

Shortages of Mental Health Professionals in Virginia

A study for the Virginia Primary Care
Association conducted by the Southeastern
Rural Mental Health Research Center of the
University of Virginia.

January 2002



VIRGINIA PRIMARY CARE
ASSOCIATION, INC.

Shortages of Mental Health Professionals in Virginia

Elizabeth Merwin, Ph.D., R.N., F.A.A.N.

Ivora Hinton, Ph.D.

Bruce Dembling, Ph.D.

**University of Virginia
Southeastern Rural Mental Health Research Center**

Prepared for

**Virginia Primary Care Association
Karen M. Davis, M.A.
Special Projects Manager
Project Coordinator**

January 9, 2002

Acknowledgements

This study was funded by the Virginia Primary Care Association with funds from the Health Resources and Services Administration's Bureau of Primary Health Care and the National Institute of Mental Health to the Southeastern Rural Mental Health Research Center. Sam Mackey provided expert programming and data management for this project.

Overview

The purpose of this study was to determine the availability of mental health professionals in Virginia in 2000 and further to assess trends in the supply of these professionals. As no database is available that includes information on all mental health professionals in Virginia, a further objective was to develop a database of such professionals by combining licensure lists for each individual discipline, as well as data obtained from a separate database on physicians. This study profiles the number of mental health professionals in the specific categories of: psychiatrist, clinical psychologist, licensed clinical social workers, clinical nurse specialists and professional counselors. It is recognized that other individuals provide mental health care in Virginia, such as primary care providers, registered nurses, additional classifications of social workers, pastoral counselors and others. The study is limited to those disciplines commonly considered specialists in mental health care.

This report presents unduplicated numbers of mental health professionals in each county and city of Virginia for 1996 and for 2000. Changes in the availability of professionals over this four-year time period are noted. As mental health care is often provided across individual county/city borders, the data is also presented according to Community Service Board geographic service areas. The data is therefore available to use in regional or county/city specific planning.

Finally, differences in the availability of professionals in different parts of the state, particularly in more rural areas are contrasted with other areas through the presentation of data with maps. These graphical displays are used to identify areas particularly underserved.

Background Information

Little is known about the availability of mental health professionals in our country. The counts of these professionals and information on their demographic, professional and practice characteristics is limited. A series of papers in Mental Health, United States (Petterson et al, 1996; Petterson et al, 1998, 2000) present the most up to date national information. This is supplemented by a core human resources dataset which has been developed and is recommended for use in improving the comparability and detail of human resources data provided (Pion, Merwin, et al, 1998; CMHS, 2001). Most information is available at a national or state level, with county level data usually requiring special analyses to obtain. Even the data that is available is sketchy and suffers from the lack of comparability among data sources and disciplines. This study overcomes two of these limitations by using similar data for all disciplines and by developing county level estimates. Virginia data can best be understood within the context of the availability of professionals nationally.

According to data in Mental Health, United States, 1998 there were 33,486 psychiatrists, 73,018 psychologists, 192,814 social workers, 15,330 psychiatric nurses

(graduate level), 61,100 professional counselors and 26,482 school psychologists who were clinically trained in our country according to the most recent year of data, which ranged from 1995-1998 for different disciplines (p. 216). There was a large regional variation in the availability of these disciplines. In Virginia there were 10.9 psychiatrists in 1996 compared to 11.3 per 100,000 population nationally; 26.5 psychologists in Virginia compared to 27.5 nationally; 31.9 social workers compared to 36.2 nationally and 4.2 psychiatric nurses compared to 2.6 nationally (p. 220). Thus, at the state level of comparison Virginia compares favorably to that of the nation as a whole. According to a recent study, Virginia has 29.8 psychologists per 100,000 compared to 36.7 regionally, and 31.2 nationally (p.65, HRSA). There were 10.1 psychiatrists in Virginia compared to 13.5 regionally and 11.1 nationally (p.65, HRSA).

Table 1
Comparison of the availability of mental health providers in Virginia, from different reports and data sources.

Profession	Publication/Data Source Mental Health United States (1998)		HRSA ¹ (1998)	Va. DHP (2001)
	N	YR Data	N	N
Psychiatry	719 ¹	96	689	---
Psychology	1,785	97	2,020	1,941
Social Work	2,150 ¹	98		4,020
Counseling	1,717	98		2,489

¹ Original data sources from Bureau of Labor Statistics, American Medical Association, and the Bureau of Census

¹ Clinically active, only

Table 1 shows the number of mental health professionals in Virginia according to data in different data sources including: Mental Health, United States, 1998; Health Resources and Services Administration, 1998 and the Virginia Department of Health Professions, June 2001. This table shows that there are differences in counts based on data source and year. Although year to year changes can be expected, it is likely that differences in the numbers presented are more related to differences in how the data was obtained for each study. The number of psychiatrists, psychologists, and counselors are relatively stable in the different publications. Increases in the number of social workers appears to be due to differences in data collection methods.

Table 2 presents counts of additional licensed mental health professionals. These counts are the latest available from the licensing agency in Virginia as of May, 2001. Of the different types of health professions licensed in Virginia, those listed in Tables 1 and 2 frequently provide behavioral health care. Although some, for example social workers and rehabilitation providers may focus on other specialty areas or may serve other primary populations of clients.

Methods

The 1996 data was constructed from an ongoing project of the Southeastern Rural Mental Health Research Center focusing on the availability of mental health professionals in

ten Southern states, and is a subset of data on Virginia. In 1996, licensure lists for clinical psychologists, licensed certified social workers, professional counselors, and advanced practice psychiatric nurses were obtained from the relevant State Boards governing licensure and practice for each discipline. Additionally, a database of psychiatrists licensed in Virginia was obtained from the American Medical Association's physician master file for both the 1996 and 2000 data. The 2000 data for other professionals was downloaded from the Internet from the State Board's site in the fall of 2000 <http://www.dhp.state.va.us/>². The 2001 data was obtained approximately 7 months later resulting in slightly different total numbers of professionals identified in each group. Since that time, the capability to download these datasets without cost is no longer available, although the data is still available with charges.

The data on professionals was supplemented by census data on the number of individuals in the population of each county/city. As the professional database included only a mailing zip code, it was necessary to translate each individual's zip code to a county/city code to place each professional in the relevant county/city. Although most addresses appeared to contain residence addresses for professionals there was no systematic way to evaluate if the address of their licensure information was for their

Table 2

Additional Related Providers of Services Licensed in Virginia, 2001

	N
School Psychologists	109
Applied Psychologists	53
Licensed Social Workers	331
Registered Social Workers	102
Associate Social Workers	7
Certified Substance Abuse Counselors	2,489
Substance Abuse Treatment Practitioners	97
Rehabilitation Provider	655
Marriage and Family Therapist	925

¹ Downloaded on 10/26/2000.

² Downloaded on 10/26/2000.

home residence or work address, reflecting a limitation of the study. It also should be pointed out that there is no information on whether or not these individuals are employed in the mental health specialty area.

As some mental health professionals hold licenses in two professions, it was necessary to not duplicate the counts of professionals. We wanted to count individuals, not licenses. If someone was licensed in two professions they were counted in the first of the following list of professional categories of their multiple licenses: psychiatrist, clinical nurse specialist, psychologist, social worker or counselor. It was also necessary to eliminate duplicate records where a license was included more than once for the same individual; this was particularly true in the 1996 data when people held licenses in multiple states. In this case, they were included in the state of the physical address on their license. Extensive data cleaning was necessary to develop an unduplicated data set.

Findings

Table 3 presents the duplicated and unduplicated counts of licensed professionals in 2000 for the state of Virginia used in this study. These figures include those residing and not residing

in Virginia. The list was unduplicated so that we counted each professional only once. The disciplines affected most by the unduplication are Clinical Psychologist, Licensed Clinical Social Worker (LCSW) and Professional Counselor. For the remaining analyses with licensure data we use only the unduplicated counts and only those with addresses in Virginia.

Type	Duplicated Count		Unduplicated Count ¹	
	N	%	N	%
Psychiatrist	719	7.64	718	7.74
CNS ¹	454	4.82	451	4.86
Clinical Psychologist	1934	20.55	1914	20.63
LCSW	3861	41.03	3827	41.23
Professional Counselor	2440	25.93	2370	25.54
Total	9,408	100	9,280	100

¹ A prior study showed that approximately 50% of CNS's are psychiatric specialists. All CNS's are retained in the study.

Table 3 shows that there were 9,280 individuals licensed in Virginia as either a Psychiatrist, Clinical Nurse Specialist, Clinical Psychologist, Licensed Clinical Social Worker, or Licensed Professional Counselor in the Fall of 2000. About 100 of these

Table 4
Comparison of Availability of Mental Health Professionals,
1996-2000

	1996	2000
Discipline	N	N
Counseling	1,611	2,089
Clinical Nurse Specialists	379	405
Psychology	1,129	1,461
Psychiatry	962	716
Social Work	2,459	3,180
Total	6,540	7,851

Note: This includes only those with in state mailing addresses.

There were different inclusion criteria for psychiatry between the two years; the differences are due to data source rather than a decline in psychiatrists.

individuals hold licenses in more than one area. Further analyses are limited to these professional groups, referred to in this report as specialty mental health professionals. Table 4 compares the number of mental health professionals available in 1996 and in 2000. Data source differences account for the differences in the availability of psychiatrists as discussed in more detail below. The availability of different disciplines has been relatively stable. The number of professionals licensed in each discipline has increased from 1996 to 2000. The overall number of mental health professionals has therefore also increased. The rates of availability of different professional types in each county vary greatly across the state.

In 1996 there were 9.2 mental health professionals per 10,000 population. This increased to 11.1 per 10,000 by 2000. The rates of availability varied greatly from 0 mental health professionals in some rural counties to 147 per 10,000 residents in Falls Church. Overall there were 9.2 mental health professionals per 10,000 census in 1996.

The variation in rates of availability of different professionals continues in 2000. The psychiatrist counts are slightly lower based on differences in the data source which are discussed below. There continues to be some counties with 0 mental health professionals, and Falls Church continues to have the greatest availability, increased to 168 per 10,000 census. Overall, there were 11.2 mental health professionals per 10,000 census in 2000. All types of professionals increased with the greatest increases in the areas of counselors and social workers between 1996 and 2000.

The numbers for 1996 and 2000 can not be directly compared for psychiatrists. The 2000 psychiatrist counts include only general psychiatrists, not other categories of psychiatrists. Figure 1 shows the different types of psychiatrists as classified in the American Medical Association's dataset. Most psychiatrists in Virginia are office based (66%). Others are resident physicians (13.9%) or staff physicians (13.8%). A smaller percentage are in primarily administrative (4%), teaching (1.3%), or research (1%) roles.

In 1996, all of the psychiatrist classifications are believed to be included in the data set. In 2000, only the office and staff work settings of psychiatrists were provided, thus the other types of psychiatrists are not represented in the dataset. While the numbers include the largest categories of psychiatrist work settings in 2000, the numbers between 1996 and 2000 are not comparable. The differences in data sources prevent comparisons in the increase or decrease of psychiatrists between 1996 and 2000. Therefore data was obtained from the same data source for several years for general and child psychiatrists to facilitate trend comparisons.

Changes in the availability of general and child psychiatrists from 1990-1998 were studied. It is striking how many counties have no child psychiatrists. Almost all of the child psychiatrists are in or near cities. Many counties have neither child or general psychiatrists. However, 12 counties with zero general psychiatrists in 1990 had 1 or more psychiatrists by 1998. This improvement is offset by 5 counties who have zero general psychiatrists in 1998 but had one or more general psychiatrists in 1990. Figure 2 maps the lack of psychiatrists in many areas of the state.

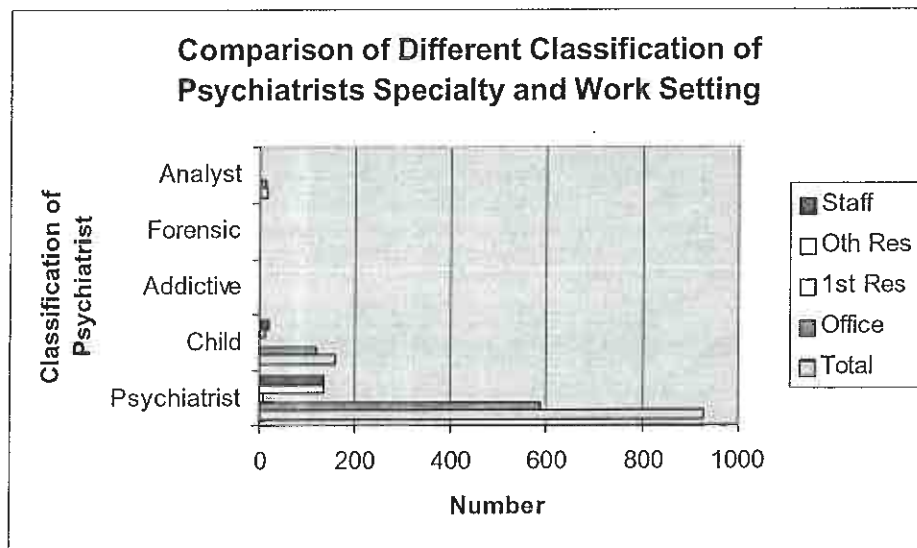


Figure 1. Psychiatrist Classification

A comparison of the 2000 county level rates of availability of professionals was made using the maps presented in Figures 2-7. These maps indicate that there continues to be a large geographic maldistribution of professionals as seen in the map of total number of mental health professionals to the population. This is also reflected in the

maps for each discipline. The number of professionals per 10,000 are presented for each county. Sometimes using the county as a geographic border to profile the availability of professionals is not as useful as looking at providers availability in a group of surrounding counties within commuting distance of each other. Many providers live in one county and work in another. The counties are grouped into the geographic areas served by each of the 40 Community Service Board's in Virginia as indicated by heavy lines on the maps showing the borders for the areas served by each CSB. A number on the map designates the name of each CSB also. (See Appendix A for a list of CSBs corresponding to their representative number on the maps.)

The number of professionals by counties located in each Community Service Board's geographic area of service, using 2000 data was then examined. This was useful for identifying underserved areas and generally overcomes the limitation of using county level counts which reflect only the county recorded in the licensure data set and not necessarily the county in which a provider works. The largest limitation of viewing the availability of providers at the CSB level is for CSB's located in metropolitan areas in which providers may live in or have a mailing address in one CSB's geographic area, but practice in another. For example, few providers living in Henrico county have mailing addresses that signify Henrico, most are classified as Richmond. As expected, the CSBs with the most providers are in or near cities; the CSBs with the fewest resources are generally in the rural areas.

Tables 1-3 above have been based on licensure data obtained for this study. Another source of data on mental health professionals is available through the Area Resources File. This data source contains information collected from the census regarding occupations as well as basic demographic information on the counties/cities. There is a slightly different aggregation of some cities and counties in this file with data presented at the county level with independent cities also being included. This source of data is used to gain a perspective from another data source on the availability of mental health professionals.

Health Professional Shortage Areas for mental health in Virginia were examined in relation to the number of psychologists and social workers identified in the 1990 census in each area. Rates of availability were calculated. The counties/cities with partial or full shortage areas designated by the federal government were identified and compared to the rates of availability of mental health providers and also to their classification as Medically Underserved Areas. The shortage designations must be applied for through an extensive regulatory procedure. The list of shortage designations is constantly updated. See the HRSA's web site for a list of the most current counties designated as health professional shortage areas (<http://bphc.hrsa.gov/databases/newhpsa/newhpsa.cfm>), and for a list of Medically Underserved Areas (<http://bphc.hrsa.gov/dsd/default.htm>). Statewide there are 1.6 psychiatrists per 10,000 population with a range of 0-4.4 psychiatrists, 7.3 psychologists (range 0-30.2), and social workers 20.2 with a (range 0-35.7) However, the shortage areas have much lower rates of availability of providers with almost half of the designated shortage areas having less than 2 mental health providers per 10,000 census. It should be noted that 44 of the 48 counties or cities falling within a

mental health shortage area in Virginia are also designated as Medically Underserved Areas. This reduces the availability of primary providers to substitute for mental health professionals in the provision of care. The wide range of availability of providers indicates that there is geographic maldistribution of the resources.

Information on the per capita income, minority composition, and on the rurality of the different locations was also examined in relation to shortage areas. This provides information to understand characteristics of specific counties/cities with differing availability of professionals. The counties designated as mental health shortage areas had a lower per capita income than the state as a whole. These counties had a per capita income of 18,659 compared to a state average of 21,116. They had slightly higher minority populations, 24%, compared to a state average of 21.6%. They also were more likely to be rural. One half of the 48 counties designated as having mental health shortage areas are 100% rural. Only 2 counties/cities with mental health shortage area had less than 50% of their residents living in a rural area. The disparity in the availability of specialty mental health professionals in rural areas is striking.

Conclusions

There has been a steady increase in the numbers of mental health professionals in Virginia in recent years. The rates of numbers of mental health professionals to the population has increased between 1996 and 2000 for psychologists, clinical nurse specialists, social workers, and counselors. The availability of both child and general psychiatrists has increased from 1990 to 1998. The growth within the professions was best for psychology, social work and counselors. There was limited growth in the availability of clinical nurse specialists. Increasingly psychiatric nurse practitioners are being prepared and certified. Future studies should include these individuals. Overall, there is steady growth but concern is raised regarding the wide variation of availability of resources.

Although there are overall increases in the availability of mental health professionals, this increase is not seen throughout the state. This is particularly true in rural areas of the state. In many counties there are no psychiatrists. This raises the concern of availability of adequate psychiatric care in these areas. Particularly as advances in psychopharmacology continue, it is necessary to have psychiatrist expertise available to ensure that medication management is evidence based and state of the art. Communities without adequate availability of specialty mental health providers may have difficulty gaining the expertise necessary to provide up to date mental health care throughout their health and mental health delivery systems. Specialty mental health expertise needs to be available to all health and mental health settings to facilitate optimal mental health care.

Most of the counties with low availability of mental health professionals in 1996 continued to have low rates of availability and conversely most of the counties with many mental health providers in 1996 have even more providers in 2000. The lack of providers in many of the more rural areas of the state continues. This provides the opportunity for

developing incentives to encourage providers to practice in rural areas. Merwin, Goldsmith, and Mandersheid (1995) describe areas that are important for mental health resource development in rural areas, often the places with the least mental health providers. They include re-training the workforce, integrating specialty care with general health care roles, including mental health services in alternative and non-traditional delivery models. The data in this report can be used to target underserved areas which may be in need of assistance in recruiting and retaining mental health specialists, workforce training initiatives and increasing mechanisms for transfer of specialist services through tele-health or other initiatives.

Also initiatives such as tele-health specialty connections which exist between some community health centers and mental health professionals offers another strategy to bridge this resource gap (Merwin, et al, 2001). Many areas have resource availability similar to areas which have been designated as mental health shortage areas. It may be that these areas could be designated shortage areas which might facilitate access to additional resources.

Overall, Virginia benefits from an increase in the availability of mental health professionals. However, their availability in many areas of the state remains low. Incentives may be needed to increase the availability of specialty mental health knowledge in the underserved areas of the state. This may prove crucial to the implementation of state of the art, evidence based mental health care.

References

Bureau of Health Professions, National Center for Health Workforce Information and Analysis.(2000). **State Health Workforce Profiles**.
<http://bhpr.hrsa.gov/healthworkforce/profiles>

Bureau of Health Professions, National Center for Health Workforce Information and Analysis. **HRSA State Health Workforce Data Resource Guide**, HRSA.

Center for Mental Health Services. (2000) **Decision Support 2000+ User Guide**.
<http://www.mhsip.org/ds2000/newindex.htm>.

Dembling, B., Li, X., Chang, W., Mackey, S., & Merwin, E. (2001) **Psychiatric Health Service Areas in the Southeast**. Administration and Policy in Mental Health, Vol. 28, No.5, p. 407-416..

Merwin, E.I., Goldsmith, H.F., and Manderscheid, R.W. (1995) **Human Resource Issues in Rural Mental Health Services**, Community Mental Health Journal. Vol. 31, No. 6, 525-537.

Peterson, B.D., West, J., Pincus, H.A., Kohoat, J. Pion, G.M., Vandivort, R., Palmiter, M., Merwin, E. & Fox, J. et al (1996) **An Update on Human Resources in Mental Health**. Chapter 10 in Mental Health, United States.

Peterson, B.D., West, J., Tanielian, M.A., Pincus, H.A., Kohoat, J. Pion, G.M., Wicherski, M.M., Vandivort, R., Palmiter, M., Merwin, E. & Fox, J. et al (1998) **Mental Health Practitioners and Trainees**. Chapter 17 in Mental Health, United States, 1998.

Pion, G., Merwin, E. & Human Resources Data Group. (1998) Appendix E: **Core Data Elements for Mental Health and Substance Abuse Providers: Needed Information for Improving the Healthcare System**. Center for Mental Health Services, U. S. Department of Health and Human Services.

Virginia Department of Health Professions. Virginia Information Providers Network, 1-877-484-3468. Personal Communication, 6/11/01.

Appendix A. Table of Community Service Board Number
and County Names in Specific CSB. (Relates to numbers on Maps)

CSB	NAME		
01	Rockingham	21	Franklin
01	Harrisonburg	21	Henry
02	Clarke	21	Patrick
02	Frederick	21	Martinsville
02	Page	22	Lee
02	Shenandoah	22	Scott
02	Warren	22	Wise
02	Winchester City	22	Norton City
03	Caroline	23	Botetourt
03	King George	23	Craig
03	Spotsylvania	23	Roanoke
03	Stafford	23	Roanoke City
03	Fredericksburg	23	Salem City
04	Culpeper	24	Chesterfield
04	Fauquier	25	Amelia
04	Madison	25	Buckingham
04	Orange	25	Charlotte
04	Rappahannock	25	Cumberland
05	Albemarle	25	Lunenburg
05	Fluvanna	25	Nottoway
05	Greene	25	Prince Edward
05	Louisa	26	Goochland
05	Nelson	26	Powhatan
05	Charlottesville Cit	27	Hanover
06	Bath	28	Charles City
06	Rockbridge	28	Henrico
06	Buena Vista City	28	New Kent
06	Lexington City	29	Dinwiddie
07	Augusta	29	Greensville
07	Highland	29	Prince George
07	Staunton City	29	Southampton
07	Waynesboro City	29	Surry
08	Alexandria City	29	Sussex
09	Arlington	29	Colonial Heights
10	Fairfax	29	Emporia City
10	Fairfax City	29	Hopewell City
10	Falls Church	29	Petersburg City
11	Loudoun	30	Richmond City
12	Prince William	31	Brunswick
12	Manassas City	31	Halifax
12	Manassas Park	31	Mecklenburg

13	Alleghany	31	South Boston
13	Clifton Forge	32	Chesapeake City
13	Covington City	33	James City
14	Amherst	33	York
14	Appomattox	33	Poquoson City
14	Bedford	33	Williamsburg
14	Campbell	34	Accomack
14	Bedford City	34	Northampton
14	Lynchburg City	35	Hampton City
15	Buchanan	35	Newport News
15	Russell	36	Essex
15	Tazewell	36	Gloucester
16	Pittsylvania	36	King and Queen
16	Danville City	36	King William
17	Dickenson	36	Lancaster
18	Washington	36	Mathews
18	Bristol City	36	Middlesex
19	Bland	36	Northumberland
19	Carroll	36	Richmond
19	Grayson	36	Westmoreland
19	Smyth	37	Norfolk City
19	Wythe	38	Portsmouth City
19	Galax City	39	Virginia Beach City
20	Floyd	40	Isle of Wight
20	Giles	40	Franklin City
20	Montgomery	40	Suffolk City
20	Pulaski		
20	Radford City		

Figure 3. Number of Total Mental Health Professionals per 10,000 Population, by Counties/Cities and Community Service Board Areas

