



ADDRESSING MENTAL HEALTH WORKFORCE NEEDS
IN UNDERSERVED RURAL AREAS:
ACCOMPLISHMENTS AND CHALLENGES



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**ADDRESSING MENTAL HEALTH WORKFORCE NEEDS
IN UNDERSERVED RURAL AREAS:
ACCOMPLISHMENTS AND CHALLENGES**

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	
EXECUTIVE SUMMARY	i
INTRODUCTION.....	1
GROWING SIGNIFICANCE OF MENTAL HEALTH WORKFORCE ISSUES	3
LIMITATIONS OF CURRENT APPROACHES TO ESTIMATING WORKFORCE ADEQUACY	6
EXCEPTIONS RELATIVE TO RURAL MENTAL HEALTH.....	8
FEDERAL EFFORTS TO ADDRESS HEALTH AND MENTAL HEALTH WORKFORCE NEEDS	13
CONCLUSIONS AND RECOMMENDATIONS	30
REFERENCES.....	34
APPENDIX 1: COMMONLY-USED APPROACHES FOR ESTIMATING WORKFORCE ADEQUACY	43
APPENDIX 2: CRITERIA FOR DESIGNATING MENTAL HEALTH PROFESSIONAL SHORTAGE AREAS	46
ENDNOTES	51

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EXECUTIVE SUMMARY

PURPOSE AND METHODS

Rural communities suffer disproportionately from a shortage of mental health professionals. As of September 1999, 87 percent of the designated Mental Health Professional Shortage Areas in the United States were located in non-metropolitan counties. These areas are home to over half of the country's non-metropolitan population. Variations in the supply of mental health professionals may be a key factor in explaining differences in access to and use of mental health services in rural versus urban areas. This paper reviews efforts to address mental health workforce needs in underserved rural areas and seeks to answer the following questions

- How is health and mental health workforce adequacy currently measured?
- How do unique characteristics of rural communities and the mental health service delivery system challenge current methods for determining workforce adequacy?
- What role has the federal government played in addressing health and mental health workforce needs in underserved rural areas?

In obtaining information, we relied on a review of the relevant literature, an analysis of federal regulations and data, and interviews with experts on mental health workforce and rural mental health issues.

SUMMARY OF FINDINGS

Approaches to Estimating Workforce Adequacy

While the workforce is only one factor affecting the availability of health and mental health services, it has received significant policy attention. Analysts have developed three methods to estimate workforce adequacy, all focusing on physicians. They are referred to as *need*, *demand* and *benchmarking*. All these methods share common limitations. One of the most significant is the lack of a commonly accepted way to obtain the data needed to make projections or comparisons. In addition, estimates of adequate or optimal population to provider ratios vary widely depending on how the data are counted.

Exceptions Relative to Rural Mental Health

The U.S. mental health services delivery system remains pluralistic and minimally coordinated, with a persistent division between public and private sector providers. These disparities make it difficult to translate methods for estimating workforce adequacy from health to mental health.

The mental health workforce is characterized by a considerable overlapping of roles and functions, with numerous types of professionals vying for patients, recognition, ideological dominance and financial resources. Substitutions among different types of mental health professionals are less than straightforward because of variations in state scope of practice laws and insurance reimbursement rules.

Approximately 45 percent of Americans with clinical symptoms of mental illness who seek professional care for these symptoms go to a general medical practitioner. These

practitioners typically provide an even greater proportion of mental health care for rural residents. Yet many managed behavioral health carve-out plans require subscribers to self-refer for mental health services. This practice has the potential to reduce or eliminate the role of the primary care practitioner in these cases.

Federal Efforts to Address Health and Mental Health Workforce Needs

In its early days, the National Institute of Mental Health (NIMH) received considerable resources to expend on workforce development. The agency fostered training programs in psychiatry, psychology, social work and psychiatric nursing through categorical grants and encouraged students to enter these disciplines through the use of scholarships and other stipends. The Center for Mental Health Services (CMHS) in the Substance Abuse and Mental Health Services Administration currently administers most of the programs relevant to mental health workforce development and the mental health needs of underserved rural communities.

The National Health Service Corps Revitalization Act of 1990 authorized \$63.9 million for the NHSC in 1991. At least 10 percent of this amount was to be allotted to scholarships for non-physician¹ health professionals. A policy decision in 1994 made clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists eligible for both the Federal and State Loan Repayment Programs. The Act also provided the statutory basis for designation of Mental Health Professional Shortage Areas.

Other significant federal health workforce development programs include: the Council on Graduate Medical Education (COGME), which assesses physician workforce trends; the Quentin N. Burdick Rural Health Interdisciplinary Program, which provides about \$4 million a year in support to demonstration programs that offer interdisciplinary learning experiences for clinicians in training and in practice; the National Center for Health Workforce Information and Analysis, in HRSA's Bureau of Health Professions, which sponsors and conducts research and policy analysis on issues relevant to the national health workforce; and the US State Department's J-1 visa program, which allows states to place foreign medical graduates, including some psychiatrists, in underserved areas.

CONCLUSIONS AND RECOMMENDATIONS

- Baseline data on the mental health workforce remains inadequate for needed projections or comparisons. The Bureau of Health Professions and other appropriate federal agencies should provide incentives to encourage states to collect and maintain mental health workforce information.
- In the interests of their members, national and state mental health professional associations should participate in the collection, verification and analysis of workforce data.
- State Medicaid agencies should require managed behavioral health organizations and local provider networks participating in Medicaid managed behavioral health programs to submit and regularly update detailed access plans that include mental health workforce data. These data could be used to verify information collected by the state agency charged with workforce monitoring.

¹ By non-physician, we refer to all health care providers with credentials other than MD or DO. In the 1990 Act, the provider types were not specified. In this paper, we generally use this term to refer to psychologists, marriage and family counselors, social workers, licensed counselors, and RNs.

- Findings and workforce estimation models from projects undertaken by researchers at the University of Pennsylvania, the University of Virginia, and the University of Washington should be field-tested and evaluated. An appropriate venue for this might be the National Center for Health Workforce Information and Analysis state partnerships.
- These findings should then be used to inform a revision of the Mental Health Professional Shortage Area designation criteria. They should also be incorporated into future workforce projections undertaken by the Council on Graduate Medical Education.
- The National Health Service Corps should allocate resources specifically reserved for mental health workforce development to state loan repayment programs. These resources could be allocated on the basis of shortage area designation and state participation in data collection efforts.
- An interagency task force on the mental health workforce should be formed. Participants might include representatives from the National Institute of Mental Health, the Substance Abuse and Mental Health Services Administration, the Bureau of Primary Health Care, the Bureau of Health Professions, the Centers for Medicare and Medicaid Services and the Office of Rural Health Policy. This task force might build on the existing Center for Mental Health Services work group on human resources data.
- Managed care and managed behavioral health organizations should experiment with ways of offering limited behavioral health credentials to primary care practitioners, especially when they work in underserved rural areas.
- The Quentin N. Burdick Rural Health Interdisciplinary Program should be expanded, with a special emphasis on the training of non-physician mental health professionals. Other health professions training programs supported by the Health Resources and Services Administration, such as the Area Health Education Centers and Geriatric Education Centers, could also participate in this initiative.
- Credentialing standards should reflect the realities of rural service delivery by recognizing the important contributions of non-physician mental health professionals, including those with bachelors' and masters' degrees.
- Community health centers, rural health clinics and community mental health centers should make judicious use of non-professional and para-professional mental health workers, especially for outreach and prevention activities.

INTRODUCTION

PURPOSE AND METHODS

This paper reviews efforts to address mental health workforce needs in underserved rural areas and seeks to provide answers to the following questions:

- How is health and mental health workforce adequacy currently measured? How have methods for determining the adequacy of the health and mental health workforce evolved over time? To what extent are these methods accurate, valid, and useful?
- How do unique characteristics of both rural communities and the mental health service delivery system challenge current methods for determining workforce adequacy?
- What role has the federal government played in measuring and increasing the health and mental health workforce in underserved rural areas?

The paper includes a review of the relevant literature and an analysis of federal regulations and data. We have supplemented these sources with information based on interviews conducted with experts on the mental health workforce and rural mental health in general. Their names and/or organizational affiliations are listed on the acknowledgements page.

BACKGROUND

Rural communities suffer disproportionately from a shortage of mental health professionals (Knesper, et al., 1984; Stuve, et al., 1989). As of September 1999, 87 percent of the 1669 designated Mental Health Professional Shortage Areas (MHPSAs) in the United States were located in non-metropolitan areas¹ (see FIGURE 1) (Health Resources and Services Administration, 1999b). These areas are home to over half of the country's non-metropolitan population (see TABLE 1). The relative shortage of mental health professionals in many rural areas is both a cause and a consequence of problems retaining those who choose to practice there. Rural mental health professionals face unique challenges in providing care, which are compounded by professional isolation and limited

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resources (Roberts, et al., 1999). Shortages of mental health professionals appear to be an important factor affecting access to and utilization of mental health services for residents of rural communities (Lambert & Agger, 1995).

**TABLE 1: U.S. POPULATION RESIDING
IN MENTAL HEALTH PROFESSIONAL SHORTAGE AREAS, 1999**

COUNTY TYPE	# RESIDING IN SHORTAGE AREAS	% OF TOTAL COUNTY POPULATION IN SHORTAGE AREAS
Non-Metro Counties	31,267,751	57.4
Metro Counties	42,145,678	19.3
All Counties	73,413,429	26.9

SOURCE: Mental Health Professional Shortage Areas as of 9/24/99 in Health Resources and Services Administration, 1999b. County-level population estimates for 7/1/99 from <http://www.census.gov/population/www/estimates/county>, accessed 7/21/00.

NOTE: This table includes populations residing in geographic and population mental health professional shortage areas. Institution-based shortage areas are not included.

Researchers at the Frontier Mental Health Services Resource Network examined relationships between supply of mental health professionals and county population density (Holzer, et al., 1998). They found that ratios of both general and child psychiatrists to population were substantially lower in frontier and rural counties than in the most densely populated counties (see TABLE 2). While ratios of psychologists and social workers in frontier and rural counties were high relative to psychiatrists, they too remained substantially lower than the ratios in urbanized counties. Studies of physician practice location decision making have substantiated the reluctance of psychiatrists to locate in rural communities (Ernst & Yett, 1985; Rosenblatt, et al., 1992). In part, this may be true because the demand for specialty services is lower than the demand for general medical services, so that a specialist needs a larger population base in order to maintain a viable practice (Council on Graduate Medical Education, 1998).

For more than twenty years, designation of health and mental health professional shortage areas has been an important strategy for improving availability of health and

mental health services in the United States. Shortage area designation enables underserved geographic areas and populations to become eligible for the placement of federally obligated health and mental health professionals through the National Health Service Corps (NHSC) Scholarship and Loan Repayment Programs. Designation is also linked to a number of other federal programs, including rural health clinic certification, opportunities for increased Medicaid and Medicare reimbursement, and the availability of reimbursement for telemedicine services. The states also use federal primary care shortage designations as the basis for placement of personnel participating in state loan repayment programs (Henderson & Fox-Grage, 1997).

TABLE 2: RATES OF SELECTED MENTAL HEALTH PROFESSIONALS BY COUNTY POPULATION DENSITY

POPULATION DENSITY (persons per square mile)	ALL PSYCHIATRISTS	CHILD PSYCHIATRISTS	MA+ PSYCHOLOGISTS	MA+ SOCIAL WORKERS
	mental health professionals per 100,000 population			
0-1.9	0.1	0.0	13.0	12.8
2-6.9	1.3	0.0	18.1	9.1
7-9.9	1.4	0.2	15.8	7.4
10-14.9	3.0	0.2	16.5	8.2
15-99.9	2.3	0.3	14.5	9.3
100+	10.5	1.5	28.9	23.6

SOURCE: Holzer, et al., 1998

NOTES: Density is measured in persons per square mile. Rate is measured as professionals per 100,000 population.

Data on psychiatrists and child psychiatrists is from 1994 AMA Physician Masterfile as reported in the 1996 Area Resource File. Data on psychologists and social workers is from the Public Use Microdata Five Percent Sample of the 1990 U.S. Census.

People who prepare shortage area designation requests or conduct research related to availability of health and mental health professionals have found numerous shortcomings with available data used to measure supply (Grumbach, et al., 1995; Holzer, et al., 1998). However, with eligibility for so many programs tied to primary care shortage area designation, most states have continued to invest resources in gathering the information necessary to determine and maintain their status. Although the incentives for preparing

mental health shortage designations are much more limited, in recent years most states have maintained or even increased these designations.

Two major trends have the potential to increase interest in the problem of mental health workforce needs in underserved rural areas. In recent years, Congress and numerous state legislatures have passed *mental health parity laws*, which seek to resolve historical patterns of discrimination in health insurance coverage for mental health services. As these laws are implemented, demand for mental health services can be expected to increase. In addition, the rapid expansion of both private and public sector *managed behavioral health care* in many states has accelerated the demand for outpatient mental health services that was initially prompted by deinstitutionalization and the community mental health centers movement.

GROWING SIGNIFICANCE OF MENTAL HEALTH WORKFORCE ISSUES

MENTAL HEALTH PARITY

The implementation of federal and state *mental health parity laws* has the potential to increase demand for mental health services by reducing financial barriers to access. Historically, health and mental health have used separate service delivery systems and relied on different funding sources for support (Kiesler, 1992). In part, these differences were justified by the widely-held belief that mental illnesses were more difficult to define than physical illnesses and that the effectiveness of treatment for mental health problems was more difficult to substantiate (Hegner, 1997). In addition, many experts believed that the availability of relatively generous mental health insurance benefits would attract individuals with mental illness to the more generous plans (*adverse selection*) and lead to an increased and potentially uncontrollable demand for services (*moral hazard*) (Frank, et. el., 1997; Hennessy & Stephens, 1997). For these reasons, insurance coverage for mental illness--- when it was offered at all--- included more strict limits on benefits than coverage for physical illness.

In response, mental health consumer and provider groups lobbied for increased *parity* (i.e., comparability of benefits) between insurance for health and mental health. In doing so, they noted that significant advances in the diagnosis and successful treatment of mental illness reduce the viability of the old arguments against parity (American Managed Behavioral Healthcare Association, 1999). By the early 1990s, a few states had adopted laws requiring insurance plans to offer basic mental health benefits². These policies were initially aimed at assuring non-discriminatory coverage of state government workers and so did not affect private sector employers (National Alliance for the Mentally Ill, 1999a). In April 1996, the U.S. Senate adopted the Domenici-Wellstone amendment to the Health Insurance Portability and Accountability Act (HIPAA), which required insurance plans to offer similar limits on health and mental health benefits. This amendment quickly attracted resistance from many employers and insurers, who feared that its passage would result in uncontrollable increases in utilization and costs. While its inclusion in HIPAA was defeated in conference, the Mental Health Parity Act (MHPA)³ emerged as a compromise and became law on September 26, 1996.

Irrespective of these legislative efforts, the national trend in the past decade has been toward including some mental health coverage in employer-based health insurance plans (Buck, et al., 1999; Jensen, et al., 1998). Although limitations on specific services, such as inpatient care, are typically imposed on these plans to contain costs, overall utilization of outpatient, community-based mental health services typically rises after they are implemented⁴ (Sturm, 1997). However, expanded insurance access to mental health services cannot result in increased access to or utilization of services in areas where workforce shortages remain a problem.

MANAGED CARE

The expansion of mental health benefits in both private and public sector health insurance has been accompanied by the increasing penetration of *managed behavioral health care*. From 1993 to 1998, the number of Americans enrolled in a specialty managed behavioral health care program more than doubled, increasing from 86 to over 178 million covered lives (Fox, et al., 1999). The primary reason for the popularity of managed behavioral health care is its presumed ability to contain costs, increase access (especially at the outpatient level) and assure the quality of mental health services. By 1997, approximately 24 percent of employers with over 20,000 workers were directly contracting with a managed behavioral health organization (MBHO) (Buck, et al., 1999). As of September 1999, at least 28 states offered managed behavioral health benefits to Medicaid beneficiaries residing in rural areas (Lambert, et al., 2000).

Under managed behavioral health care, workforce adequacy has become increasingly important as a performance measure. This is demonstrated by its inclusion in both Medicaid HEDIS (Health Plan Employer Data and Information Set) and HEDIS 3.0, which applies to the commercial and Medicare risk populations (National Committee for Quality Assurance, 1997). National Committee for Quality Assurance guidelines require MBHOs to set and observe standards for the number and geographic distribution of mental health professionals in a given service area (Oss, et al., 1998).

Largely in the name of cost reduction, managed behavioral health care has also begun to change the roles of mental health professionals. In managed care settings, psychiatrists are expected to engage primarily in such tasks as patient evaluation, medication management, and treatment of complex cases. At the same time, non-physician mental health professionals², such as social workers, handle much of the psychotherapy⁵ (Dial, et al., 1996; Domino, et al., 1998; Guze, 1998; Shore & Beigel, 1996; Sturm & Klap,

² By non-physician mental health provider, we refer to mental health providers with credentials other than Psychiatrists, who have MD or DO credentials. In this paper, we generally use this term to refer to psychologists, marriage and family counselors, social workers, licensed counselors, and RNs

1999). Managed care has also shifted the preferred site of care to outpatient settings and increased expectations that participating mental health professionals will work collaboratively with other mental health and health professionals (Lazarus, 1995). These changes have implications for the way that standards for determining workforce adequacy are set and potentially for the way the mental health workforce is increased in underserved rural areas.

LIMITATIONS OF CURRENT APPROACHES TO ESTIMATING WORKFORCE ADEQUACY

While the workforce is only one factor affecting the availability of health and mental health services, it has received significant policy attention over the years (Confrey, 1973; Oss, et al., 1998). As a consequence, analysts have developed three methods to estimate workforce adequacy, *need*, *demand* and *benchmarking*. In practice, these methods are often employed in combination, or parts are borrowed without reference to the whole. Appendix 1 on page 43 provides a brief overview of these approaches.

The most significant limitation of these methods from the perspective of mental health is that they focus on the *physician* workforce with little regard for the unique characteristics of other types of health and mental health professions (Eveland, et al., 1998; Feil, et al., 1993). As the next section of this paper elaborates, the mental health workforce is characterized by a considerable diversity of professions with overlapping roles and often competing treatment ideologies. The current, physician-based methods for estimating workforce adequacy are simply unable to account for this much diversity.

Regardless of professional type, another important limitation of the current methods is the lack of a commonly-accepted way to obtain the baseline data needed to make projections or comparisons. Responses to periodic state licensing surveys typically form the primary source for these data. Key information, including specialties and hours per week spent in patient care, are self-reported and may not be accurate. Some respondents return incomplete surveys; others don't return them at all. Information on individual professionals

may be updated every two to three years at best. Professionals may hold active licenses in multiple states, regardless of their current site of practice (Keller, et al., 1996). Due to variations in state regulatory authority or understandable resource limitations, some states may not routinely survey members of all professional groups.

State and national professional associations provide an important and often-used ancillary source of workforce data. Association mailing lists typically include only members. Addresses given may represent the professional's home or office, which may not be in the county where he or she practices. Like the state licensing boards, these groups have limited information management resources, and seldom, if ever, collect data on members beyond that needed to maintain contact. Obtaining the necessary supplemental data from other sources, such as Medicaid reimbursement records or clinical offices, is staff intensive, costly and potentially inaccurate.

Some researchers and federal agencies use the American Medical Association's Physician Masterfile for information on allopathic physicians, including psychiatrists (Grumbach, et al., 1995). This data source is based on surveys, supplemented with information from secondary sources such as medical schools. Physician specialty is self-reported and is not confirmed with reference to licensure or board certification. The Masterfile is proprietary and must be purchased for use. Individual records are updated every three years, a cycle that may not be adequate to reflect changes in practice patterns or locations.

Many researchers and state agencies prefer to rely on extracts from the AMA Physician Masterfile included in the Area Resource File (ARF) maintained under contract with the federal Bureau of Health Professions. The ARF is aggregated at the county level, so the amount of information it provides about individual professionals is limited. There is a two-year time lag in the Physician Masterfile data appearing in the ARF, so that, for example, the 1999 ARF included information from the 1997 Physician Masterfile. Data

about non-physician mental health professionals is not included in the ARF, in part because there are no national databases for these groups comparable to the Physician Masterfile⁶ (Ivey, et al., 1998; Scheffler, et al., 1998).

Finally, estimates of adequate or optimal population to provider ratios can vary widely depending upon how the data are counted. A review of several widely used estimation methods found a number of significant variations in this regard (Feil, et al., 1993). For example, all the methods count every active physician as one full time equivalent (FTE), even if s/he only spends 20 hours a week delivering patient care. One method excludes or reduces FTEs for practitioners engaged in research, teaching, or administration. Three methods count residents at reduced FTE levels, while two make automatic downward adjustments in FTEs for women physicians⁷. Although some workforce estimates count mid-levels (e.g. physicians' assistants and nurse practitioners), many fail to consider them when determining whether the available workforce is adequate to meet the service needs of a given population (Faulkner & Goldman, 1997).

EXCEPTIONS RELATIVE TO RURAL MENTAL HEALTH

The methods critiqued in the previous section were developed to measure physician workforce adequacy in geographic areas with relatively large populations. Yet the nature and prevalence of mental illness, the organization of the mental health services delivery system, the composition of the mental health workforce and the role of primary care practitioners in the delivery of mental health services all argue against the direct application of these methods to determine mental health workforce adequacy. The challenge of recruiting professionals to rural communities and retaining them once they have arrived makes this task even more daunting.

NATURE AND PREVALENCE OF MENTAL ILLNESS

People in need of specialty mental health services are clinically diverse, including those with serious and persistent mental illness, those with cognitive and behavioral

impairments due to chemical dependency or aging, and those with transient psychological problems due to life events (Rohrer, 1996). Children and adolescents with serious emotional disturbance may need a variety of services that engage their families, schools, local child welfare and law enforcement agencies, and mental health professionals. In rural communities, the actual numbers of individuals experiencing any of these problems at a given time may be too small to support full-time specialty mental health services.

The most recent national data indicate that the overall prevalence of clinically defined mental health conditions is comparable in rural and urban adult populations (Kessler, et al., 1994). Although it is commonly assumed that people with serious and persistent mental illness are more likely to live in urban areas where services are available and anonymity is greater, this does not appear to be the case. In both rural and urban areas, about a quarter of the people served by the public mental health system have serious and persistent mental illness (Greenley, et al., 1992).

The prevalence of mental illness does not appear to translate directly into demand for services even when they are available. Some people with clinically defined mental illness never seek care at all, while others use mental health services routinely even though they have no diagnosable mental disorder (Holzer & Ciarlo, 1999; Rabkin, 1986). People with situational problems may prefer to seek counsel from an understanding layperson rather than a licensed mental health professional. The elasticity and unpredictability of the relationship between need and demand for mental health services further confound efforts to estimate the adequacy of mental health workforce.

ORGANIZATION OF THE MENTAL HEALTH SERVICES DELIVERY SYSTEM

Despite the recent effects of parity and managed care, the current U.S. mental health services delivery system remains pluralistic and minimally coordinated, with a noticeable and persistent division between public and private sector providers (U.S. Department of Health and Human Services, 1999). These structural disparities make it difficult to translate methods for estimating workforce adequacy from health to mental health.

From the early nineteenth century until the end of World War II, Americans with severe and persistent mental illness were typically housed and treated in mental institutions supported by state or local governments. Professionals employed in these public institutional settings were generally not available to serve the needs of individuals residing in the surrounding communities. By the 1940s, the increasing costs of these facilities, coupled with changes in treatment philosophy, began to shift interest toward community-based care.

The Mental Retardation Facility and Community Mental Health Centers Construction Act of 1963 (PL 88-164) contributed significantly to the reformation of the American mental health services delivery system. It began the process of redirecting resources away from the state institutions and toward community-based non-profit service providers⁸ (Grob, 1991). Amendments to this act passed in 1965 made federal funds available to pay the salaries of clinical staff employed by these facilities. By the early 1970s, the program had already established over 350 community mental health centers (CMHCs) around the country, over a third of which were located in nonmetro areas (Bachrach, 1977). Although the congressional mandate was somewhat vague, many of these facilities interpreted their role as providing prevention and treatment services to the whole community, with an emphasis on low income people who might not otherwise have access to mental health services (Chu and Trotter, 1974).

When the 1981 Omnibus Budget Reconciliation Act (PL 97-35) shifted funding responsibility for CMHCs from the federal government to the state mental health agencies, many CMHCs were required to make services for adults with serious and persistent mental illness their highest priority, often to the exclusion of other populations (Ahr & Holcomb, 1985; Bloche & Cournos, 1990). The state mental health agencies imposed this requirement in large part because court-ordered deinstitutionalization caused the census of state and local psychiatric hospitals to decline dramatically and put many people with serious and persistent mental illness into communities. While deinstitutionalization may have made sense in terms of cost control and humanitarian treatment, its expectations did not always translate well in rural areas, where CMHCs are often the only mental health service providers (Bachrach, 1977; Kane & Ennis, 1996).

During the same period that community mental health centers were forming and deinstitutionalization was beginning to take place, a series of federal and some private initiatives also sought to make basic mental health services more readily available in primary care settings (Bird, et al., 1998). Most of the federal support encouraged the use of integration models that place a non-physician mental health professional in a primary care setting. e.g., a community health center or rural health clinic. This preference has persisted in the placement policies of the National Health Service Corps, which recruits non-physician mental health professionals to serve at “sites that are part of a system of outpatient primary health care” (Bureau of Primary Health Care, 1999, 3).

COMPOSITION OF THE MENTAL HEALTH WORKFORCE

The mental health workforce is characterized by a considerable overlapping of roles and functions, with numerous types of professionals vying for patients, recognition, ideological dominance and financial resources (Ivey, et al., 1998; Rochefort, 1984). Substitutions among different types of mental health professionals are less than straightforward because of variations in state scope of practice laws and insurance

reimbursement rules⁹. In recent years, for example, a number of states have granted prescriptive rights to nurse practitioners and other advanced practice nurses (Ivey, et al., 1998; Scheffler, et al., 1998)¹⁰. Some rural primary care organizations serving populations residing in more than one state make decisions regarding the types of mental health staff they hire based on inter-state variations in Medicaid reimbursement policies (Bird, et al., 1995). These and other related substitution issues confound efforts to estimate mental health workforce adequacy.

The constraints of rural practice often affect the ability of communities to recruit and retain needed mental health professionals. Like other rural health professionals, these clinicians are often called upon to provide care outside of their usual areas of expertise, to make complex decisions without recourse to the advice of others and to interact with patients in a variety of non-clinical roles (Roberts, et al., 1999). To the extent that they are overworked, the quality of the care they provide may be adversely affected (Pion, et al., 1997). Their ability to provide a full range of needed services may be further curtailed because they often have a lower level of education and training than their colleagues practicing in urban areas (Merwin, et al., 1995).

THE ROLE OF PRIMARY CARE PRACTITIONERS

Two divergent trends confound our ability to decide how to count primary care practitioners (physicians, nurse practitioners and physicians assistants) as part of the mental health workforce. On the one hand, approximately 45 percent of Americans with clinical symptoms of mental illness who seek professional care for these symptoms go to a general medical practitioner (Regier, et al., 1993). Due to the lack of mental health professionals in many rural areas, these practitioners provide an even greater proportion of mental health care for rural residents (Rost, et al., 1998; Schurman, et al., 1985). Furthermore, residents of rural communities are more likely to stigmatize the behavior of seeking professional help for a mental health problem than the problem itself (Hoyt, et al., 1997; Rost, et al. 1993).

This is yet another reason why rural residents may prefer to obtain mental health care from primary care practitioners (PCPs) when they seek treatment.

At the same time, many managed behavioral health carve-out plans require subscribers to self-refer for mental health services and do not include primary care practitioners on their panels. This practice has the potential to reduce or eliminate the role of the primary care practitioner in these cases. Some primary care practitioners are also discovering that managed care plans no longer reimburse them for providing mental health care (Sturm & Klap, 1999). Under these circumstances, primary care practitioners are left with the options of referring patients to mental health professionals or conducting treatment under a medical diagnosis. The bias against PCPs in mental health reimbursement policies may be depriving many rural residents of access to services. Moreover, such policies, and resulting PCP coding and billing strategies, make it even more difficult to assess the contribution of PCPs to the availability of mental health services in an area.

FEDERAL EFFORTS TO ADDRESS HEALTH AND MENTAL HEALTH WORKFORCE NEEDS

Historically, primary care, oral health and mental health services and professionals have been inequitably distributed in the United States. Many rural and low-income urban areas have experienced persistent shortages of these resources, creating barriers to access that may lead to poor health and mental health outcomes (Conrad, 1991; Keller, et al., 1980; Knesper, et al., 1984). Although a number of important federal programs established during the first half of the century addressed the issue of access to care, they did not principally define service needs in terms of workforce adequacy (Grey, 1993; Taylor, et al., 1995). In fact, government efforts to alter the size, composition or location of the health and mental health workforce run counter to long-held beliefs in the ability of the marketplace to respond to changes in supply and demand (Schroeder, 1994).

By the end of World War II, with the labor policies of the New Deal as a precedent, Congress began to adopt workforce policies as a means of attracting individuals into needed

health and mental health professions and of addressing geographic maldistribution (Fox, 1996). Interest in and support for such policies has waxed and waned in subsequent years (Weiner, 1993). This section provides an historical overview of several key federal initiatives intended to address health and mental health workforce needs.

WORKFORCE DEVELOPMENT SUPPORT FROM FEDERAL MENTAL HEALTH AGENCIES

World War II raised awareness among both policy makers and the general public of the need for mental health services. Over a third of military personnel discharged from the Army during the War due to disability suffered from mental health problems (Rocheftort, 1984). In response, the Veteran's Administration aggressively fostered the growth of the profession of clinical psychology. In 1946, Congress established the National Institute of Mental Health (NIMH) to oversee the disbursement of grants for professional training, research into the causes and treatments of mental illness and the development of demonstration community mental health clinics.

During its first twenty years of operation, NIMH received considerable resources from Congress to expend on workforce development. The agency fostered training programs in psychiatry, psychology, social work and psychiatric nursing¹¹ through categorical grants and encouraged students to enter these disciplines through the use of scholarships and other stipends (Pardes, 1983). As a consequence of these interventions, for example, the number of clinical psychology doctorates awarded rose from 1,243 during the 1940s to 6,412 a decade later (Grob, 1991).

TABLE 3: SIGNIFICANT EVENTS IN THE HISTORY OF FEDERAL EFFORTS TO ADDRESS HEALTH AND MENTAL HEALTH WORKFORCE ISSUES

YEAR	EVENT
1946	National Mental Health Act (PL 79-487) established the National Institute of Mental Health and authorized the Surgeon General to support mental health research and professional training, and to provide assistance to state mental health programs.
1956	Health Amendments Act (PL 84-911) authorized traineeships for public health personnel and advanced training for nurses
1963	Health Professions Educational Assistance Act (PL 88-129) provided construction funds for health professions schools
1963	Mental Retardation Facilities and Community Mental Health Centers Construction Act (PL 88-164) established community-based comprehensive mental health services
1965	Amendments to the Community Mental Health Centers Construction Act (PL 89-105) provided grants for the staffing of community mental health centers
1965	Health Professions Educational Assistance Amendments (PL 89-290) provided scholarships and loans to health professions students and construction funds to schools of medicine, osteopathy, and dentistry. Offered 50 percent forgiveness of loans for service in shortage areas to be designated by the states
1968	Health Manpower Act (PL 90-490) authorized grants to institutions for training health professionals and extended and expanded several previously-authorized health professions training programs
1970	Emergency Health Personnel Act (PL91-623) established the National Health Service Corps
1971	Comprehensive Health Manpower Training Act (PL 92-157) replaced institutional grants with capitation grants for health professions schools; shifted locus of authority for shortage designations from states to the Department of Health, Education and Welfare
1972	Emergency Health Personnel Act Amendments of 1972 (PL 92-585) established Public Health and National Health Service Corps scholarships
1973	Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) established as a consequence of reorganization within the Department of Health, Education and Welfare. ADAMHA included the National Institute of Mental Health, the National Institute on Alcoholism and Alcohol Abuse and the National Institute on Drug Abuse
1976	Health Professions Educational Assistance Act (PL 94-484) required the Secretary of the Department of Health, Education and Welfare to appoint the Graduate Medical Education National Advisory Committee and to develop shortage area designation criteria
1977	Rural Health Clinics Act (PL 95-21)) extended Medicare and Medicaid coverage to mid-level health practitioners in rural health clinics
1986	The Council on Graduate Medical Education (COGME) established
1987	Amendments to the Health Care Quality Improvement Act (PL 100-177). Under the new provisions, students could have up to \$20,000 of their educational loans repaid by the federal government in return for providing services in designated shortage areas. The law also authorized federal matching payments to State Loan Repayment Programs with the expectation that the state will pay 25 percent of the program costs.
1987	Omnibus Budget Reconciliation Act of 1987 (PL 100-203) authorized Medicare

YEAR	EVENT
	and Medicaid reimbursement to clinical psychologists working in rural health clinics.
1989	Omnibus Budget Reconciliation Act of 1989 (PL 101-239) authorized Medicare and Medicaid reimbursement to clinical social workers working in rural health clinics.
1990	National Health Service Corps Revitalization Act (PL 101-597) changed Health Manpower Shortage Areas (HMSAs) to Health Professional Shortage Areas (HPSAs), provided statutory basis for change from Psychiatric to Mental Health Professional Shortage Areas and authorized federal and state loan repayment program support for mental health professionals.
1992	The Department of Health and Human Services issued new criteria for designation of Mental Health Professional Shortage Areas
1992	The ADAMHA Reorganization Act (PL 102-321) abolished the Alcohol, Drug Abuse and Mental Health Administration, created the Substance Abuse and Mental Health Services Administration (SAMHSA) and transferred the research activities of the National Institute of Mental Health, the National Institute on Alcoholism and Alcohol Abuse and the National Institute on Drug Abuse back to the National Institutes of Health.
1994	HRSA Policy Decision to open Loan Repayment Program to specific mental health professionals: clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists.
1995	NHSC makes first loan repayment awards to mental health professionals.
1996	Mental Health Parity Act (PL 104-204) prohibited insurers from imposing different dollar limits on life-time or yearly coverage compared to physical health services.
1997	Balanced Budget Act (PL 105-33) included provisions authorizing the Health Care Financing Administration (HCFA) to provide Medicare reimbursements for telemedicine consultations in rural Health Professional Shortage Areas; under current regulations, consultations provided by psychiatrists and clinical nurse specialists are covered, while those provided by clinical social workers or clinical psychologists are not.
1998	Health Professions Education Partnerships Act (PL 105-392) re-authorized Council on Graduate Medical Education through September 30, 2002; also extended and expanded the National Health Service Corps and the State Loan Repayment Program

SOURCE: Friedman, et al., 1996; Litman & Robins, 1991; National Institute of Health, 2000

A 1973 reorganization of the Department of Health, Education and Welfare moved NIMH, along with the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Institute on Drug Abuse (NIDA), into the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA). The overall purview of ADAMHA included clinical training, as well as research and treatment programs related to substance abuse and mental health. ADAMHA administered a number of programs with potential to increase the accessibility of mental health services in underserved rural communities, including:

- The Minority Fellowship Program, which awards grants to the major professional associations to facilitate the recruitment of qualified minority students into mental health clinical training;
- The State Manpower Development Program, which helped states identify shortfalls in the supply of mental health professionals and develop programs to address them;
- The Paraprofessional Manpower Development Program, directed at developing a workforce of mental health paraprofessionals with 2-year degrees; and
- The Experimental and Special Training Program, aimed at enhancing the counseling skills of community helpers like law enforcement officers, clergy and teachers (Pardes, 1983; Yahraes, et al., 1973).

At its height in 1969, the NIMH annual clinical training budget was \$98 million (Pardes, 1983). However, a steady decline in funding for direct clinical training that began in the 1970s became precipitous during the 1980s. In 1980, ADAMHA had about \$70 million to spend on clinical training. That amount had dropped to \$14 million ten years later (Ricketts & Kolimaga, 1991).

In 1992, Congress abolished ADAMHA, creating the Substance Abuse and Mental Health Services Administration (SAMHSA) and shifting the three research institutes (NIMH, NIAAA and NIDA) to the National Institutes of Health. Focused primarily on improving the quality and accessibility of mental health and substance abuse treatment services, SAMHSA's mission includes "developing and promoting models and strategies for training and education" (SAMHSA, 1999). In spite of this, the agency appears to have only limited

resources available for direct support of clinical training or for workforce planning and development activities.

SAMHSA's Center for Mental Health Services (CMHS) currently administers most of the programs relevant to mental health workforce development and the mental health needs of underserved rural communities. These include the Minority Fellowship Program, now in its 25th year. From 1994-99, this program provided just over \$3 million in fellowships through the American Psychiatric Association, the American Psychological Association, the Council on Social Work Education and the American Nurses' Association (Center for Mental Health Services, 1999). Recipients of these fellowships are not required or expected to practice in underserved areas.

From 1996-1999, the CMHS provided support for the Managed Behavioral Healthcare Workforce Initiative, a project intended to assess the impact of managed care on the public sector mental health and substance abuse workforce (Zubritsky and Hadley, 1998). Located at the University of Pennsylvania Medical Center's Center for Mental Health Policy and Services Research and at the Western Interstate Commission for Higher Education, the Initiative included a Workforce Staffing Projections Project.

From 1994 to 1999, CMHS also funded the Center for Support of Mental Health Services in Isolated Rural Areas at the University of Denver. More commonly known as the Frontier Mental Health Services Resource Network, this program is currently housed at the Western Interstate Commission for Higher Education and is seeking alternate funding sources (Western Interstate Commission for Higher Education, 2000).

In 1994, the CMHS convened and staffed an Ad Hoc Rural Mental Health Provider Work Group comprised of representatives of key federal and state agencies, universities with professional training programs, professional associations and mental health consumers (Pion, et al., 1997). The Group published a report that included numerous recommendations relevant to mental health workforce development. Since 1987, CMHS

has also staffed a Work Group on Human Resources Data (Manderscheid & Henderson, 1998).

The NIMH has also continued to support mental health workforce development projects. Perhaps the most noteworthy of these was the Southeastern Rural Mental Health Research Center at the University of Virginia, which received funding through the NIMH Office of Rural Mental Health Research from 1992 to 2000. Researchers at this Center developed expertise in mental health workforce issues. During its last two years of NIMH funding, the Center conducted a study of the availability and characteristics of rural specialty mental health providers that included an inventory of providers in ten southern states (Merwin, et al., 1998).

THE NATIONAL HEALTH SERVICE CORPS

By the 1950s, the federal government had also become explicitly involved in general health workforce planning. In 1953, the President's Commission on the Health Needs of the Nation recommended that all regions of the country increase physician supply relative to population to reach the level observed in New England and the Mid-Atlantic (Taylor, et al., 1995). A subsequent series of policies, aimed at increasing the total number of health professionals and directing their choice of specialties and practice locations, provided aid to both educational facilities and individuals (VandenBos & Batchelor, 1983).

Increased federal commitment to expanding access following the adoption of Medicaid and Medicare legislation in 1965 also accelerated health workforce development efforts (Taylor, et al., 1995). The Health Professions Educational Assistance Amendments of 1965 (PL 89-290) provided scholarships and grants to schools of allopathic and osteopathic medicine and dentistry. Between 1960 and 1985, forty new allopathic medical schools were established, while the number of allied health and nursing programs increased by over five times during the same period (Fox, 1996). The Comprehensive Health Manpower Training Act of 1971 (PL 92-157) shifted the focus of federal attention from general support of health

professions training programs to control of their quality and outcomes. The act also replaced institutional grants with capitation payments based on the number of professionals in training programs.

In October 1970, the Carnegie Commission on Higher Education published a report that called for the establishment of a National Health Service Corps (NHSC). By the end of the same year, President Nixon signed the Emergency Health Personnel Act (PL 91-623), which enabled officers in the U.S. Public Health Service to be assigned to sites with documented need on a voluntary basis. In 1972, the Act was amended to provide funds for NHSC scholarships, offering a stronger incentive for service in shortage areas and broadening eligibility for participation beyond Public Health Service officers (Ritley & Bodenhorn, 1990). In 1987, Congress established federal and state loan repayment programs¹² to enable even more clinical personnel to join the NHSC (Bureau of Primary Health Care, 1997a).

The NHSC expanded to a peak of over 1,600 scholarship recipients by 1985. However, the budget cut-backs of the 1980s left only 123 scholarship recipients and 74 loan repayment recipients in 1990 (Bureau of Primary Health Care, 1997a). The rationale for this phase-out was based on the expectations of an imminent physician surplus (Ritley & Bodenhorn, 1990). Policy makers expected that market forces would drive more practitioners into underserved areas, eliminating the necessity for government intervention.

While the overall supply of health and mental health professionals increased relative to population during the 1980s, this trend did not substantially affect the numbers choosing to locate in rural areas (Earle-Richardson, 1998). In early 1990, a group of Congressional Representatives from rural states introduced a bill intended to respond to what they saw as a rural health care crisis. The bill included provisions to increase funds for NHSC scholarships and loan repayments, reprioritize the assignment of NHSC personnel, address issues of recruitment and retention and authorize grants to the states to set up offices of

rural health. During the hearings before the House Subcommittee of Health and the Environment, House Energy and Commerce Committee on April 18, 1990, members heard testimony from a number of health professionals who reiterated the need for increased health services in underserved areas. Although several mid-level practitioners submitted testimony, no mental health professionals presented their perspectives (U.S. House of Representatives, 1990).

Both the House bill and its Senate counterpart passed, and President Bush signed the National Health Service Corps Revitalization Act (PL 101-597) into law on November 16, 1990. The law authorized \$63.9 million for the NHSC in 1991 for scholarships and loan repayments. At least 10 percent of the total was allotted to scholarships for nurse midwives, nurse practitioners, and physicians' assistants. The provisions of the Act made mental health professionals (not further specified) eligible for both the Federal and State Loan Repayment Programs¹³ (Bureau of Primary Health Care, 1997b). The Act also provided the statutory basis for designation of Mental Health Professional Shortage Areas and authorized the NHSC to provide recruitment assistance for areas determined to have the greatest need for a mental health professional (Bureau of Primary Health Care, 1997c). Overall funding for the NHSC's scholarship and loan repayment programs increased from \$11 million the year the Act was signed to \$115 million¹⁴ in 1999 (Berry, 1999; U.S. General Accounting Office, 2000a). The number of NHSC program recipients increased correspondingly, reaching 2,526 in 1999 (Berry, 2000).

The NHSC made its first loan repayment awards to non-physician mental health professionals in 1995. Table 4 shows the allocation of loan repayment awards among mental health professions from 1995 to 1999. As of November 1999, 179 NHSC mental health professionals were serving in the field (Berry, 1999). Of this total, 149 (83 percent) were located in rural areas.

**TABLE 4: MENTAL HEALTH PROFESSIONALS
RECEIVING FEDERAL LOAN REPAYMENT AWARDS, 1995-1999**

PROFESSION	YEAR				
	1995	1996	1997	1998	1999
Psychiatrists	23	11	20	23	15
Clinical Psychologists	2	7	13	35	27
Clinical Social Workers	3	3	4	16	31
Marriage & Family Therapists	0	0	1	4	4
Psychiatric Nurse Practitioners & Psychiatric Nurse Specialists	0	0	1	0	1
Total All Professions	28	21	39	78	78

SOURCE: M. Berry, National Health Service Corps, personal communication, 11/10/99

The Corps was scheduled for its ten-year congressional reauthorization in 2000¹⁵. In preparation for this review, its advisory council prepared a list of recommendations. While this list included a request for doubling the annual budget from \$115 million to \$232 million, it did not refer specifically to the mental health workforce (Marwick, 2000). Further evidence of this apparent oversight can be observed in a recent commentary reflecting on the history of the Corps and calling for further expansions. Written by a former director of the NHSC---and still one of its most ardent and articulate supporters---it also did not mention mental health professionals (Mullan, 1999).

SHORTAGE AREA DESIGNATIONS

In order to place health and mental health professionals in shortage areas, such areas must be identified. The Health Professions Educational Assistance Amendments of 1965 first addressed this need, delegating responsibility for their selection to the states (Lee, 1979). Provisions for such determinations were also included in the 1970 legislation establishing the NHSC (Council on Graduate Medical Education, 1998). The Comprehensive Health Manpower Training Act of 1971 shifted the locus of authority from the states to the Department of Health, Education, and Welfare. In 1972, the first Master Health Services Scarcity Database was released (Taylor, et al., 1995). General criteria for the successor Health Manpower Shortage Areas¹⁶ were first set forth in the Health

Professions Educational Assistance Act of 1976. When the final rule for determining such places was published in the *Federal Register* on November 17, 1980, seven clinical disciplines were listed, including primary care and psychiatry (Public Health Service, 1980).

On August 8, 1989, the Department of Health and Human Services published a Notice of Proposed Rule Making (NPRM) to revise criteria for the designation of psychiatric manpower shortages (Public Health Service, 1992). The revision proposed to count the other core mental health professionals (i.e., clinical psychologists, clinical social workers, and psychiatric nurse specialists), as well as psychiatrists, when assessing an area's shortage needs. Both the relevant professional organizations and the Health Resources and Services Administration (HRSA), which administers the shortage designation program and the NHSC, argued for the necessity of these changes. The basis for the argument is that, despite the differences among the core professions, they often perform similar roles, make similar diagnoses and have similar therapeutic results, especially in less severe cases; therefore, they are at least partially interchangeable. While psychiatrists were considered necessary to address mental health workforce shortages, the participating interest groups¹⁷ agreed that they might be required at less than full-time status in areas with a relatively low population.

The NPRM process solicited written comments on the proposed changes. The American Association of Marriage and Family Therapy (AAMFT) submitted an argument for inclusion of its constituents. This proposal was considered and accepted (Public Health Service, 1992). Other professional groups, including masters' level psychologists, pharmacists and occupational therapists, also attempted to be included but were not accepted. A number of letters expressed concerns about the technical problems associated with attempting to count the expanded list of core professionals. When the final rule was issued on January 22, 1992, it offered two options for determining mental health workforce:

counting only psychiatrists or counting psychiatrists and members of the other four core mental health professions

Neither the Health Professional Shortage Area (HPSA) nor the Mental Health Professional Shortage Area (MHPSA) designation criteria explicitly rely on any of the workforce estimation methods mentioned elsewhere in this paper. Nevertheless, they include references to both need and utilization, and they provide benchmark ratios. While clearly developed with a focus on primary care, they are relatively straightforward and easy to use. Most importantly, they yield results that are comparable across sites. Appendix 2 on page 46 provides a summary of the current MHPSA designation criteria.

Since its inception, use of the primary care HPSA designation has expanded well beyond the National Health Service Corps Scholarship and Loan Repayment Programs. It is now applied to Rural Health Clinic certification, the Medicare Incentive Payments program, the J-1 Visa Waiver Program for International Medical Graduates, and Medicare reimbursement for telemedicine services (Council on Graduate Medical Education, 1998; Taylor, et al., 1995). For this reason, the states have a strong incentive to keep their primary care shortage areas designated.

At the same time, the application of MHPSA designations remains confined to the National Health Service Corps and State Loan Repayment Programs. In spite of this relatively limited incentive, most states have continued preparing and submitting MHPSA designation and re-designation requests. Table 5 documents this by summarizing data from the 1997 and 1999 lists of MHPSA designations. It shows that 29 states experienced a net increase in the number of designated MHPSAs between 1997 and 1999. The majority of these new designations were for non-metro counties. Another 13 states experienced no net change in the number of MHPSAs. In most instances, these states maintained their existing designations.

**TABLE 5: STATE-LEVEL CHANGES IN MHPSA DESIGNATION STATUS,
1997-1999**

TYPE OF CHANGE	NUMBER OF STATES
No net change in number of MHPSAs	13
Net increase in number of MHPSAs	29
Net decrease in number of MHPSAs	6
All MHPSAs de-designated	2

SOURCE: Analysis of data from the Bureau of Primary Health Care, Health Resources and Services Administration.

NOTE: This table includes geographic and population mental health professional shortage areas. Institution-based shortage areas are not included.

The primary care HPSA criteria have been widely criticized for shortcomings that adversely affect their usefulness for guiding the allocation of resources. For example, their heavy reliance on population to practitioner ratios may overlook variations in local market conditions that indicate the most viable solution to the shortage problem (Taylor, et al., 1995). An area with a large low-income population, for example, may have unmet needs but lack the resources required to provide a sustainable income for a physician practice. This flaw is amplified by the use of the designation to qualify entire geographic areas for programs even if those at greatest risk of underservice represent a small subset of that population (U.S. General Accounting Office, 1995). Critics have also noted that designation decisions are often based on incomplete or inaccurate data documenting needs (U.S. General Accounting Office, 1995).

In 1994, the U.S. Senate called for an evaluation and possible revision of the HPSA criteria to address these concerns. The Department of Health and Human Services initially released proposed revisions to the criteria on September 1, 1998¹⁸ (Health Resources and Services Administration, 1999a). Mental Health Professional Shortage Area designation was not directly affected by this process. However, the proposed changes included new formulas for counting mid-level health professionals. Because of the lack of consistent data for these practitioners and concerns about the appropriateness of substitution, the controversy arising from these proposed changes was considerable. This may indicate the

type of response that could be expected if similar changes were proposed in the criteria for mental health, where the same problems exist.

OTHER FEDERAL HEALTH WORKFORCE DEVELOPMENT PROGRAMS

By the late 1970s, the federal government began developing projections of the need for physicians by specialty. The body initially charged with this responsibility was the Graduate Medical Education National Advisory Committee (GMENAC), appointed by the Secretary of the Department of Health, Education and Welfare shortly after Congress passed the Health Professions Educational Assistance Act of 1976 (Pardes & Pincus, 1983). Committee members representing various clinical disciplines, health administration, health economics, the federal government and consumers participated in a process intended to estimate future needs for physicians in 31 specialties and subspecialties, including psychiatry and child psychiatry. Intended to inform the development of public policy around health workforce issues, the GMENAC report was released in 1980. While GMENAC predicted an overall surplus of physicians, the Committee anticipated national shortages of 8,000 general psychiatrists and 4,900 child psychiatrists by 1990.

In 1986, concerned about Medicare spending for residency training, Congress authorized the Council on Graduate Medical Education (COGME) to assess physician workforce trends and recommend policies to Congress and the Secretary of DHHS (Kindig, 1996; Weiner, 1993). Supported by staff from the Bureau of Health Professions (BHPr), Health Resources and Services Administration, COGME has issued a number of reports related to workforce development issues. One of these specifically examined physician distribution in rural and inner-city areas (Council on Graduate Medical Education, 1998, 1999). The emphasis of this report is clearly on primary care. It does not mention mental health services, even in relation to the distribution of psychiatrists, which are within the COGME purview.

In addition to COGME, BHPr administers two other important workforce development programs. One is the Quentin N. Burdick Rural Health Interdisciplinary Program, established as part of the Health Professions Reauthorization Act of 1988 (PL 100-607). The program provides about \$4 million a year in support to demonstration programs that offer interdisciplinary learning experiences for clinicians in training and in practice. Required to direct at least 90 percent of these funds toward the development of non-physician professionals, many of the grantees offer training in the disciplines of social work and psychology. Grantees (typically universities or Area Health Education Centers) are expected to work collaboratively with other organizations to facilitate recruitment and retention of trainees in rural areas (Bureau of Health Professions, 1999a).

BHPr is also the home of the National Center for Health Workforce Information and Analysis, which sponsors and conducts research and policy analysis on issues relevant to the national health workforce (Bureau of Health Professions, 1999b). Through this initiative, BHPr supports four Centers for Health Workforce Studies, located in California, Illinois, New York and Washington. The WWAMI Center for Health Workforce Studies at the University of Washington is developing a mental health supply and requirements model that can be used to determine workforce needs in small areas (WWAMI Center for Health Workforce Studies, 2000). With support from BHPr and BPHC, these centers have formed partnerships with primary care offices and primary care associations in several states in an effort to address pressing health workforce planning needs.

Another federal program to address health workforce shortages is the U.S. State Department's J-1 visa waiver program. A significant number of foreign medical graduates seek residency placements in the US each year. Almost all foreign medical graduates in J-1 status are subject to a requirement that they return to their home country for two years at the completion of the training program. The J-1 visa waiver program, expanded in 1995 to allow participating states up to 20 waivers per year, allows medical exchange graduates in U.S.

residency training to extend their stay for three years, provided they practice in an underserved community. Although this program has been targeted to primary care, a number of participating states have secured J-1 visa waivers to place psychiatrists in underserved areas.

CONCLUSIONS AND RECOMMENDATIONS

Although it appears that the overall mental health workforce is adequate to the nation's needs, available evidence suggests that a significant proportion of our rural communities continues to suffer from a shortage of this resource. In the interest of moving toward greater equity between mental health and health, as well as between rural and urban, we recommend that a number of the unresolved issues discussed in this paper receive attention. This section revisits these issues and offers recommendations for addressing them¹⁹.

IMPROVING WORKFORCE DATA AVAILABILITY AND QUALITY

Baseline data on the mental health workforce remain inadequate for needed projections or comparisons. Among the strategies that might be used to improve the availability and quality of this data are the following:

- The Bureau of Health Professions and other appropriate federal agencies should provide incentives to encourage states to collect and maintain mental health workforce information. Such incentives might include increased funding to the state agency charged with workforce monitoring earmarked for this purpose; eligibility for telemental health and other mental health outreach development grants; or priority status for placement of available NHSC mental health professionals.
- The Bureau of Health Professions, the Center for Mental Health Services, and other appropriate federal agencies should offer technical assistance to states regarding the collection and maintenance of mental health workforce data. One vehicle for accomplishing this would be the annual symposium sponsored by the Bureau.
- In the interests of their members, national and state mental health professional associations should participate in the collection, verification and analysis of workforce data.
- State Medicaid agencies should require managed behavioral health organizations and local provider networks participating in Medicaid managed behavioral health programs to submit and regularly update detailed access plans that include mental health workforce data. These data could be used to verify information collected by the state agency

charged with workforce monitoring.

ADDRESSING INADEQUACIES IN WORKFORCE ESTIMATION MODELS

Models commonly used to estimate workforce adequacy were developed to project physician needs in geographic areas with relatively large populations. A number of important exceptions limit the applicability of these models to rural mental health. Three projects---undertaken by researchers at the University of Pennsylvania, University of Virginia and the University of Washington---have the potential to address aspects of this problem. In order to assure that this knowledge continues to advance,

- The responsible research organizations and their respective funders should take steps to disseminate project findings as quickly as possible.
- The mental health workforce estimation models and related information emerging from this round of research should be field-tested and evaluated. An appropriate venue for this might be the National Center for Health Workforce Information and Analysis state partnerships.
- Findings from this work should be used to inform a revision of the Mental Health Professional Shortage Area designation criteria. They should also be incorporated into future workforce projections undertaken by the Council on Graduate Medical Education.
- Further research in this area should investigate the effects of state scope of practice laws and third-party reimbursement rules on mental health workforce estimation.

ENHANCING OPPORTUNITIES FOR NON-PHYSICIAN MENTAL HEALTH PROFESSIONALS TO PARTICIPATE IN SCHOLARSHIP AND LOAN REPAYMENT PROGRAMS

In 1992, four non-physician mental health professional groups (i.e. clinical psychologists, clinical social workers, marriage and family therapists and psychiatric nurse specialists) became eligible for the National Health Service Corps Loan Repayment Program. Due to limited funding and recruitment efforts, the number of mental health professionals participating in this program remains low relative to the number of designated shortage areas.

- The National Health Service Corps should seek additional funding so that it might allocate additional resources to recruiting and funding placements for mental health professionals
- The National Health Service Corps should also allocate resources specifically reserved

for mental health workforce development to state loan repayment programs. These resources could be allocated on the basis of shortage area designation and state participation in data collection efforts.

IMPROVING INTER-AGENCY COORDINATION

Numerous agencies and programs have participated in various efforts related to the matter of mental health workforce development. Although coordination has taken place with regard to specific programs, some communication gaps appear to persist. In order to close these gaps,

- An interagency task force on the mental health workforce should be formed. Participants might include representatives from the National Institute of Mental Health, the Substance Abuse and Mental Health Services Administration, the Bureau of Primary Health Care, the Bureau of Health Professions, the Centers for Medicare and Medicaid Services (CMS) and the Office of Rural Health Policy. This task force might be based on the existing Center for Mental Health Services work group on human resources data.

STRENGTHENING EXISTING POLICIES, PRACTICES AND PROGRAMS THAT SUPPORT MENTAL HEALTH WORKFORCE AVAILABILITY

The unique nature of rural mental health practice has implications for recruitment and retention of mental health professionals to rural communities. Among the key aspects of rural mental health service delivery are: strong consumer preference for primary care practitioners and/or lay helpers; limited demand for services that fall exclusively in the scope of practice of psychiatrists; and lack of contact with professional peers. These characteristics suggest a number of strategies that might address mental health workforce and service needs in underserved rural areas. For example,

- Managed care and managed behavioral health organizations should experiment with ways of offering limited behavioral health credentials to primary care practitioners, especially when they work in underserved rural areas.
- The Quentin N. Burdick Rural Health Interdisciplinary Program should be expanded, with a special emphasis on the training of non-physician mental health professionals. Other health professions training programs supported by the Health Resources and Services Administration, such as the Area Health Education Centers and Geriatric Education Centers, could also participate in this initiative.
- Since people from rural areas are more likely to practice in rural areas upon completion of their training, mental health professions training programs in states with significant rural populations should actively recruit students from rural communities.

- Credentialing standards should reflect the realities of rural service delivery by recognizing the important contributions of non-physician mental health professionals, including those with bachelors' and masters' degrees.
- Community health centers, rural health clinics and community mental health centers should make judicious use of non-professional and para-professional mental health workers, especially for outreach and prevention activities. This recommendation presumes the development and implementation of appropriate scope of practice laws covering such lay workers and policies to assure adequate compensation for their services. A strategy that some rural mental health organizations have successfully used is "deemed status," which enables non-professional and para-professional mental health workers to act under the supervisory and reimbursement auspices of a licensed mental health professional or certified agency (Bird, 1998).
- The National Rural Recruitment and Retention Network (3RNet) provides a web-based resource for primary care practitioners looking for rural placements and for rural communities looking for primary care practitioners (*Rural Health News*, 1999). A similar service should be developed for mental health professionals. It could be complemented with a listserv enabling professionals working in relative isolation to contact each other via e-mail with clinical and more general questions. Possible organizational homes for such a program are the National Association for Rural Mental Health and the Frontier Rural Mental Health Services Resource Network.

Finally, when we initially proposed this paper, we intended to include a section highlighting state and private-sector efforts to address mental health workforce needs in underserved areas. Time and other resource constraints prevented us from doing so. However, we believe this is an important piece of work that needs to be done. The National Association of Rural Mental Health annual conference, newsletter and listserv may be appropriate venues for soliciting and disseminating information about these programs.

REFERENCES

- Ahr, P.R. & Holcomb, W.R. (1985). State Mental Health Directors' Priorities for Mental Health Care. *Hospital & Community Psychiatry* 36(1), 39-45.
- American Managed Behavioral Healthcare Association (1999). The AMBHA Mission Statement. <http://www.ambha.org/index.html>
- Anderson, G.F., Han, F.C, Miller, R.H., & Johns, M.E. (1997). A Comparison of Three Methods for Estimating the Requirements for Medical Specialists: The Case for Otolaryngologists. *Health Services Research* 32(2), 139-153.
- Bachrach, L.L. (1977). Deinstitutionalization of Mental Health Services in Rural Areas. *Hospital & Community Psychiatry* 28(9), 669-672.
- Berry, M. (2000). National Health Service Corps, personal communication. 10/11/00.
- (1999). National Health Service Corps, personal communication. 11/10/99.
- Bird, D.C., Lambert, D., Hartley, D., Beeson, P.G. & Coburn, A.F. (1998). Rural Models for Integrating Primary Care and Mental Health Services. *Administration and Policy in Mental Health* 25(3), 287-308.
- Bird, D.C. (1998). Credentialing. In Hartley, D., ed., *Best Practices in Rural Medicaid Managed Behavioral Health*. Working Paper #15. Portland, ME: Maine Rural Health Research Center.
- Bird, D.C., Lambert, D. & Hartley, D. (1995). *Rural Models for Integrating Primary Care, Mental Health, and Substance Abuse Treatment Services*. Working Paper #5. Portland, ME: Maine Rural Health Research Center.
- Bloche, M.G. & Cournois, F. (1990). Mental Health Policy for the 1990s: Tinkering in the Interstices. *Journal of Health Politics, Policy and Law* 15(2), 387-411.
- Buck, J.A., Teich, J. L., Umland, B., & Stein, M. (1999). Behavioral Health Benefits in Employer-Sponsored Health Plans, 1997. *Health Affairs* 18(2), 67-78.
- Bureau of Health Professions (1999a). Grant Program for Interdisciplinary Training for Health Care for Rural Areas. FFY 1999.
- (1999b). National Center for Health Workforce Information and Analysis Functional Statement. <http://www.hrsa.gov/bhpr/GRP/wiaafunc.htm>, accessed 8/11/99.
- Bureau of Primary Health Care (1999). Policy for the Development of the Year 2000 National Health Service Corps Recruitment and Retention List.
- Bureau of Primary Health Care (1997a). General Information on the National Health Service Corps. GE165G, Revised 6/23/97.
- (1997b). State Loan Repayment Program. GE113C, Revised 12/11/97.

----- (1997c). Mental Health Care Services for Your Community. National Health Service Corps. #GE169H Revised 10/22/97.

Center for Mental Health Services (1999). Director's Report, September 1999. <http://www.mentalhealth.org/publications/allpubs/KEN00-0077/DirRep0999.htm>, accessed 12/23/99.

Chu, F. D. & Trotter, S. (1974). *The Madness Establishment*. New York: Grossman Publishers.

Confrey, E. A. (1973). The Logic of a Shortage of Health Manpower. *International Journal of Health Services*, 3(2), 253-259.

Conrad, C. (1991). Health Care in Rural America: The Congressional Perspective. *Public Administration Review* 51:461-465.

Council on Graduate Medical Education (1999). About the Council. <http://www.cogme.gov>, accessed 7/21/99.

Council on Graduate Medical Education (1998). *Physician Distribution and Health Care Challenges in Rural and Inner-City Areas*. Rockville, MD: Health Resources and Services Administration.

Cummings, N. A. (1990). The Credentialing of Professional Psychologists and Its Implications for Other Mental Health Professionals. *Journal of Counseling and Development* 68 (May/June):485-90.

Delaney, T. (2000). *Health Policy Tracking Service: Behavioral Health Parity*. Washington, DC: National Conference of State Legislatures.

Dial, T.H., Bergsten, C., Kantor, A., Buck, J.A., & Chalk, M.E. (1996). Behavioral Health in HMOs. in Manderscheid, R.W. & Sonneschein, M.A., ed., *Mental Health United States*, 1996. Rockville, MD: Center for Mental Health Services, 45-58.

Domino, M.E., Salkever, D.S., Zarin, D.A., & Pincus, H.A. (1998). The Impact of Managed Care on Psychiatry. *Administration and Policy in Mental Health*. 26(2), 149-157.

Earle-Richardson, G.B & A.F. (1998). Commentary from the Front Lines: Improving the National Health Service Corps' Use of Nonphysician Medical Providers. *The Journal of Rural Health* 14(2), 91-97.

Ernst, R.L. & Yett, D.E. (1985). *Physician Location and Specialty Choice*. Ann Arbor: Health Administration Press.

Eveland, A.P., Dever, G.E.A., Schafer, E., Sprinkel, C., Davis, S., & Rumpf, M. (1998). Analysis of Health Service Areas: Another Piece of the Psychiatric Workforce Puzzle. *Psychiatric Services* 49(7), 956-960.

Faulkner, L. R., & Goldman, C. R. (1997). Estimating Psychiatric Manpower Requirements Based on Patients' Needs. *Psychiatric Services*, 48(5), 666-670.

Feil, E. C., Welch, H. G., & Fisher, E. S. (1993). Why Estimates of Physician Supply and Requirements Disagree. *Journal of the American Medical Association*, 269(20), 2659--2663.

Fox, A., Graves, M., & Garris, K. (1999). *The Yearbook of Managed Behavioral Health Market Share in the United States, 1999-2000*. Gettysburg, PA: Open Minds

Fox, D.M. (1996). The Political History of Health Workforce Policy. in Osterweis, M., McLaughlin, C.J., Manasse, H.R., Jr., & Hopper, C.L., eds. *The U.S. Health Workforce: Power, Politics, and Policy*. Washington, DC: Association of Academic Health Centers, 31-46.

Frank, R. G., Koyanagi, C., & McGuire, T.G. (1997). The Politics and Economics of Mental Health Parity Laws. *Health Affairs* 16(4), 108-119.

Friedman, R.M., Katz-Levy, J.W., Manderscheid, R.W. & Sondheimer, D.L. (1996). Prevalence of Serious Emotional Disturbance in Children and Adolescents. In Manderscheid, R.W. & Sonnenschein, M.A., eds. *Mental Health, United States, 1996*. Washington, DC: Center for Mental Health Services, pp. 71-89.

Gibelman, M., & Schervish, P. (1997). Areas of Practice of Social Workers in Mental Health. *Psychiatric Services*, 48(12), 1509.

Goldsmith, L.J. & Ricketts, T.C. (1999). Proposed Changes to Designations of Medically Underserved Populations and Health Professional Shortage Areas: Effects on Rural Areas. *The Journal of Rural Health* 15(1), 44-54.

Goodman, D.C., Fisher, E.S., Bubolz, T.A., Mohr, J.E., Poage, J.F., & Wennberg, J.E. (1996). Benchmarking the US Physician Workforce: An Alternative to Needs-Based or Demand-Based Planning. *Journal of the American Medical Association* 276(22), 1811-1817.

Greenley, J.R., Barry, K., Fleming, M., Greenberg, J., Hollingsworth, E.J., McKee, D., & Schulz, R. (1992). Rural Mental Health Services: Research at the Mental Health Research Center, University of Wisconsin. *Outlook* 2(3), 24-25.

Grey, M. R. (1993). Dustbowls, Disease, and the New Deal: The Farm Security Administration Migrant Health Programs, 1935-1947. *Journal of the History of Medicine and Allied Science* 48:3-39.

Grob, G.N. (1991). *From Asylum to Community: Mental Health Policy in Modern America*. Princeton: Princeton University Press.

Grumbach, K., Becker, S.H., Osborn, E.H.S., & Bindman, A.B. (1995). The Challenge of Defining and Counting Generalist Physicians: An Analysis of Physician Masterfile Data. *American Journal of Public Health* 85(10), 1402-1407.

Guze, S.B. (1998). Psychotherapy and Managed Care. *Archives of General Psychiatry*, 55(6), 561-562.

Hart, G., Wagner, E., Pizada, S., Nelson, A. F., & Rosenblatt, R. A. (1997). Physician Staffing Ratios in Staff-Model HMOs: A Cautionary Tale. *Health Affairs*, 16(1), 55-70.

Hartley, D. & Agger, M. (1998). *Effects of Managed Mental Health Care on Service Use in Rural Areas*. Working Paper #16. Portland, ME: Maine Rural Health Research Center.

Health Resources and Services Administration (1999a). HRSA Issues Notice on Status of Proposed Rule to Revise Process of Medically Underserved and Health Professional Shortage Area Designation.

<http://www.hrsa.gov/newsroom/NewsBriefs/1999/HPSAMUAnotice.htm>, accessed 7/6/99.

Health Resources and Services Administration (1999b). *List of Designated Primary Medical Care, Mental Health, and Dental Health Professional Shortage Areas*. Federal Register 64(181), 50874-51022.

Hegner, R.E. (1997). *Mental Health Parity: Unresolved Issues Affecting Employers, Consumers, and Insurance Coverage*. Issue Brief No. 709. Washington, DC: National Health Policy Forum.

Henderson, T.M. & Fox-Grage, W. (1997). *Evaluation of State Efforts to Improve the Primary Care Workforce*. Denver, CO: National Conference of State Legislatures.

Hennessy, K.D. & Stephens, S. (1997). Mental Health Parity: Clarifying Our Objectives. *Psychiatric Services* 48(2). 161-164.

Holzer, C.E. & Ciarlo, J. A. (1999). Mental Health Service Utilization in Rural and Non-Rural Areas. Denver: Frontier Mental Health Services Resource Network, Letter to the Field No. 20. <http://www.du.edu/frontier-mh/letter20.html>

Holzer, C.E., Goldsmith, H.F., & Ciarlo, J.A. (1998). The Availability of Health and Mental Health Providers by Population Density. Denver: Frontier Mental Health Services Resource Network, Letter to the Field No. 11. <http://www.du.edu/frontier-mh/letter11.html>

Hoyt, D.R., Conger, R.D., Valde, J.G., & Weihs, K. (1997). Psychological Distress and Help Seeking in Rural America. *American Journal of Community Psychology* 25(4), 449-470.

Ivey, S.L., Scheffler, R., & Zazzali, J.L. (1998). Supply Dynamics of the Mental Health Workforce: Implications for Health Policy. *The Milbank Quarterly* 76(1), 25-58.

Jensen, G. A., Rost, K., Burton, R.P.D., & Bulycheva, M. (1998). Mental Health Insurance in the 1990s: Are Employers Offering Less to More? *Health Affairs* 17(3), 201-208.

Kane, C.F. & Ennis, J.M. (1996). Health Care Reform and Rural Mental Health: Severe Mental Illness. *Community Mental Health Journal* 32(5), 445-462.

Kane, C.K., Emmons, D.W., & Wozniak, G.D. (1998). Physician Managed Care Contracting. In Gonzalez, M.L. & Zhang, P. *Socioeconomic Characteristics of Medical Practice 1997/98*. Chicago: American Medical Association, 7-16.

Keller, P.A. (2000). Reflections on the Demise of a Rural Graduate Program. *Party-Line* 7(7): 6.7.

Keller, P.A., Zimbelman, K.K., Murray, J.D & Feil, R.N. (1980). Geographic Distribution of Psychologists in the Northeastern United States. *Journal of Rural Community Psychology*, 1(1), 18-24.

Keller, R.B., Soule, D.N., Schneiter, E.J., & Wennberg, D.E. (1996). *The Physician Workforce in Maine 1993*. Manchester, ME: Maine Medical Assessment Foundation.

Kessler, R.C., McGonagle, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Wittchen, H., & Kendler, K. S. (1994). Lifetime and 12-Month Prevalence of DSM-III-R Psychiatric Disorders in the United States. *Archives of General Psychiatry* 51: 8-19.

Kiesler, C.A. (1992). U.S. Mental Health Policy: Doomed to Fail. *American Psychologist* 47(9), 1077-1082.

Kindig, D.A. (1996). Federal Regulation and Market Forces in Physician Workforce Management. in Osterweis, M., McLaughlin, C.J., Manasse, H.R., Jr., & Hopper, C.L., eds. *The U.S. Health Workforce: Power, Politics, and Policy*. Washington, DC: Association of Academic Health Centers, 47-56.

Knesper, D.J., Wheeler, J.R. & Pagnucco, D. J. (1984). Mental Health Services Providers' Distribution Across Counties in the United States. *American Psychologist*, 39(12), 1424-1434.

Lambert, D., Hartley, D., Bird, D., Ralph, R., & Saucier, P. (1998). *Medicaid Mental Health Carve-outs: Impact and Issues in Rural Areas*. Working Paper #9. Portland, Maine: Maine Rural Health Research Center

Lambert, D. & Agger, M. S. (1995). Access of Rural AFDC Medicaid Beneficiaries to Mental Health Services. *Health Care Financing Review* 17(1), 133-145.

Lazarus, A. (1995). The Role of Primary Care Physicians in Managed Mental Health Care. *Psychiatric Services* 46(4), 343-345.

Lee, R. I., & Jones, L. W. (1933). *The Fundamentals of Good Medical Care*. Chicago: University of Chicago Press.

Lee, R. C. (1991). Current Approaches to Shortage Area Designation. *The Journal of Rural Health* (7) 4, 437-450.

Lee, R.C. (1979). Designation of Health Manpower Shortage Areas for Use by Public Health Service Programs. *Public Health Reports* 94(1), 48-59.

Litman, T.J. (1991). Chronology and Capsule Highlights of the Major Historical and Political Milestones in the Evolutionary Involvement of Government in Health and Health Care in the United States. in Litman, T.J. & Robins, L.S. eds. *Health Politics and Policy*. Delmar, NY: Delmar Publishers, 395-411.

Manderscheid, R.W. & Henderson, M.J., eds. (1998). *Mental Health, United States, 1998*. Washington, DC: Center for Mental Health Services

Marwick, C. (2000). National Health Service Corps Faces Reauthorization During a Risky Time. *Journal of the American Medical Association* 283(20), 2641-2642.

- Merwin, E., Fox, J., Stern, S. & Holzer, C. (1998). *Future Study A3.1: Availability and Characteristics of Rural Specialty Mental Health Providers*. Charlottesville: Southeastern Rural Mental Health Research Center.
- Merwin, E.I., Goldsmith, H.F., & Manderscheid, R.W. (1995). Human Resource Issues in Rural Mental Health Services. *Community Mental Health Journal*, 31(6), 525-537.
- Mullan, F. (1999). The Muscular Samaritan: The National Health Service Corps in the New Century. *Health Affairs* 18(2), 168-175.
- National Alliance for the Mentally Ill (1999a). State Mental Illness Parity Laws. <http://www.nami.org/pressroom/statelaws.html>, accessed 7/7/99.
- National Alliance for the Mentally Ill (1999b). Parity in Insurance Coverage. <http://www.nami.org/update/unitedparity.html>, accessed 7/7/99.
- National Committee for Quality Assurance. (1997). *Health Plan Employer Data and Information Set 3.0, Volume 2*. Washington, DC.
- National Health Service Corps (2000). The NHSC Scholarship Program. http://www.bphc.hrsa.dhhs.gov/nhsc/Pages/about_nhsc/3B1_nhscschol.htm, accessed 7/21/00.
- National Institutes of Health (2000). Legislative Chronology. <http://www.nih.gov/welcome/almanac/historical-data/legislative.html>, accessed 2/3/00.
- National Rural Health Association (1999). Mental Health in Rural America. <http://www.nrharural.org/dc/issuepapers/ipaper14.html>, accessed 12/21/99.
- Oss, M., Birch, S. & Hartley, D. (1998). *Best Practices for Maintaining and Enhancing Delivery of Mental Health Care in Rural Areas Under Medicaid Managed Behavioral Health Care*. Gettysburg, PA: Open Minds.
- Pardes, H. (1983). Health Manpower Policy: A Perspective from the National Institute of Mental Health. *American Psychologist* 38(12): 1355-1359.
- Pardes, H. & Pincus, H.A. (1983). Report of the Graduate Medical Education National Advisory Committee and Health Manpower Development. *Archives of General Psychiatry* 40, 97-102.
- Pathman, D. E. (1991). Estimating Rural Health Professional Requirements: An Assessment of Current Methodologies. *The Journal of Rural Health*, 7(4), 327-346.
- Pion, G.M., Keller, P., and McCombs, H. (1997). *Mental Health Providers in Rural and Isolated Areas: Final Report of the Ad Hoc Rural Mental Health Provider Work Group*. Rockville, MD: Center for Mental Health Services.
- Public Health Service, U.S. Department of Health and Human Services (1980). Criteria for Designation of Health Manpower Shortage Areas; Final Rule. *Federal Register* (45)223, 76000-76010.

Public Health Service, U.S. Department of Health and Human Services (1992). Criteria for Designation of Mental Health Professional Shortage Areas; Final Rule. *Federal Register* (57)14, 2473-2480.

Rabkin, J.G. (1986). Mental Health Needs Assessment: A Review of Methods. *Medical Care* 24(12), 1093-1109.

Regier, D.A., Narrow, W.E., Rae, D.S., Manderscheid, R.W., Locke, B.Z., & Goodwin, F.K. (1993). The de facto U.S. Mental Health and Addiction Disorders Service System. *Archives of General Psychiatry* 50, 85-94.

Ricketts, T.C. & Kolimaga, J.T. (1991). *Study of Health Professionals Distribution, Training and Service Models to Meet Rural Health Care Needs*. Chapel Hill: North Carolina Rural Health Research Program.

Ritley, D. & Bodenhorn, K. (1990). The National Health Service Corps' Rollercoaster Ride (1970-1990). *Journal of Pediatric Health Care* 4(4), 216-218.

Roberts, L.W., Battaglia, J., & Epstein, R.S. (1999). Frontier Ethics: Mental Health Care Needs and Ethical Dilemmas in Rural Communities. *Psychiatric Services* 50(4), 497-503.

Rocheftort, D.A. (1984). Origins of the 'Third Psychiatric Revolution': The Community Mental Health Centers Act of 1963. *Journal of Health Politics, Policy, and Law* 9(1) 1-30.

Rohrer, J.E. (1996). *Estimation of Ambulatory Care Mental Health Workforce Shortages in Rural Areas*. Iowa City: University of Iowa.

Rosenblatt, R. A., Whitcomb, M.E., Cullen, T.J., Lishner, D.M., & Hart, R.G. (1992). Which Medical Schools Produce Rural Physicians? *Journal of the American Medical Association* 268 (12):1559-1565.

Rost, K., Owen, R., Smith, J., and Smith, G.R. (1998). Rural-Urban Differences in Service Use and Course of Illness in Bipolar Disorder. *The Journal of Rural Health* 14(1), 36-43.

Rost, K., Smith, G.R., & Taylor, J.L. (1993). Rural-Urban Differences in Stigma and the Use of Care for Depressive Disorders. *The Journal of Rural Health* 9(1), 57-62.

Rural Health News (1999). 3RnNet Comes of Age. *Rural Health News* 6(1), 2, 13.

Sawyer, D. & Beeson, P.G. (1998). *Rural Mental Health: 2000 and Beyond*. St. Cloud, MN: National Association for Rural Mental Health.

Scheffler, R.M., Ivey, S.L., & Garrett, A.B. (1998). Changing Supply and Earning Patterns of the Mental Health Workforce. *Administration and Policy in Mental Health* 26(2), 85-99.

Schroeder, S.A. (1994). Managing the U.S. Health Care Workforce: Creating Policy Amidst Uncertainty. *Inquiry* 28, 266-275.

Schurman, R.A., Kramer, P.D. & Mitchell, J.B. (1985). The Hidden Mental Health Network: Treatment of Mental Illness by Nonpsychiatrist Physicians. *Archives of General Psychiatry* 42, 89-94.

Shore, M.F., & Beigel, A. (1996). The Challenges Posed by Managed Behavioral Health Care. *The New England Journal of Medicine*, 334(2), 116-118.

Sturm, R. (1997). How Expensive is Unlimited Mental Health Care Coverage Under Managed Care? *Journal of the American Medical Association* 278(18), 1533-1537.

Sturm, R. & Klap, R. (1999). Use of Psychiatrists, Psychologists, and Master's-Level Therapists in Managed Behavioral Health Care Carve-Out Plans. *Psychiatric Services* 50(4), 504-508.

Stuve, P., Beeson, P.G. & Hartig, P. (1989). Trends in the Rural Community Mental Health Work Force: A Case Study. *Hospital and Community Psychiatry*, 40(9), 932-936.

Substance Abuse and Mental Health Services Administration (1999). *SAMHSA's Mission*. <http://www.samhsa.gov/Mission.htm>. Accessed 7/21/99.

Tarlov, A.R. (1986). HMO Enrollment Growth and Physicians: The Third Compartment. *Health Affairs* 5(1), 23-35.

Taylor, D.H., Ricketts, T.C., Kolimaga, J.T. & Howard, H. A. (1995). *The Measurement of Underservice and Provider Shortage in the United States*. Working Paper #34. Chapel Hill: North Carolina Rural Health Research Program.

U.S. Department of Health and Human Services (1999). *Mental Health: A Report of The Surgeon General*. Rockville, MD: Center for Mental Health Services and National Institute of Mental Health.

U.S. General Accounting Office (2000a). *Health Care Access: Programs for Underserved Populations Could Be Improved*. GAO/T-HEHS-00-81. Washington, D.C.

U.S. General Accounting Office (2000b). *Mental Health Parity Act: Despite New Federal Standards, Mental Health Benefits Remain Limited*. GAO/HEHS-00-95. Washington, D.C.

U.S. General Accounting Office (1995). *Health Care Shortage Areas: Designation Not a Useful Tool for Directing Resources to the Underserved*. GAO/HEHS-95-200. Washington, D.C.

U.S. House of Representatives (1990). National Health Service Corps Revitalization Act of 1990: Hearings on H.R. 4487 before the Subcommittee on Energy and Commerce. 101st Congress, 2nd Session, April 4, 1990.

WWAMI Center for Health Workforce Studies (2000). Development and Application of a Mental Health Workforce Model to Washington State. <http://www.fammed.washington.edu/CHWS/projects.htm#mental>, accessed 8/7/00.

Weiner, J.P. (1993). The Demand for Physician Services in a Changing Health Care System: A Synthesis. *Medical Care Review* 50(4), 411-449.

Western Interstate Commission for Higher Education (2000). Frontier Mental Health Services Resource Network. <http://www.wiche.edu/MentalHealth/Frontier/index.htm>. Accessed 8/1/00.

Yahraes, H., Barron, E., Camp, M. & Fussell, H. (1973). *The Mental Health of Rural America: The Rural Programs of the National Institute of Mental Health*. Rockville, MD: Alcohol, Drug Abuse and Mental Health Administration.

Zubritsky, C. & Hadley, T.R. (1998). The Managed Behavioral Healthcare Workforce Initiative: Standards, Guidelines, and Competencies for Behavioral Healthcare. In Mandersheid, R.W. & Henderson, M.J. eds., *Mental Health, United States, 1998*. Washington, DC: Center for Mental Health Services, 70-81.

APPENDIX 1: COMMONLY-USED APPROACHES TO ESTIMATING WORKFORCE ADEQUACY

NEED

Need-based planning relies on estimates of the numbers of physicians required to treat the diseases or conditions prevalent in a given population or geographic area. Staff working for the Committee on the Costs of Medical Care (CCMC) first developed this method in the early 1930s (Lee & Jones, 1933). They determined the prevalence of common medical conditions, such as diabetes or heart disease, in a given geographic area. Then they estimated the number of physician hours necessary to treat these conditions by asking a panel of physicians how much time should be spent treating them. Shortages were observed when available physician hours were less than needed to treat prevalent conditions.

The Graduate Medical Education National Advisory Committee (GMENAC) model, developed in the late 1970s, is a more recent example of need-based planning (Pardes & Pincus, 1983). GMENAC staff adjusted data on the prevalence of selected conditions in the United States to account for changing disease patterns, technological developments and prevention. Then they asked panels of clinical specialists to estimate the number of visits and the amount of time per visit necessary for a physician to treat those conditions.

Although a need-based approach has been proposed as a tool for developing staffing patterns for community mental health centers (Faulkner & Goldman, 1997), it may not be readily applicable to mental health conditions whose prevalence is not well-known, especially at the small-area level (Rohrer, 1996). Because of the high degree of substitution among mental health professionals, analysts trying to use this method to determine workforce adequacy would also be compelled to make judgements about which professionals to assign to what tasks. This method also has very intensive data requirements that render it less feasible to use for general populations than it might be for patients within a closed system, like a staff model HMO.

DEMAND

Demand-based planning relies on the assumption that current utilization of services is an accurate reflection of demand and can be used to project future physician requirements. These estimates may be modified to account for the effects of variations in such characteristics as the age, sex, and race composition of a population, the insurance status of individuals, and physician productivity (Anderson, et al., 1997; Pathman, 1991). The federal Bureau of Health Professions uses a demand-based model with these characteristics.

Like need-based planning, demand-based workforce estimates require substantial amounts of data. Initially, the analyst must know rates of service utilization for a population or geographic area. Ideally, that information should be relatively recent and cover enough users and visits to assure the accuracy of the patterns observed for different sub-populations, such as the elderly or women of child-bearing age. The size of the base population needed to assure valid estimates suggests that the population is usually drawn from an urban area. When applied to workforce estimates for underserved rural areas, this approach may also be quite problematic because it fails to account for variations in demand based on availability of existing resources (Eveland, et al., 1998; Rabkin, 1986).

BENCHMARKING

A third method, *benchmarking*, is really another form of demand-based planning. Benchmarking defines the service use patterns of an existing health care organization or geographic region as ideal in terms of efficiency or some other standard. The method then bases estimates of physician needs in other settings (in terms of both overall numbers and distribution among specialties) on that benchmark (Anderson, et al., 1997; Goodman, et al., 1996).

Obviously, this method is only as sound as the assumptions that support the selection of the benchmark. In the 1980s, for example, planners made the assumption that

managed care organizations were more efficient in their use of physicians, and thus, as enrollment in managed care increased, the nation would need fewer of them (Tarlov, 1986). Findings from a recent study challenge this, pointing out that the benchmark was based on relatively immature HMOs and did not take into account the use of outside specialists by either the HMOs or their subscribers purchasing care out-of-plan (Hart, et.al., 1997).

APPENDIX 2: CRITERIA FOR DESIGNATING MENTAL HEALTH PROFESSIONAL SHORTAGE AREAS

Mental Health Professional Shortage Area (MHPSA) designation criteria are based on four interrelated elements: a defined rational service area, a ratio of population to available practitioners, the presence of indicators of unusually high need and the availability and accessibility of resources in contiguous areas. A *rational service area* can be defined in terms of geographic location (e.g., a county, catchment area, or neighborhood) or in terms of a specific subpopulation (e.g. the homeless or migrant workers)²⁰. For rural areas, the definition includes the expectation that population centers and/or health care resources will be within 30 minutes' travel time from each other.

Roughly based on utilization patterns, *population to practitioner ratios* reflect “the average number of persons a single practitioner could be expected to serve, using the national average number of visits per year per person to type of practitioner involved, and assuming that a primary medical practitioner could handle four visits per hour, a dentist two visits per hour, and a psychiatrist one visit per hour” (Lee, 1991, p. 440). In fact, the population to practitioner ratios used as cutoffs for shortage area designation were set at 1.5 times higher than the 1974 national average for each practitioner type²¹ (Taylor, et al., 1995; Public Health Service, 1992). Practitioners are counted in full-time equivalents, where a 40-hour workweek is regarded as one FTE. Only non-federal practitioners are counted, so that any NHSC practitioners already in the area are excluded. Other count restrictions are noted in Table A at the end of this appendix.

The *service area population* includes the total permanent resident civilian population, excluding inmates of prisons, mental hospitals, and other institutions. It is typically based on the most recent Census data available. Adjustments can be made for seasonal population changes, if appropriate.

An area is determined to have *unusually high needs* if it meets any two of the following criteria:

- At least 20 percent of the population has incomes below the federal poverty level (determined using the most recent Census estimates available for the service area).
- The number of children under age 18 is more than 60 percent of the number of adults aged 18-64 (called the youth dependency ratio, this is determined using the most recent Census or official state population estimates available for the service area).
- The number of adults aged 65 and over is greater than 25 percent of the number of adults aged 18-64 (called the aged dependency ratio, this is also determined using the most recent Census or official state population estimates available for the service area).
- The area has a prevalence of alcoholism in the highest quartile of the nation, region, or state (measured by unspecified means).
- The area has a prevalence of substance abuse (other than alcoholism) in the highest quartile of the nation, region, or state (likewise measured by unspecified means).

Table B demonstrates the importance of these measures in determining an area's *degree of shortage*. Current Bureau of Primary Health Care policy requires that professionals be recruited only to sites with the highest degree of shortage (Bureau of Primary Health Care, 1999). Even with unusually high needs, many rural areas have difficulty achieving the qualifying ratios for a high degree of shortage because of their small populations.

Finally, the MHPSA designation criteria consider the availability and accessibility of resources in *contiguous areas*, typically defined as those geographic areas that abut the region under consideration. Determination of availability is based upon a variety of factors, including distance to contiguous area resources and adjustments to travel time based on terrain, weather, and road conditions. The criteria also enable an applicant to document that resources in contiguous areas are overutilized (using population to practitioner ratios) or inaccessible due to language or other cultural barriers or to residency requirements.

Any private citizen, public or private corporate entity or unit of government can initiate a request for shortage area designation. However, state-level responsibility for managing the designation process is vested in the state's designated primary care office,

regardless of the type of shortage being determined (Taylor, et al., 1995). At the federal level, all shortage designation applications (including mental health) are submitted to the Health Resources and Services Administration, Bureau of Primary Health Care, Division of Shortage Designation. They are subject to review and comment from the state primary care association, the Governor's office and the state medical society. Once granted, a designation is in effect for three years. At the end of the three-year period, a re-designation application must be submitted or the designation may expire.

TABLE A: CRITERIA FOR DESIGNATING PSYCHIATRIC AND MENTAL HEALTH PROFESSIONAL SHORTAGE AREAS

1980 CRITERIA	1992 CRITERIA
RATIONAL SERVICE DELIVERY AREA	
established mental health catchment area based on criteria described in Community Mental Health Centers Act, OR a portion of a mental health catchment area whose population has limited access to resources in that area (travel time > 40 minutes)	no change
POPULATION COUNT	
total permanent resident civilian population, excluding inmates of institutions (most recent census data preferred)	no change
PRACTITIONER COUNT	
psychiatrists only; non federal (excludes NHSC, military, etc.), providing patient care in ambulatory or other short-term care settings more than 1/2 day per week (those working exclusively in institutional settings may not be counted); excludes those engaged solely in administration, teaching or research; residents counted as 0.5 FTEs; FTEs calculated on a base of 40 hours	applies to psychiatrists, clinical (PhD) psychologists, clinical (MSW) social workers, psychiatric nurse specialists (RN), marriage and family therapists (at least masters' level). FTEs counted separately for each discipline. All other 1980 rules apply.
DETERMINATION OF UNUSUALLY HIGH NEEDS	
Unusually high needs determined to exist if 2 or more of the following criteria were met: <ul style="list-style-type: none"> • At least 20 percent of population have incomes below the federal poverty level; • The number of children under 18 is greater than 60 percent of the number of adults aged 18-64; • The number of adults aged 65 and over is greater than 25 percent of the number of adults aged 18-64; or • The area has an index of relative alcoholism of at least 0.211 using an NIAAA scale 	Criteria the same for poverty, youth and aged dependence. Alcoholism prevalence revised to be highest quartile of nation, region, or state; substance abuse prevalence criterion added, also to be highest quartile of nation, region, or state
CONTIGUOUS AREA CONSIDERATIONS	
Excessive distance defined as more than 40 minutes' travel time from center of area, taking road and climatic conditions into account. Overutilization defined as population to psychiatrist ratio in excess of 20,000:1. Otherwise inaccessible due to geographic, language, or cultural barriers or residency restrictions of programs providing clinicians	1980 rules not changed for distance or inaccessibility. Overutilization the same for psychiatrists only. For core mental health professionals, ratios are at least 3,000:1 combined with a population to psychiatrist ratio in excess of 10,000:1.

SOURCE: U.S. Public Health Service, 1980, 1992

TABLE B: DETERMINATION OF DEGREE OF SHORTAGE FOR PSYCHIATRIC AND MENTAL HEALTH PROFESSIONAL SHORTAGE AREAS

D.o.S.	1980		1992	
	NO HIGH NEEDS	HIGH NEEDS	NO HIGH NEEDS	HIGH NEEDS
1	No psychiatrists	No psychiatrists	No psychiatrists No core mental health professionals	No psychiatrists No core mental health professionals
2	Population to psychiatrist ratio is 50,000:1 or greater	Population to psychiatrist ratio is 40,000:1 or greater	Population to core mental health professional ratio is 6,000:1 or greater and there are no psychiatrists	Population to core mental health professional ratio is 4,500:1 or greater and there are no psychiatrists
3	Population to psychiatrist ratio is between 40,000:1 and 50,000:1	Population to psychiatrist ratio is between 30,000:1 and 40,000:1	Population to core mental health professional ratio is 6,000:1 or greater and population to psychiatrist ratio is 20,000:1 or greater	Population to core mental health professional ratio is 4,500:1 or greater and population to psychiatrist ratio is 15,000:1 or greater
4	Population to psychiatrist ratio is between 30,000:1 and 40,000:1	Population to psychiatrist ratio is between 20,000:1 and 30,000:1	4A (for psychiatrist placements only) all other areas with no psychiatrist OR population to psychiatrist ratio 30,000:1 or greater	4A (for psychiatrist placements only) all other areas with no psychiatrist OR population to psychiatrist ratio 20,000:1 or greater
			4B (for core mental health professional placements only) population to core mental health professional ratio is 9,000:1 or greater	4B (for core mental health professional placements only) population to core mental health professional ratio is 6,000:1 or greater

SOURCE: U.S. Public Health Service, 1980, 1992

ENDNOTES

¹ This number counts both geographic and population Mental Health Professional Shortage Areas. It does not include institutional MHPASAs.

² As of March 2000, twenty-one states had also passed mental health parity laws (Delaney, 2000). Some limit coverage to serious mental illnesses while others include substance abuse or developmental disabilities. In Indiana, North Carolina and Texas, only public employees are affected, while Missouri's law applies only to managed care organizations (Hegner, 1997).

³ The MHPA, which went into effect January 1, 1998, does not guarantee full parity. Although it prohibits different dollar limits on life-time or yearly coverage, it still allows different limits on inpatient days, outpatient visits, and types of services covered, and does not prevent insurers from charging higher co-payments. While the law applies to self-insured employers and to Medicaid, firms with fewer than 50 workers are exempt from its requirements, as is the entire Medicare program and the Federal Employee Health Benefits Program (Frank, et al., 1997; Hegner, 1997; National Alliance for the Mentally Ill, 1999b). The MHPA is scheduled to sunset on September 30, 2001 unless Congress reauthorizes it (U.S. General Accounting Office, 2000b).

⁴ This trend appears to be significant in rural areas, in part due to a lack of mental health professionals to provide the services (Hartley & Agger, 1998).

⁵ The pervasiveness of these changes in practice is substantial. As of 1990, just 40 percent of psychiatrists not directly employed by staff-model HMOs received some part of their income from managed care contracts (Scheffler, et al., 1998). By 1997, that proportion had more than doubled to 81 percent (Kane, et al., 1998).

⁶ Even if such databases were to exist, they might not provide accurate counts of professionals engaged in delivery of mental health services. For example, an analysis of 1995 membership data from the National Association of Social Workers suggests that less than 40 percent of social workers have their primary practice in mental health (Gibelman & Schervish, 1997). The rest practice in a variety of systems other than mental health, including education, social welfare, and criminal justice.

⁷ Women physicians aged 35 and under work an average 7.5 hours per week less than men of the same age (Schroeder, 1994).

⁸ Together, the state psychiatric hospitals and the community mental health centers are still regarded as comprising the *public* mental health service delivery system. This is typically distinguished from the *private* mental health service delivery system, which includes private psychiatric hospitals and clinics (both for-profit and non-profit), as well as psychiatric units in general acute care hospitals and mental health professionals in private practice.

⁹ An extensive literature review on the impact of health care system changes on demand for health professionals commissioned by the Council on Graduate Medical Education in the early 1990s admitted that the issue of substitution among the mental health professions was beyond its scope (Weiner, 1993).

¹⁰ To date, clinical psychologists have not been successful in their efforts to obtain prescriptive rights in any state.

¹¹ One of the training programs supported in part by NIMH funds was the master's degree program in community-clinical psychology at Mansfield University in Pennsylvania., which was specifically

focused on the training of clinicians for work in rural settings. During its 25 years of operation, the Mansfield program produced 121 graduates. The program is scheduled to close after its 2001 cohort of students graduates (Keller, 2000).

¹² A 1996 survey conducted by the National Conference of State Legislatures found over 100 state-sponsored health professions scholarship and loan repayment programs operating in 47 states (Henderson & Fox-Grage, 1997). Since the survey did not include questions about the kinds of health professionals eligible to participate, it is not known whether any of them provide support to mental health professionals.

¹³ As of July 2000, the NHSC scholarship program remains restricted to physicians (including psychiatrists), dentists, nurse practitioners, nurse midwives and physicians' assistants in training (National Health Service Corps, 2000).

¹⁴ Of this amount, approximately \$75 million is allocated to scholarships and loan repayments. The balance covers the costs of field support and program administration.

¹⁵ For 2001, the NHSC total appropriation amounted to nearly \$130 million, an increase of 10.8 percent over the FY 2000 appropriation.

¹⁶ The Health Maintenance Organization Act of 1973 contained provisions for designation of Medically Underserved Areas (MUAs), which are used for a variety of purposes, including determination of the placement and funding of Section 330 community health centers and other federally qualified health centers, and the certification of rural health clinics. The MUA concept is considerably broader than professional shortage, and bears only a limited relationship to mental health services through the rural health clinic certification process. For these reasons, it is not discussed in this paper.

¹⁷ In the early 1980s, representatives of the national associations serving the four core mental health professions (psychiatry, psychology, social work, and psychiatric nursing) established a formal structure for working together on the pursuit of common goals (Cummings, 1990). In spite of its evident good intentions, this group sometimes precluded the participation of other mental health professions in policy dialogues, and apparently aggravated animosity between the represented and non-represented professional associations.

¹⁸ These proposed revisions were quite extensive and included consolidation of the Health Professional Shortage Area and Medically Underserved Area designations. The Health Resources and Services Administration received over 800 comments on the proposed revisions. Many expressed concern about the potential impact of the revisions on currently designated areas (Goldsmith & Ricketts, 1999). In response to this feedback, HRSA proposed to conduct further analyses before proceeding and to issue a new NPRM late in 2000 (Health Resources and Services Administration, 1999a). As of February 2001, the analyses were still in process and no new revisions had been proposed.

¹⁹ Many of these recommendations are based on those published elsewhere (see, for example, National Rural Health Association, 1999; Pion, et al., 1997; and Sawyer & Beeson, 1998).

²⁰ In addition, public or private facilities, including psychiatric hospitals, prisons, and Indian reservations, can also be considered rational service areas for the purposes of shortage designation.

²¹ In 1974, the average population-to-primary care physician ratio in the U.S. was 2360:1. Multiplying this ratio by 1.5 yields 3540:1. For primary care practitioners, the cutoff ratio has remained 3500:1. For psychiatrists, the ratio was adjusted from 40,000:1 to 20,000:1 when the designation guidelines were revised in 1992. See Table 5B.



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