments of 2002 (P.L. 107-251),⁴⁶ Congress directed how the NHSC appropriation would be spent in the recruitment of health workers. The HCSN Amendments of 2002 required that no less than 10% of the total annual NHSC appropriation be awarded for either new scholarship awards, or for scholarships or loan repayments to individuals who are from disadvantaged backgrounds.⁴⁷ In addition, Congress required that certified nurse practitioners, nurse midwives, or physician assistants receive a minimum of 10% of the awards for scholarships and loan repayments.⁴⁸

110th Congress: Reauthorization

The HCSN Act of 2008 reauthorized NHSC programs through FY2012. Also, the HCSN Act authorized at least three significant changes in the NHSC's operations. First, the law authorized as eligible for participation in the NHSC's State Loan Repayment Program, the District of Columbia and U.S. territories. These entities had been ineligible to set up their own NHSC State Loan Repayment matching grant programs. Second, the law rescinded a requirement for certain facilities to be automatically designated as a HPSA, as established in the HCSN Amendments of 2002 (P.L. 107-251). Under the 2002 law, certain health care facilities were automatically designated as HPSAs so that they could bypass the existing designation process that some argued against. The period for automatic designation ended at the end of FY2008. Finally, the law required administrators at NHSC placement sites to encourage training and development for NHSC clinicians.

111th Congress: Legislative Activity

On March 12, 2009, the Senate Finance Committee held a hearing on the health workforce and issues in health care reform.⁴⁹ Though this hearing focused on graduate medical education, some witnesses suggested that legislators consider reforms in the NHSC, so as to bring more qualified individuals into the primary health care workforce. Suggested reforms included providing more

⁴⁵ The National Advisory Council on the National Health Service Corps' Priorities for Reauthorization and Legislative Updates (2007), at http://nhsc.hrsa.gov/about/reports/reauthorization/default.htm.

⁴⁶ Signed into law on October 26, 2002.

⁴⁷Sec. 338H(b);42 USC 254q(b).

⁴⁸ Sec. 338H(c); 42 USC 254q(c).

⁴⁹ The House Committee on Energy and Commerce and the Senate Committee on Health, Education, Labor and Pensions have jurisdiction over the programs in the NHSC.

attractive incentives for participation and extending mandatory periods of service in HPSAs.⁵⁰ Given recent interest in issues connected with health care reform, coupled with the recent boost in the NHSC annual and supplemental appropriation (through the economic stimulus), legislators may consider holding hearings on the NHSC, its current status as a safety net program, its potential contribution to the expanding health safety net, and its prospects for building the health workforce. Hearings that were held during the period from 2000 through 2007 focused broadly on health safety net programs, with much attention to community health centers and less focus on the NHSC.⁵¹

Generally, annual appropriations hearings in the House and Senate allow legislators to deliberate on the rationale for appropriating NHSC funds and to insert legislative directives that require no statutory action. Appropriations histories point to such directives where from time to time congressional committees directed the Secretary to take actions on selected issues.⁵² Issues that may be of interest to the current Congress include health care reform; opportunities for research, evaluation, and assessment; and defining the need for NHSC clinicians.

NHSC's Role in Health Care Reform

Increased access to health care through health care reform legislation could require a corresponding increase in the size of the health workforce. As an important part of the federal health care safety net, the NHSC contributes primary care clinicians to serve in areas where health professional shortages are most severe. An increase in the NHSC's workforce capacity could increase the volume of primary care services available under health insurance programs for safety net populations, assuming that these programs are adequately financed. The Massachusetts experience shows that an increase in access to health insurance with no concomitant increase in the health workforce results in decreased access to care.⁵³

Assessing the balance that NHSC clinicians might confer on the full range of health safety net programs requires reliable and timely data. Some point out that the number of active primary care providers practicing in underserved areas is unknown, and this paucity in the data confounds the

⁵⁰ Testimony by Fitzhugh Mullan before the Senate Finance Committee, hearing on *Workforce Issues in Health Care Reform*, March 12, 2009.

⁵¹National Health Service Corps Scholarship and Loan Repayment Programs Reauthorization Act of 2007, House Committee on Energy and Commerce, 110th Congress, December 4, 2007, Serial No. 110-76; Authorizing Safety Net Public Health Programs, House Committee on Energy and Commerce, August 1, 2001, Serial No. 107-57; Strengthening the Safety Net, Senate Committee on Health, Education, Labor and Pensions, March 22, 2001, S. Hrg, 107-38; Health Care for the Uninsured: The Role of Safety Net Providers, Senate Committee on Health, Education, Labor and Pensions, March 23, 2000; S. Hrg, 106-519.

⁵² Over the years, members of House or Senate Appropriations Committees have encouraged the Secretary of HHS to (1) increase the proportion of NHSC clinicians to be placed at community, migrant, public housing, and homeless health centers; (2) identify problems with the designation criteria for HPSAs; and (3) encourage the expansion of the NHSC to include other professionals such as psychologists, optometrists, and physical therapists. However, not all of these committee proposals were adopted. Psychologists are eligible to participate in the NHSC, but optometrists and physical therapists are not. In FY2007, the Secretary responded that the statute requires NHSC providers to deliver "primary health services," and that the services provided by the two latter groups are not consistent with the statutory definition of primary health services as defined in the PHS Act, Sec. 331(a)(3)(D).

⁵³ National Public Radio, *Mass. Health Care Reform Reveals Doctor Shortage* by Karen Brown (All Things Considered), November 30, 2008, at http://www.npr.org/templates/story/story.php?storyId=97620520. Health care reform in Massachusetts has led to a dramatic increase in the number of people with health insurance. But there's an unintended consequence: a sudden demand for primary care doctors has outpaced the supply.

best efforts to determine the actual need for health professionals. As previously stated, NHSC administrators have sought to accurately count primary health care workers in HPSAs since the designation applies a ratio of physicians to population as a benchmark. However, enumerating the primary care provider workforce has become complicated as the primary care workforce is increasingly populated by nurses and physician assistants.⁵⁴ Though NHSC administrators already require certain data measures from NHSC placement sites, some argue that more needs to be done to accurately portray the status of health worker shortages and how this intersects with federal support. Others vie for applying more nurse practitioners to meet workforce needs.⁵⁵ Debates on workforce supply and demand are ongoing, but the presence or lack of data is likely to play a key role in decisions that affect the workforce and health safety net.

Research, Evaluation, and Assessment

In a 2008 report by the Institute of Medicine (IOM), *Retooling for an Aging America*, researchers recommended that the NHSC be used as a model for additional workforce development programs for scholarships and loan forgiveness.⁵⁶ Some propose a more robust NHSC that could usher in expanded health care "with a variety of delivery programs," and might be "broadened and improved, with much enlarged financial resources placed at its disposal."⁵⁷ Attempts to open up the NHSC through demonstration projects, to include optometrists, pediatricians, and physical therapists, have met resistance as the statute provides that the NHSC is a program for primary care clinicians. Others suggest that any expansion of the NHSC, to include other professional groups such as specialists, could attenuate efforts to increase the supply of primary care clinicians who focus on basic and routine care.

In 2001, a HRSA-supported study, *Evaluation of the Effectiveness of the National Health Service Corps*, provided analysis on the extent to which the NHSC accomplishes its goals for retaining clinicians, among other things. Researchers surveyed more than 2,100 NHSC alumni and 1,100 NHSC clinicians who were serving in HPSAs. The study concluded that (1) the loan repayment program yielded higher retention rates among NHSC clinicians than did the scholarship program; (2) as a whole, physician assistants and nurse practitioners reported greater satisfaction with their positions and compensation when compared with physicians, and were more likely to make contributions to community programs; (3) clinicians who were practicing in rural areas reported a higher level of job satisfaction than their urban counterparts; and (4) some evidence suggested that mature NHSC clinicians have higher retention rates than those who are younger and have less experience.⁵⁸ Some of these findings are supported in an earlier study by the GAO, where analysts compared the costs and benefits of the NHSC scholarship and loan repayment programs and determined whether NHSC had distributed available providers to as many eligible areas as possible. Loan repayment programs offer a better long-term investment of limited federal dollars

⁵⁴ GAO, Primary Care Professionals, Recent Supply Trends, Projections, and Valuation of Services, GAO-08-472T (2008).

⁵⁵ Testimony by Risa Lavisso-Mourey before the Senate Finance Committee hearing on *Workforce Issues in Health Care Reform*, March 12, 2009.

⁵⁶ Institute of Medicine, *Retooling for an Aging America* (2008), p. 7.

⁵⁷ Mullan, Fitzhugh, The Muscular Samaritan: The National Health Service Corps in the New Century, *Health Affairs*, Mar/Apr 1999, p. 168; Ginzberg, Eli, U. S. Health Care: A Look Ahead to 2025, *Annual Review of Public Health*, 1999, v. 20, p. 55.

⁵⁸ Cecil G. Sheps Center for Health Services Research and Mathematica Policy Research, Contract No.: HRSA 240-95-0038, Submitted to HHS, HRSA, May 2000.

than scholarships, according to the study. Loan repayors are older and more experienced than scholars.⁵⁹ Regarding the effectiveness of NHSC programs, the GAO found that NHSC is an important safety net provider to vulnerable populations, but certain improvements would enhance its effectiveness. These improvements include an improved system to identify and measure areas' need for NHSC clinicians, a better placement process, and coordination with other federal and state efforts to place providers in areas that need them.⁶⁰

The placement and utilization of NHSC clinicians within HPSAs has been a recurring focus for GAO analysis. In 2001, GAO testified that problems in recruiting and retaining health care professionals could worsen as demand for these workers increases. High levels of job dissatisfaction among nurses and nurse aides could play a crucial role in current and future nursing shortages. However, analysts called for (1) more detailed data in order to define the extent and nature of those shortages so as to assist in planning and targeting corrective efforts; (2) better coordination of NHSC placements, with immigration waivers for foreign physicians who are educated in the United States, to assist in more needy areas; (2) and improvements in the systems for identifying underservice so as to collect more consistent and reliable information on the changing needs for services in underserved communities.⁶¹

In 2002, evaluators in the Office of Management and Budget (OMB) developed and applied a Program Assessment Rating Tool (PART) to assess the NHSC's performance. PART evaluators reported a "moderately effective" evaluation, stating that the NHSC's clinicians who work in HPSAs can increase access to physicians or other health clinicians among underserved populations who may otherwise have been unable to afford health care.⁶² They also found that the NHSC has shown some efficiency improvements by shifting resources from administrative staff to pay for more doctors and other clinicians. PART evaluators recommended greater flexibility in the allocation of NHSC funding between scholarships and loans that could further improve efficiency. The NHSC lacks outcome data for newly adopted measures, such as follow-up information that track NHSC providers' service in a HPSA for one or more years, according to PART evaluators.⁶³

Designating the Need for NHSC Clinicians

Between CY2000 and CY2006, the number of HPSA designations has been characterized by rsteady growth (see **Appendix C**). HPSA designations indicate the level of need for health professionals in a given location. Some argue that the current methodology for designating health professional shortages does not accurately reflect provider-to-populations ratios, or the level of

⁵⁹ U.S. General Accounting Office (GAO), *National Health Service Corps: Opportunities to Stretch Scarce Dollars and Improve Provider Placement*, HEHS-96-28, November 24, 1995.

⁶⁰ GAO, Health Care Access, Programs for Underserved Populations Could Be Improved, GAO/T-HEHS-00-81, March 23, 2000.

⁶¹ GAO, *Health Workforce: Ensuring Adequate Supply and Distribution Remains Challenging*, GAO-01-1042T, August 1, 2001.

⁶² The George W. Bush Administration initiated PART assessments as an instrument for evaluating federal programs. According to the administrators who use the tool, a moderately effective rating indicates that the program sets ambitious goals and is well-managed. See Department of Health and Human Services, Part Assessments, *Program Assessment Rating Tool (PART)*, at http://www.whitehouse.gov/omb/budget/fy2005/pma/hhs.pdf.

⁶³ HHS, HRSA, Final 2003 GPRA Annual Performance Plan, Justification of Estimates for Appropriations Committees, vol. II, p. 147.

professional services that are consistent with community's health profile. Accurate assessments of provider-to-population ratios enable the Secretary of HHS to use scarce resources as efficiently as possible. In 2008, the HHS attempted to revise the methodology and published a proposed rule, but rescinded it. Consequently, the existing rule remains in effect.⁶⁴ The NHSC community— including administrators, clinicians, and entities designated as HPSAs—awaits regulations that provide a methodologically sound means of accounting for primary health professionals, accurately identifying areas that are experiencing shortages of health workers, and increasing access to underserved populations through clinical retention programs such as the NHSC.⁶⁵

⁶⁴According to a 2006 GAO report, the HHS acknowledged that the HPSA methodology criteria had remained unchanged since 1993. See *Health Professional Shortage Areas, Problems Remain with Primary Care Shortage Area Designation System*, October 2006, GAO-07-84, p. 3, at http://www.gao.gov/new.items/d0784.pdf.

⁶⁵ HHS, HRSA, Designation of Medically Underserved Populations and Health Professional Shortage Areas Proposed Rule, Status, *Federal Register*, v. 73, no. 142, July 23, 2008, at http://bhpr.hrsa.gov/shortage/proposedrule/ hpsafrn042108.htm.

Appendix A. NHSC Workforce Distribution/Field Strength: Rural and Urban, FY2007



Source: HHS, HRSA, Office of Legislation, January 2009 and CRS Graphics Division.

Appendix B. NHSC Distribution of State Loan Repayors, FY2007



Source: HHS, HRSA, Office of Legislation, January 2009 and CRS Graphics Division.

Appendix C. Growth in Designations for Health Professional Shortage Areas, FY2000 through FY2008



Source: HHS, Office of Legislation; CRS Graphics.

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