

A Snapshot of Occupational Dynamics

Associated with TAMHO Member Organizations

Murat Arik, Ph.D.
Rubi Devi, Ph.D.
2023



Acknowledgment

We thank Elyn Wilber, Executive Director of the Tennessee Association of Mental Health Organizations (TAMHO), for supporting this project.

The Business and Economic Research Center (BERC) undergraduate student researcher, Olicia Smith, contributed to data collection in this project. Andrea Lawrence, BERC Secretary, designed the cover page and edited this report. We thank all the BERC students and staff for their support and enthusiasm for research.

Table of Contents

Executive Summary

1. Introduction

1.1 Research Questions

2. Literature Review and Methodology

2.1 Review of Literature

2.2. Methodology

3. Mental Health Occupations in TN

3.1. Top 20 Mental Health Occupations in TN

3.2. Educational Attainment Level for the Top Mental Health Occupations

3.3. Mental Health Employment Concentration in Tennessee

3.4. Wage Level for top Mental Health Occupations in TN

4. Comparative Perspective - Mental Health Occupations in the Neighboring States

4.1. Top Mental Health Employment Concentration

4.2. Employment per 1000 jobs in top Mental Health Occupations

4.3. Wage Level for top Mental Health Occupations

5. MHA Ranking on the State of Mental Health in America

5.1. MHA Access to Care Ranking

5.2. Mental Health Workforce Availability

5.3. MHA Overall Ranking

6. Conclusion

7. Reference

Appendix A

Executive Summary

The Business and Economic Research Center (BERC) at Middle Tennessee State University (MTSU), in partnership with the Tennessee Association of Mental Health Organizations (TAMHO), produced this report on the mental health sector in Tennessee. This report primarily assesses the occupational aspect of the top mental health occupations in Tennessee in employment concentration, educational attainment level, and relative wage, comparing it with the national level. Further, this study presents a comparative overview of the mental health occupation dynamics in the neighboring states of Alabama, Arkansas, Kentucky, Mississippi, Georgia, and North Carolina, aiming to assess how Tennessee is fairing among its neighboring states in mental health occupations.

Based on the research findings, this study presents insights into the present and prospects of the mental health professions in Tennessee.

Key Findings

- Demand for mental health occupations in the United States is increasing, and mental health occupations indicate a bright job outlook.
- Mental health occupations, on average, require a higher academic attainment level.

Highlights for Tennessee

- 18 out of Tennessee's top 20 mental health occupations indicate a bright job outlook.
- 17 out of the top 20 occupations in Tennessee are less concentrated compared to the US national level and have prospects for future employment growth.
- In terms of employment per 1000, most mental health occupations in Tennessee are sparsely employed compared to the neighboring states.

- The compensation level for most of Tennessee's top 20 mental health occupations is lower than the national level (4:20) and lower than the neighboring states.
- Tennessee is ranked 46th in Mental Health of America's Workforce Availability Ranking, lower than the neighboring states.
- Tennessee is ranked 34th in the Mental Health of America's Overall Ranking on the State of Mental Health, Kentucky is ranked 15th, and Alabama is 45th among the 51 states (where 1 is the best state and 51 is the worst).

Chapter 1: Introduction

The mental health challenge is a critical public health issue in America. According to the Centers for Disease Control (CDC), mental health is essential to our social, emotional, and psychological well-being from childhood and adolescence through adulthood. Mental health, as defined by the American Psychiatric Association, is how one's thoughts, feelings, and behaviors affect one's life. Mental health impacts an individual's ability to live a fulfilling life, manage regular work or responsibilities, make decisions, and maintain healthy relationships with others. On the other hand, mental illness is a "health condition involving changes in emotion, thinking, or behavior (or a combination of all these) which inversely affect people's personal and social relations, productivity, tolerance to adversity in daily life and so on." It often leads to a lack of self-esteem and an inability to make positive decisions for oneself and one's family. Mental health issues are also linked to substance abuse. According to the National Institute of Drug Abuse, 1 in 4 people with a serious mental illness also exhibits a substance use disorder. Further, people with mental health challenges are prone to using nonprescription opioids.

According to the National Institute of Mental Health (NIMH), in 2020, 1 in 5 US adults (i.e., 52.9 million) experienced some form of mental illness, and about 1 in 18 adults was affected by serious mental illness. However, only 46.2% of adults with any mental illnesses and 64.5% of those with severe mental illness reported receiving treatment (NIMH Website). NIMH also emphasizes the vital need for mental health services in the country. Another survey by the Kaiser Family Foundation on Mental Health in America found that more than 129 million Americans live in areas with a shortage of mental health care professionals, and only 28.1% of mental health care needs are being met (AHR Annual Report 2022).

The National Council for Mental Well-being reported that 77% of counties in the United States are experiencing a severe shortage of mental health providers in recent years, and the demand for mental health professionals is projected to increase further during the COVID-19 period. According to a

Recovery.org report (Nenn, 2022), the US demand for behavioral health professionals will increase to 60,000 by 2025, with a shortage of over 15,000 professionals. In Tennessee, 43.5% of adults have reported symptoms of anxiety or depression, and 252,000 adults had a serious mental illness in 2021 (NAMI: Tennessee State Fact Sheet 2021).

Among the youth in the US, one in every six individuals aged 6-17 experiences a mental health disorder each year. In Tennessee, 58,000 youth aged 12-17 reported issues of depression in 2021, and only 40.6% received some form of care, while the majority (59.4%) of the youths did not receive any care. It has also been reported that 3,224,296 people in Tennessee live in a community that does not have enough mental health professionals (NAMI: Tennessee State Fact Sheet 2021).

In light of the growing need for mental health services, this study examines the occupational aspect of the mental health sector in Tennessee. It mainly focuses on the employment, average wage, and academic attainment level in mental health occupations and how Tennessee's mental health sector compares with the national standard and with the neighboring states – Alabama, Arkansas, Kentucky, Mississippi, Georgia, and North Carolina.

1.1. Research Question

This study aims to address the following research questions:

- i. What are the top occupations in the mental health sector in Tennessee and other neighboring states?
- ii. What educational attainment level is required for the top mental health occupations?
- iii. What is the level of compensation for the top mental health occupations in Tennessee?
- iv. What is the concentration level of mental health occupations in Tennessee?

BERC designed a research methodology to answer these questions based on the currently available data and the available literature. The remainder of the report is divided into the following chapters: Chapter 2

discusses the research methodology and the selected literature review. Chapter 3 presents a detailed discussion of the occupational dynamics related to Tennessee's top 20 mental health occupations. It is divided into four sections: Section 1 discusses Tennessee's top 20 mental health occupations and the occupational outlook. Section 2 discusses the educational attainment level for the occupation. Section 3 focuses on the employment concentration in Tennessee, and Section 4 presents a close look at the compensation level for the top mental health professions in Tennessee. Chapter 4 offers a comparative analysis of Tennessee's mental health occupation dynamics relative to its neighboring state- Alabama, Arkansas, Kentucky, Georgia, Mississippi, and North Carolina. Chapter 5 focuses on Mental Health America's (MHA) state ranking on Access to Care, Mental Health Workforce Availability, and the Overall State ranking, discussing how Tennessee and the neighboring states are doing in terms of the MHA rankings, followed by the conclusion.

Chapter 2: Literature Review and Methodology

This study focuses on Tennessee's mental health occupational dynamics from a labor market perspective of employment, wage, and academic attainment. The study's goal is to have a clear picture of the state of mental health occupations in Tennessee and how it compares with the data from the neighboring states. This chapter presents an overview of the reviewed literature followed by the methodology used for the research.

2.1. Literature Review

The study 'Social Determinants of Mental Health' by the World Health Organization(2019) indicates that mental health and many common mental health disorders directly result from the social, economic, and physical environment in which people live. Communities facing social inequalities also experience an increased risk of common mental health challenges. While the documentation of mental health disorders and availability of services is much better in the US and other high-income countries than in low-income countries, documentation and availability are not equally distributed for all states or counties within the US. In terms of services, employment, and wages, the mental health sector differs from state to state and county to county within a single state in the US. According to 2020 County Health Rankings data by the University of Wisconsin Population Health Institute, states such as Massachusetts and Oregon have the best access to mental health providers (160: 1 and 190:1, respectively) in contrast to Alabama (990:1) or Texas (880:1).

Economics and mental health are closely connected. In a study 'Economics and Mental Health: the Current Scenario,' Martin Knapp and Gloria Wong (2020) discuss the connection between economics and mental health and how, despite the rapid growth in the mental health research and treatment sector, there are still significant gaps in terms of knowledge, services and policy making. Mental illness

negatively affects the state's economy in terms of lack of productivity and increased use of resources or treatment. Communities with economic disadvantages (e.g., lack of access to education and employment) face an increased risk of mental illness. The study further indicates the multiple impacts of mental illness on individuals, communities, and states and why different bodies of government, policymakers, and community organizations should be active in addressing the prevention and appropriate responses in terms of employment, education, wages, benefits, care, and beyond.

Mental, neurological, and substance use (MNS) health challenges pose a greater risk to public health challenges worldwide. In an estimate by the World Health Organization (2019), these mental health challenges accounted for 28% of the non-fatal disease burden (years lived with disability) and 10% of the total disease burden (disability-adjusted life years). Further, mental health challenges during childhood and adolescence are increasing and resulting in ill health and mortality. Studies have also estimated that the annual global impact of common mental disorders on economic output amounts to \$1 trillion (Chisholm et al., 2016).

A study by Tham, Sojli, Bryant, and McAleer (2021) on the interaction of mental disorders and economic uncertainty during the COVID-19 pandemic in the US reports that the decrease in employment during the COVID-19 pandemic combined with an increase in economic uncertainty has doubled the common mental health disorders in the US. It further suggests that economic policies supporting employment provide major mental health interventions and economic security. In a study on the mental health facilities and services for students at the University of Michigan (Eisenburg, 2017), it was found that 34% of students at the university have suffered from one mental health problem, but only about 17% have utilized the mental health services. Students who have accessed mental health services have reported high satisfaction (82%). The University of Michigan's School of Public Health estimated that mental health services contributed to student retention and an estimated saving of \$509,870 in tuition revenue for the university.

In another article on the treatment of the mentally ill in rural Tennessee, Evan Wright (2017) discusses how the criminal justice system is ill-equipped to provide mental health services and treatment to inmates and detainees, further aggravating the health challenges for those who need it most. With the increasing inmate population in the upper Cumberland region, there is an imminent need for larger prisons with better mental health treatment services, and the economic burden falls on the rural communities, which are already crippled by unemployment, lack of education, and resources.

A study on the economic impact of inpatient psychiatric facilities for the National Association of Psychiatric Health Systems found that in 2008, 2,257 inpatient facilities were employing more than 223,000 persons with direct expenditures totaling \$20.6 billion (Dobson et al., 2010). The \$20.6 billion in direct spending translated to a \$61.2 billion impact on the US economy, and the direct employment of 223,000 contributed to 447,000 additional jobs at the national level. Inpatient psychiatric facilities also generated a total of \$7.9 billion in tax impact for the US, \$5 billion at the federal level, and \$2.9 billion in state and local taxes. Comparing the impact of inpatient psychiatric facilities on other essential medical industries, psychiatric facilities' direct expenditures are similar in magnitude to the veterinary medicine industry, each representing approximately one percent of US healthcare expenditures.

Availing access to mental health services is often influenced by social or internal stigma. A 2020 survey by the United Way revealed that 22.01% of Americans feel uncomfortable seeking mental health resources, while 22.93% feel neither comfortable nor uncomfortable. It also indicated the correlation between access to mental health care providers and increased comfort levels in accessing mental health care.

The review of the selected literature suggests that mental health issues have significant economic, social, and psychological impacts on communities across regions or states.

2.2. Methodology

Understanding the growing challenges in the mental health sector, this study focuses on the state of Tennessee to assess the occupational aspect of the mental health sector in the state in terms of employment, average wage, and academic attainment level in mental health occupations. The aim is to evaluate how Tennessee's mental health sector compares with the national standard and with the neighboring states of Alabama, Arkansas, Kentucky, Mississippi, Georgia, and North Carolina.

Data Sources

This study uses data from multiple nationally and regionally accredited sources to collect data on employment, average wage, and academic attainment level for the top mental health occupations, including the US Bureau of Labor Statistics, Census data, Tennessee Department of Labor, and Workforce Development. BERC has also used data from research publications and databases from nationally recognized not-for-profit mental health organizations such as Mental Health of America (MHA).

Using the latest available data from the Bureau of Labor Statistics databases ([bls.gov](https://www.bls.gov)), BERC researchers selected the top occupations in the mental health sector. The top occupations were further reviewed and verified using career websites and occupational outlook information available from other sources. Once the occupations were selected, the BERC team collected the latest data on total employment, median wage, and the level of academic attainment for each occupation for Tennessee and the neighboring states. The collected data was then cleaned and analyzed by the research team. Chapter 4 of this study discusses Tennessee's findings compared with the national level. Chapter 5 of the study presents the results from the neighboring states and a comparative analysis of the mental health sector in Tennessee with that of the neighboring states.

Chapter 3: Mental Health Occupations in Tennessee

The increasing demand for mental health services in the United States has impacted the occupational dynamics of mental health professions. This chapter presents an overview of the top mental health occupations and the future job outlook, as well as the level of the academic requirements for these occupations. It further presents an analysis of the level of employment concentration in the top mental health occupations in Tennessee, followed by an analysis of the compensation level for the same occupation.

3.1 Top Mental Health Occupations

Based on the data provided by the Bureau of Labor Statistics and sources such as O*NET Online, BERC researchers have identified the following top 20 occupations in the mental health sector in Tennessee (Table 1). The table shows that most top occupations (18 out of the top 20) indicate brighter job prospects in Tennessee. Occupations with a bright outlook suggest that these jobs are in high demand in the state's current and future job market. Occupations such as school psychologists or psychiatric aides currently do not show a bright outlook. School psychologists fall in the broader category of psychologists and are primarily employed in states such as New York and California. The occupational profiles of the psychiatric aides and psychiatric technicians are similar. Psychiatric aides are employed in high numbers in a few states and are replaced by psychiatric technicians in other states. Bureau of Labor Statistics includes occupations like mental health service managers within the broader medical and health services managers category. Similarly, advanced practice psychiatric nurses fall into the category of registered nurses, one of the top occupations in the mental health sector.

Table 3.1. Top Occupations in Mental Health Organizations and Outlook

SOC Codes	Occupation Title	Outlook
11- 9111	Medical and Health Services Managers	Bright
11-9151	Social and Community Service Managers	Bright
19-3034	School Psychologists	*
19-3033	Clinical and Counselling Psychologists	Bright
21-1012	Educational, Guidance, School, and Vocational Counselors	Bright
21-1013	Marriage and Family Therapists	Bright
21-1015	Rehabilitation Counselors	Bright
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	Bright
21-1021	Child, Family, and School Social Workers	Bright
21-1022	Healthcare Social Workers	Bright
21-1023	Mental Health and Substance Abuse Social Workers	Bright
21-1091	Health Education Specialists	Bright
21-1093	Social and Human Service Assistants	Bright
21-1094	Community Health Workers	Bright
25-1071	Health Specialties Teachers, Postsecondary	Bright
29-1122	Occupational Therapists	Bright
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	Bright
29-1223	Psychiatrists	Bright
29-2053	Psychiatric Technicians	Bright
31-1133	Psychiatric Aides	*
31-9099	Healthcare Support Workers	Bright

* Data not available

Sources: U.S. Bureau of Labor Statistics Occupational Outlook Handbook (<https://www.bls.gov/ooh/>);
O*Net Online (<https://www.onetonline.org>)

3.2. Educational Attainment Level for Top Mental Health Occupations

Given the complexity of mental health services and the economic burden of mental illnesses, mental health service providers often require skilled workers with a certain level of academic attainment. To understand the state of mental health occupations in Tennessee, BERCC researchers looked into the level of academic attainment for the top 20 mental health occupations. As shown in the table below (Table 2), most of the top 20 mental health occupations require higher educational attainment than an associate degree. And many require graduate-level work with post-graduate certification. For example, 77% of mental health and substance abuse social workers hold a master’s degree or above, 69% of child, family,

and school social workers have a bachelor’s degree, while 99% of clinical and counseling psychologists hold master’s degrees or above. This indicates that mental health professionals require significant investment in education.

Table 3.2. Educational Attainment Level for Top 20 Mental Health Occupations

SOC Codes	Occupation Title	Masters and Above (%)	Bachelors (%)	Associate Degree
11- 9111	Medical and Health Services Managers	21	46	11
11-9151	Social and Community Service Managers	24	50	8
19-3033	Clinical and Counseling Psychologists	99	NA	0
19-3034	School Psychologists	99	NA	NA
21-1012	Educational, Guidance, School, and Vocational Counselors	93	6	
21-1013	Marriage and Family Therapists	84	10	
21-1015	Rehabilitation Counselors	28	56	13
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	41 (64 *)	24	NA
21-1021	Child, Family, and School Social Workers	26	69	6
21-1022	Healthcare Social Workers	70	15	0
21-1023	Mental Health and Substance Abuse Social Workers	77	19	0
21-1091	Health Education Specialists	NA	31	62
21-1093	Social and Human Service Assistants	NA	39	18
21-1094	Community Health Workers	NA	NA	NA
25-1071	Health Specialties Teachers, Postsecondary	80	NA	NA
29-1122	Occupational Therapists	86	14	NA
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	66	NA	NA
29-1223	Psychiatrists	100	0	0
29-2053	Psychiatric Technicians	NA	NA	NA
31-1133	Psychiatric Aides	0	12	16
31-9099	Healthcare Support Workers, All Other	NA	NA	NA

* 64% - Mental Health Counselors holds Master’s Degree or equivalent

Sources: U.S. Bureau of Labor Statistics Occupational Outlook Handbook (<https://www.bls.gov/ooh/>);

O*Net Online (<https://www.onetonline.org>)

3.3 Top Mental Health Employment Concentration in Tennessee

To understand how Tennessee is doing in terms of employment in the mental health sector, BERCC looked at the number of employees in the top 20 mental health occupations in Tennessee and compared it with the United States. The following table presents the data on employment and the relative concentration of mental health occupations in Tennessee. The relative concentration of mental health

occupations is measured by calculating the location quotient (LQ) for the mental health occupations. It indicates the strength of the state’s employment in the mental health sector compared to the US.

Table 3.3-Relative Employment Concentration for Top 20 Mental Health Occupations (US vs. Tennessee)

SOC Codes	Occupation Title	National (U.S.)	Tennessee	Employment Concentration (L.Q.)
11- 9111	Medical and Health Services Managers	436,770	10,370	1.12
11-9151	Social and Community Service Managers	156,400	1,590	0.48
19-3033	Clinical and Counseling Psychologists	58,100	510	0.42
19-3034	School Psychologists	57,110	720	0.6
21-1012	Educational, Guidance, School, and Vocational Counselors	296,370	4,800	0.76
21-1013	Marriage and Family Therapists	54,800	1,340	1.16
21-1015	Rehabilitation Counselors	90,310	1,730	0.42
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	310,880	4,300	0.65
21-1021	Child, Family, and School Social Workers	296,370	5,780	0.8
21-1022	Healthcare Social Workers	173,860	7,440	2.02
21-1023	Mental Health and Substance Abuse Social Workers	113,810	740	0.31
21-1091	Health Education Specialists	55,830	1,130	0.95
21-1093	Social and Human Service Assistants	398,380	2,900	0.34
21-1094	Community Health Workers	61,010	610	0.47
25-1071	Health Specialties Teachers, Postsecondary	191,830	3,280	0.81
29-1122	Occupational Therapists	127,830	2,260	0.83
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	3,047,530	62,250	0.96
29-1223	Psychiatrists	25,520	440	0.81
29-2053	Psychiatric Technicians	93,410	1,220	0.62
31-1133	Psychiatric Aides	340,050	2,360	2.84
31-9099	Healthcare Support Workers	108,410	1,620	0.71
	2021 U.S Total Employment	140,886,310		
	2021 Tennessee Total Employment	2,986,840		

Sources: U.S. Bureau of Labor Statistics (<https://www.bls.gov>)

Table 3.3 shows occupations such as psychiatric aides, marriage and family therapists, and medical and health services managers have a higher concentration of jobs in Tennessee than at the national level (LQ>1). Interestingly, 17 of the top 20 occupations are relatively less concentrated in Tennessee (LQ <1), meaning there is a further employment growth opportunity for these occupations. For example, occupations such as substance abuse, behavioral disorder, and mental health counselors; and educational, guidance, school, and vocational counselors are two categories with a location quotient of

0.65 and 0.75, respectively. This indicates that employment in these occupations is below the national level, and these occupations hold a positive prospect for employment growth in the state.

3.4. Wage Level for Top 20 Mental Health Occupations in Tennessee

As shown earlier (Table 3.2), most top mental health professions require graduate-level education. However, a close look at the median wage of the top 20 mental health occupations reveals that the median pay for most occupations in Tennessee is far off the national standard. For example, 41% of substance abuse and behavioral disorders counselors and 64% of mental health counselors hold master's degrees. However, the median wage for those employees is significantly lower than the national median wage. It is similar for occupations like marriage and family therapists and mental health and substance abuse social workers. These occupations require graduate-level education. However, the median wages for these occupations are significantly lower than the national median wages. Given the outlook, educational attainment level, and challenges involved in many of these occupations, the low level of wages is likely to create a disincentive for job aspirants in Tennessee.

Similarly, the state median wages for occupations such as psychiatrists and school psychologists (with higher academic degrees - Ph.D. and master's) are significantly lower than the national median wages for these occupations. On the contrary, the state median wages for occupations such as clinical and counseling psychologists and occupational therapists are higher than their national median wages. This indicates a positive incentive for such job seekers. Both of these occupations with location quotients of less than one indicate that there is further scope for employment growth (Table 3.3).

Table 3.4 – Compensation Level for Top 20 Mental Health Occupations

SOC Codes	Occupation Title	Median Wage (Annual)		Difference (U.S.-TN)
		National (U.S.)	Tennessee	
11- 9111	Medical and Health Services Managers	\$101,340	\$97,930	\$3,410
11-9151	Social and Community Service Managers	\$74,000	\$64,600	\$9,400
19-3033	Clinical and Counseling Psychologists	\$82,510	\$98,030	-\$15,520
19-3034	School Psychologists	\$78,780	\$62,070	\$16,710
21-1012	Educational, Guidance, School, and Vocational Counselors	\$60,510	\$49,980	\$10,530
21-1013	Marriage and Family Therapists	\$49,880	\$38,520	\$11,360
21-1015	Rehabilitation Counselors	\$38,560	\$38,500	\$60
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	\$48,520	\$37,700	\$10,820
21-1021	Child, Family, and School Social Workers	\$49,150	\$46,310	\$2,840
21-1022	Healthcare Social Workers	\$60,840	\$49,350	\$11,490
21-1023	Mental Health and Substance Abuse Social Workers	\$49,130	\$38,830	\$10,300
21-1091	Health Education Specialists	\$60,600	\$55,200	\$5,400
21-1093	Social and Human Service Assistants	\$37,610	\$30,440	\$7,170
21-1094	Community Health Workers	\$46,590	\$47,040	-\$450
25-1071	Health Specialties Teachers, Postsecondary	\$102,720	\$79,540	\$23,180
29-1122	Occupational Therapists	\$85,570	\$92,320	-\$6,750
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	\$77,600	\$62,390	\$15,210
29-1223	Psychiatrists	\$208,000	\$170,720	\$37,280
29-2053	Psychiatric Technicians	\$36,570	\$29,650	\$6,920
31-1133	Psychiatric Aides	\$30,260	\$29,270	\$990
31-9099	Healthcare Support Workers, All Other	\$37,740	\$30,100	\$7,640
	Annual Median Wage in the U.S. (2021)	\$45,760		
	Annual Median Wage in Tennessee (2021)	\$37,700		

Sources: U.S. Bureau of Labor Statistics (<https://www.bls.gov>); BERC

Chapter 4: Comparing Mental Health Occupations in Tennessee and the Neighboring States

This chapter reviews the state of mental health occupations in the neighboring states of Tennessee (Alabama, Arkansas, Georgia, Kentucky, Mississippi, and North Carolina) to understand how Tennessee is faring among its neighboring states. BERC researchers looked at mental health employment for the top 20 occupations in the neighboring states and their relative employment concentration to have a comparative understanding. Further, BERC also looked into the number of employees per 1000 population and the annual median wage for each of the neighboring states' top 20 mental health occupations.

4.1. Employment Concentration for Top 20 Mental Health Occupations

As discussed in the previous chapter, the location quotient indicates the relative strength of employment for a state or county compared to the national level. The previous chapter discussed how Tennessee compares with the national level. The table below presents the location quotient for the top 20 occupations in Alabama, Arkansas, Georgia, Kentucky, Mississippi, and North Carolina and compares it with the data from Tennessee.

As evident from the table below, most of the top mental health occupational categories in Tennessee and the neighboring states have a location quotient below the national level (i.e., <1). For example, 15 occupational categories in Alabama and Georgia, 13 in Arkansas and North Carolina, 12 in Mississippi, and 11 in Kentucky show location quotients below the national standard. As discussed in Chapter 3, a total of 16 mental health occupations in Tennessee have a location quotient of less than 1, which suggest that Tennessee is doing a lot worse than the neighboring states. This indicates that the mental health sector in these states is relatively less concentrated in employment, and there is still scope for future growth in these occupational categories.

Done

SOC Codes	Occupation Title	Employment Concentration (Location Quotient)						
		Tennessee	Alabama	Arkansas	Georgia	Kentucky	Mississippi	North Carolina
11- 9111	Medical and Health Services Managers	1.12	1.31	1.50	0.75	1.30	1.17	0.88
11-9151	Social and Community Service Managers	0.48	0.94	1.07	0.66	0.73	0.65	0.59
19-3033	Clinical and Counselling Psychologists	0.42	0.47	0.86	0.46	0.62	0.73	1.06
19-3034	School Psychologists	0.60	0.33	0.51	0.47	0.65	0.44	0.61
21-1012	Educational, Guidance, School, and Vocational Counselors	0.76	0.94	0.82	1.17	1.08	0.91	0.82
21-1013	Marriage and Family Therapists	1.16	0.41	*	*	0.56	0.16	0.47
21-1015	Rehabilitation Counselors	0.77	0.58	0.37	0.33	0.67	1.02	0.85
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	0.65	0.65	0.80	0.56	0.97	0.67	0.85
21-1021	Child, Family, and School Social Workers	0.80	0.75	0.42	0.51	1.51	1.17	1.06
21-1022	Healthcare Social Workers	2.02	0.99	0.75	0.85	0.72	0.92	0.56
21-1023	Mental Health and Substance Abuse Social Workers	0.31	0.55	1.11	0.32	1.12	1.31	0.46
21-1091	Health Education Specialists	0.95	0.60	0.47	1.65	1.07	0.90	0.49
21-1093	Social and Human Service Assistants	0.34	0.53	0.80	0.52	1.12	0.59	0.46
21-1094	Community Health Workers	0.47	0.42	0.35	0.40	2.74	0.84	0.81
25-1071	Health Specialties Teachers, Postsecondary	0.81	1.30	0.48	0.98	0.34	1.17	1.85
29-1122	Occupational Therapists	0.83	0.72	1.04	0.83	1.07	1.19	0.86
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	0.96	1.19	1.02	0.83	1.09	1.22	1.10
29-1223	Psychiatrists	0.81	0.52	0.50	0.48	0.49	0.24	0.77
29-2053	Psychiatric Technicians	0.62	1.36	0.69	0.33	0.41	0.81	1.33
31-1133	Psychiatric Aides	2.84	2.73	1.64	*	0.27	8.56	*
31-9099	Healthcare Support Workers, All Other	0.71	0.35	0.49	1.63	0.82	0.37	1.22

*Data not available for select states

Sources: US Bureau of Labor Statistics (<https://www.bls.gov>)

The data on location quotient indicates that few occupation categories have a relatively higher employment concentration in Tennessee and its neighboring states than at the national level. Medical and health services managers have a higher share of employment in Tennessee, Alabama, Arkansas,

Kentucky, and Mississippi (i.e., $LQ > 1$). Registered nurses, as a broad occupational category in the healthcare sector, also show a higher concentration of employment in most of the states. On the other hand, occupations such as substance abuse, behavioral disorder and mental health counselors, and school psychologists, in Tennessee and the surrounding states have location quotients lower than the national level ($LQ < 1$).

At the national level, according to the Bureau of Labor Statistics, employment for substance abuse, behavioral disorder, and mental health counselors is projected to grow 22% from 2021-2031, while the growth rate for psychologists and psychiatrists will be six percent for the same period. Given the bright job outlook for these occupations and the low LQ it represents, it is likely that these occupations will hold future opportunities for job seekers in Tennessee and its neighboring states. According to the Bureau of Labor Statistics records, the largest occupation in the mental health sector is social and human service assistants, with 400,000 employees in 2021. Its projected growth is 12% during the 2021-2031 period. Tennessee has one of the lowest LQ for social and human service assistants among its neighboring states, indicating future employment opportunities. Tennessee has one of the higher employment concentrations in the region in occupations such as psychiatric aides and healthcare social workers compared to the national level.

4.2. Employment per 1000 Jobs in Top 20 Mental Health Occupations

This section presents the number of employees in the top 20 mental health occupations per 1000 in Tennessee and its neighboring states. Bureau of Labor Statistics uses this measurement to compare the employment strength for states, counties, or metropolitan areas for a particular occupation or industry sector. As shown in Table 4.2., Tennessee has employed a higher number of people per 1000 jobs in occupations such as healthcare social workers (TN: 2.49), psychiatrists (0.15), or marriage and family therapists (TN: 0.45) than the neighboring states. However, Tennessee has the lowest number of

employees per 1000 in occupations such as social and community service managers (TN: 0.53) or clinical or counseling psychologists (TN:0.17) compared to its neighboring states. The same is true for occupations such as educational, guidance, school, and vocational counselors, where the number of persons employed per 1000 jobs in Tennessee is 1.61.

Table 4.2. Employment per 1000 Jobs in Top Mental Health Occupations in Tennessee and the Neighboring States

SOC Codes	Occupation Title	No. of People Employed per 1000						
		Tennessee	Alabama	Arkansas	Georgia	Kentucky	Mississippi	North Carolina
11-9111	Medical and Health Services Managers	3.47	4.07	4.66	2.31	4.03	3.62	2.72
11-9151	Social and Community Service Managers	0.53	1.04	1.19	0.73	0.81	0.72	0.66
19-3033	Clinical and Counseling Psychologists	0.17	0.19	0.36	0.19	0.25	0.30	0.44
19-3034	School Psychologists	0.24	0.13	0.21	0.19	0.26	0.18	0.25
21-1012	Educational, Guidance, School, and Vocational Counselors	1.61	1.99	1.73	2.45	2.27	1.92	1.74
21-1013	Marriage and Family Therapists	0.45	0.16	*	*	0.22	0.06	0.18
21-1015	Rehabilitation Counselors	0.27	0.37	0.24	0.21	0.43	0.66	0.55
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	1.44	1.44	1.76	1.24	2.13	1.49	1.88
21-1021	Child, Family, and School Social Workers	1.94	1.82	1.02	1.24	3.64	2.82	2.56
21-1022	Healthcare Social Workers	2.49	1.22	0.92	1.04	0.89	1.14	0.69
21-1023	Mental Health and Substance Abuse Social Workers	0.25	0.44	0.90	0.26	0.90	1.06	0.37
21-1091	Health Education Specialists	0.38	0.24	0.19	0.65	0.42	0.36	0.20
21-1093	Social and Human Service Assistants	0.97	1.50	2.27	1.46	3.15	1.68	1.31
21-1094	Community Health Workers	0.21	0.18	0.15	0.17	1.19	0.36	0.35
25-1071	Health Specialties Teachers, Postsecondary	1.10	1.78	0.66	1.33	0.47	1.59	2.52
29-1122	Occupational Therapists	0.76	0.66	0.95	0.75	0.97	1.08	0.78
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	20.84	25.82	22.10	17.88	23.68	26.45	23.70
29-1223	Psychiatrists	0.15	0.10	0.09	0.09	0.09	0.04	0.14
29-2053	Psychiatric Technicians	0.41	0.90	0.46	0.22	0.27	0.54	0.89
31-1133	Psychiatric Aides	0.79	0.76	0.46	*	0.08	2.38	*
31-9099	Healthcare Support Workers, All Other	0.54	0.27	0.38	1.26	0.63	0.29	0.94

*Data not available for select states
Sources: US Bureau of Labor Statistics (<https://www.bls.gov>)

4.3. Comparative Median Wage Level for Top 20 Mental Health Occupations

In Chapter 3, median wages for the top 20 mental health occupations in Tennessee have been reviewed compared to the national-level data. This section reviews the median wages for the top occupations in Tennessee and the neighboring states with an aim to have a relative understanding of the compensation level of the top 20 occupations in each state. Using the Bureau of Labor Statistics' annual median wage for each occupation for Tennessee and the neighboring states, BEREC has prepared a relative median wage table for the occupations. As shown in Table 4.3., the median wage for each occupation in Tennessee is adjusted to 100, and the median wages for each occupation in the neighboring states are calculated relative to Tennessee (Table 4.3). The annual median wage data for all the occupations in the neighboring states are listed in Appendix A.

As shown in Table 4.3, Tennessee has higher median wages for occupations such as occupational therapists, and clinical and counseling psychologists, and social and community services managers than the neighboring states. The median wage for medical and health services managers in Tennessee is similar to Georgia and North Carolina while significantly higher than Alabama, Arkansas, and Mississippi.

The occupational category with the lowest median wage for Tennessee among its neighboring states is marriage and family therapists. As shown in Table 3.4. in Chapter 3, this is also significantly lower than the national level median wage. Similarly, the median wages for substance abuse, behavioral disorder and mental health counselors, and healthcare support workers in Tennessee are lower than most of the neighboring states, except Mississippi. The compensation level for mental health and substance abuse social workers in Tennessee is higher than in Alabama, Arkansas, and Kentucky. However, it is significantly lower than in North Carolina. Occupations such as Psychiatric aides, child, family, and school social workers in Tennessee have a relatively higher median wage than most neighboring states.

Table 4.3. Comparative Median Wage for Top 20 Mental Health Occupations in Tennessee and the Neighboring States

SOC Codes	Occupation Title	Comparative Median Wage (TN=100)						
		Tennessee	Alabama	Arkansas	Georgia	Kentucky	Mississippi	North Carolina
11- 9111	Medical and Health Services	100	81.3	79.8	100.4	97.2	80.3	101.7
11-9151	Social and Community Service Managers	100	94.6	75.7	90.7	93.1	73.1	95.9
19-3033	Clinical and Counseling Psychologists	100	63.8	63.8	63.7	78.7	65.7	83.3
19-3034	School Psychologists	100	98.0	100.0	127.1	100.0	94.9	101.1
21-1012	Educational, Guidance, School, and Vocational Counselors	100	118.6	99.8	120.5	120.1	99.2	99.2
21-1013	Marriage and Family Therapists	100	116.4	*	121.8	129.1	121.7	113.4
21-1015	Rehabilitation Counselors	100	107.2	96.6	136.0	100.0	86.6	102.1
21-1018	Substance Abuse and Behavioral Disorder and Mental Health	100	103.0	102.5	116.9	117.4	99.7	129.0
21-1021	Child, Family, and School Social Workers	100	91.3	80.3	85.8	87.0	71.1	105.7
21-1022	Healthcare Social Workers	100	99.4	121.5	102.0	119.0	101.7	123.4
21-1023	Mental Health and Substance Abuse Social Workers	100	94.3	96.4	100.5	99.2	100.8	127.7
21-1091	Health Education Specialists	100	91.9	85.0	156.3	110.3	67.2	89.2
21-1093	Social and Human Service Assistants	100	96.5	100.1	97.2	100.8	94.7	120.6
21-1094	Community Health Workers	100	100.0	99.6	84.4	106.8	81.4	100.0
25-1071	Health Specialties Teachers, Postsecondary	100	*	95.7	124.6	100.6	160.6	132.3
29-1122	Occupational Therapists	100	90.3	84.1	85.8	85.0	89.0	85.4
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	100	97.0	98.6	120.3	100.1	97.4	115.8
29-1223	Psychiatrists	100	58.9	114.9	77.4	*	78.7	*
29-2053	Psychiatric Technicians	100	97.8	99.0	123.6	100.0	97.1	119.9
31-1133	Psychiatric Aides	100	82.4	82.4	97.4	82.8	79.0	*
31-9099	Healthcare Support Workers, All Other	100	123.3	101.9	121.7	126.2	80.5	121.6

Sources: BERC; U.S. Bureau of Labor Statistics (<https://www.bls.gov>)

Chapter 5: MHA Ranking on the State of mental Health

The Mental Health of America (MHA), formerly the National Mental Health Association, is one of the leading community-based nonprofits focused on mental health and well-being in America. The Mental Health of America measures the state of mental health in the 50 states in America, including the District of Columbia, by using the latest available national survey data on various mental health metrics and preparing the yearly overall state ranking based on its findings. BEREC has reviewed MHA's annual mental health rankings in the states for the past four years. This chapter focuses on how Tennessee and its neighboring states are doing in MHA's ranking on three specific measures: Access to Care, Workforce Availability, and the Overall Ranking of states on the state on mental health. MHA's prevalence of mental health ranking is not included in this section because it is not directly related to occupational dynamics. It measures the prevalence of mental health and substance use issues among adults and youth within a state.

5.1. MHA Access to Care

The Mental Health of America (MHA) access to care ranking measures how much access to mental health care exists within a state. It includes access to insurance and treatment, quality and cost of insurance, access to special education, and mental health workforce availability. It is based on the following nine measures:

- i. Adults with AMI (Any Mental Illness) Who Did Not Receive Treatment
- ii. Adults With AMI Reporting Unmet Need
- iii. Adults With AMI Who Are Uninsured
- iv. Adults With Cognitive Disability Who Could Not See a Doctor Due to Costs
- v. Youth With MDE (Major Depressive Episode) Who Did Not Receive Mental Health Services
- vi. Youth With Severe MDE who Received Some Consistent Treatment

- vii. Children with Private Insurance that Did Not Cover Mental or Emotional Problems
- viii. Students Identified with Emotional Disturbance for an Individualized Education Program
- ix. Mental Health Workforce Availability

Table 5.1 shows the three best and worst-ranking states for 2019 and 2022 from MHA’s ranking of the states on “Access to Care.” It also includes the ranking for Tennessee and the neighboring states (Alabama, Arkansas, Georgia, Kentucky, Mississippi, and North Carolina).

As seen in Table 5.1, Tennessee’s ranking has remained the same (i.e. 45) in 2019 and 2022, meaning the state has not made any progress in providing better access to mental health care. The same is the case with North Carolina. On the other hand, Kentucky has shown significant progress indicating better access to mental health care.

Table 5.1. MHA Access to Care Ranking

Best States			
2019		2022	
1	Massachusetts	1	Vermont
2	Vermont	2	Massachusetts
3	Minnesota	3	Maine

Worst States			
2019		2022	
51	Mississippi	51	Texas
50	Texas	50	Alabama
49	South Carolina	49	Florida

Tennessee and the Neighboring States			
2019		2022	
26	Kentucky	16	Kentucky
38	North Carolina	38	North Carolina
41	Arkansas	40	Arkansas
44	Georgia	45	Tennessee
45	Tennessee	47	Mississippi
48	Alabama	48	Georgia
51	Mississippi	50	Alabama

Source: Mental Health America (<https://mhanational.org/>)

5.2. MHA Workforce Availability Ranking

Workforce Availability is one of the nine measures that constitute MHA’s Access to Care Ranking of the states. It is indicative of the presence of mental health providers in the state, whether in practice or not. Workforce availability still provides a general idea of the states with a higher or lower number of mental health professionals. A state between 1 and 13 has a relatively higher number of mental health professionals than a state between 38 and 51.

Table 5.2 shows the three best and worst-ranking states for 2019 and 2022 from MHA's Workforce Availability ranking. It also includes the ranking for Tennessee and the neighboring states (Alabama, Arkansas, Georgia, Kentucky, Mississippi, and North Carolina).

Table 5.2. MHA Workforce Availability Ranking

Best States			
2019		2022	
1	Massachusetts	1	Massachusetts
2	District of Columbia	2	Oregon
3	Maine	3	District of Columbia

Worst States			
2019		2022	
51	Alabama	51	Alabama
50	Texas	50	Texas
49	West Virginia	49	West Virginia

Tennessee and the Neighboring States			
2019		2022	
25	North Carolina	27	North Carolina
27	Arkansas	29	Arkansas
29	Kentucky	30	Kentucky
44	Tennessee	44	Mississippi
46	Mississippi	46	Tennessee
48	Georgia	47	Georgia
51	Alabama	51	Alabama

Source: Mental Health America (<https://mhanational.org/>)

As evident from the table above, in terms of mental health workforce availability, Tennessee is ranked among the worst ten states in 2019 and 2022, along with the neighboring states of Alabama, Georgia, and Mississippi. North Carolina, Arkansas, and Kentucky have better availability of mental health professionals than Tennessee.

5.3. MHA Overall Ranking

The two key components for this ranking are the prevalence of mental illness and higher care access rates. On a 1-51 scale, a ranking between 39-51 indicates that a state has a higher rate of mental illness and low access to care. A ranking between 1-13 indicates that a state has a lower prevalence of mental illness and higher access to care. The ranking is based on the following 15 measures:

- i. Adults with Any Mental Illness (AMI)
- ii. Adults with Substance Use Disorder in the Past Year
- iii. Adults with Serious Thoughts of Suicide
- iv. Youth with At Least One Major Depressive Episode (MDE) in the Past Year
- v. Youth with Substance Use Disorder in the Past Year
- vi. Youth with Severe MDE
- vii. Adults with AMI who Did Not Receive Treatment
- viii. Adults with AMI Reporting Unmet Need
- ix. Adults with AMI who are Uninsured
- x. Adults with Disability who Could Not See a Doctor Due to Costs
- xi. Youth with MDE who Did Not Receive Mental Health Services
- xii. Youth with Severe MDE who Received Some Consistent Treatment
- xiii. Children with Private Insurance that Did Not Cover Mental or Emotional Problems
- xiv. Students Identified with Emotional Disturbance for an Individualized Education Program
- xv. Mental Health Workforce Availability

Table 5.3 below shows the three best and worst-ranking states from MHA's overall ranking for 2019 and 2022. We also highlight the ranking for Tennessee and the neighboring states for the same years.

Table 5.3. MHA Overall State Ranking on the State of Mental Health

Best States			
2019		2022	
1	Minnesota	1	Massachusetts
2	Maine	2	New Jersey
3	Massachusetts	3	Pennsylvania

Worst States			
2019		2022	
51	Nevada	51	Nevada
50	Idaho	50	Idaho
49	Oregon	49	Arizona

Tennessee and the Neighboring states			
2019		2022	
21	Georgia	15	Kentucky
26	Kentucky	27	Georgia
28	North Carolina	31	North Carolina
36	Alabama	34	Tennessee
37	Arkansas	36	Mississippi
45	Tennessee	39	Arkansas
48	Mississippi	45	Alabama

Source: Mental Health America (<https://mhanational.org/>)

As seen in Table 5.3, Tennessee’s overall ranking has improved from 45 in 2019 to 34 in 2022. Among the neighboring states, the state of mental health in Tennessee, according to the MHA ranking, is relatively better than Mississippi, Arkansas, and Alabama. Kentucky has progressed from 26 in 2019 to 15 in 2022. On the contrary, Georgia and Alabama’s ranking has declined.

Chapter 6: Conclusion

This study presents an understanding of the occupational dynamics of top mental health occupations in Tennessee from the perspectives of future job prospects, academic attainment level, relative employment concentration, and wage level. It compares the findings with that of national standards. It further reviews the mental health occupation dynamics in the neighboring states of Tennessee (Alabama, Arkansas, Kentucky, Mississippi, Georgia, and North Carolina). It compares the data to understand better how Tennessee is faring among its neighbors. Our study identifies the top 20 mental health occupations based on the prospect of a bright outlook and looks at the required academic attainment level for the occupations. It also examines the level of employment concentration based on its location quotient and compensation level for the top occupations in Tennessee and the neighboring states.

Our study indicates that the mental health occupations in Tennessee are growing. Mental health occupations, on average, require a higher academic attainment level. Seventeen out of the top 20 occupations are less concentrated in Tennessee than at the national level. This hints that there is potential for future employment growth, especially in occupations that require higher academic attainment levels and skillsets. Data from the neighboring states also indicate that most of these occupations are not highly concentrated in these states. However, the median wages for most of the occupations in Tennessee are much lower than the national level and hence, will need revisions to create incentives for skilled workers. Compared to the neighboring states, mental health employment in Tennessee is only better than in a few states, such as Mississippi and Alabama. According to MHA's Overall Ranking of the states on the state of mental health, Tennessee is ranked 34th in 2022.

With more jobs in demand and a revised compensation level, the mental health sector in Tennessee can be a better-performing state in the future.

Reference

- American Psychiatric Association (n.d.). *What is mental illness?* Retrieved from <https://www.psychiatry.org/patients-families/what-is-mental-illness>
- America's Health Rankings Annual Report. (2022). America's Health Rankings Analysis of US HHS Centers for Medicare & Medicaid Services, National Plan and Provider Enumeration System, *United Health Foundation*, Retrieved from <https://www.americashealthrankings.org/learn/reports>
- Bureau of Labor Statistics, US Department of Labor. (2022). A look at the employment and wages of mental health workers for Mental Illness Awareness Week. *The Economics Daily* Retrieved from <https://www.bls.gov/opub/ted/2022/a-look-at-employment-and-wages-of-mental-health-workers-for-mental-illness-awareness-week.htm>
- Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., and Saxena, S. (2016). Scaling-up treatment of depression and anxiety: a global return on investment analysis. *Lancet Psychiatry*, 2016. 3(5): p. 415-24.
- Country Health Rankings. (2020). Wisconsin Population Health Institute. Retrieved from <https://www.countyhealthrankings.org/reports>
- Dobson, A., DaVanzo, J. E., Heath, S., Berger, G., & El-Gamil, A. (2010). *The economic impact of inpatient psychiatric facilities: A national and state-level analysis*. Retrieved from <https://www.nabh.org/wp-content/uploads/2018/06/NAPHS-Final-Report-2-19-10.2.pdf>
- Eisenberg, D. (2017). Economic analysis of mental health services and programs at the university of Michigan. Retrieved from http://healthymindsnetwork.org/system/resources/W1siZiIsIjIwMTcvMTAvMjkvMjBfNTZfMzFfNzcyX0hNU19FY29ub21pY0NhczVNZW1vX1VNaWNoXzlwMTZfMTcucGRml1d/HMS_EconomicCaseMemo_UMich_2016-17.pdf
- Martin, Knapp and Wong, Gloria. (2020). The economics of mental health. *World Psychiatry* 19(3–14)
- Mental Health America (2019). *The state of mental health in America 2019*. Alexandria, Virginia: Hellebuyck, M., Halpern, M., Nguyen, T., & Fritze, D.
- National Alliance on Mental Illness. (n. d.). *Tennessee State Fact Sheet 2021*. Retrieved from <https://www.nami.org/NAMI/media/NAMI-Media/StateFactSheets/TennesseeStateFactSheet.pdf>
- Nenn, Kerry. (2022). *We are facing a shortage of mental health professionals*. Retrieved from Recovery.Org <https://recovery.org/were-facing-a-shortage-of-mental-health-professionals/>

- Reinert, M, Fritze, D. & Nguyen, T. (2022). The State of Mental Health in America 2022. *Mental Health America*, Alexandria: VA
- Substance Abuse and Mental Health Services Administration. (2021). *Key substance use and mental health indicators in the United States: Results from the 2020 National Survey on Drug Use and Health (HHS Publication No. PEP21-07-01-003, NSDUH Series H-56)*. Rockville, MD: Center for Behavioral Health Statistics and Quality, Retrieved from <https://www.samhsa.gov/data/>
- Tham, W W., Elvira, Sojli, Richard Bryant and Michael AcAleer. (2021). Common Mental Disorders and Economic Uncertainty: Evidence from the COVID-19 Pandemic in the US *PLoS One* 16(12):e0260726 Retrieved from <https://doi.org/10.1371/journal.pone.0260726>
- United Health Foundation. (2022). *America's Health Rankings 2022 Reports*. Retrieved from <https://www.americashealthrankings.org/learn/reports/2022-annual-report>
- United Way of the National Capital Area. (2020). *Mental healthcare access by state*. Retrieved from <https://unitedwaynca.org/blog/mental-healthcare-access-by-state/>
- World Health Organization. (2019). *Making the investment case for mental health: a WHO/UNDP methodological guidance note*. Retrieved from <https://apps.who.int/iris/handle/10665/325116>. License: CC BY-NC-SA 3.0 IGO
- Wright, Evan. (2018). Out of sight and out of mind: how rural Tennessee treats the mentally ill. *Lincoln Memorial University Law Review*, 5(2), Fall

Appendix - A

Table: Annual Median Wages for top 20 Mental Health Occupations in Tennessee and the neighboring states

SOC Codes	Occupation Title	Annual Median Wage							
		Tennessee	Alabama	Arkansas	Georgia	Kentucky	Mississippi	North Carolina	National(U.S.)
11-9111	Medical and Health Services Managers	\$97,930	\$79,660	\$78,150	\$98,320	\$95,200	\$78,630	\$99,630	\$101,340
11-9151	Social and Community Service Managers	\$64,600	\$61,080	\$48,930	\$58,560	\$60,130	\$47,200	\$61,950	\$74,000
19-3033	Clinical and Counseling Psychologists	\$98,030	\$62,520	\$62,540	\$62,460	\$77,190	\$64,430	\$81,700	\$82,510
19-3034	School Psychologists	\$62,070	\$60,840	\$62,070	\$78,870	\$62,070	\$58,910	\$62,760	\$78,780
21-1012	Educational, Guidance, School, and Vocational Counselors	\$49,980	\$59,260	\$49,890	\$60,250	\$60,040	\$49,590	\$49,560	\$60,510
21-1013	Marriage and Family Therapists	\$38,520	\$44,820	*	\$46,910	\$49,720	\$46,860	\$43,670	\$49,880
21-1015	Rehabilitation Counselors	\$38,500	\$41,270	\$37,200	\$52,370	\$38,500	\$33,350	\$39,320	\$38,560
21-1018	Substance Abuse and Behavioral Disorder and Mental Health Counselors	\$37,700	\$38,830	\$38,660	\$44,080	\$44,250	\$37,580	\$48,640	\$48,520
21-1021	Child, Family, and School Social Workers	\$46,310	\$42,280	\$37,200	\$39,730	\$40,310	\$32,930	\$48,970	\$49,150
21-1022	Healthcare Social Workers	\$49,350	\$49,040	\$59,960	\$50,350	\$58,750	\$50,200	\$60,920	\$60,840
21-1023	Mental Health and Substance Abuse Social Workers	\$38,830	\$36,600	\$37,430	\$39,010	\$38,530	\$39,140	\$49,590	\$49,130
21-1091	Health Education Specialists	\$55,200	\$50,720	\$46,940	\$86,280	\$60,900	\$37,080	\$49,240	\$60,600
21-1093	Social and Human Service Assistants	\$30,440	\$29,370	\$30,460	\$29,580	\$30,690	\$28,830	\$36,700	\$37,610
21-1094	Community Health Workers	\$47,040	\$47,040	\$46,860	\$39,710	\$50,220	\$38,310	\$47,020	\$46,590
25-1071	Health Specialties Teachers, Postsecondary	\$79,540	*	\$76,120	\$99,110	\$80,020	\$127,720	\$105,250	\$102,720
29-1122	Occupational Therapists	\$92,320	\$83,370	\$77,630	\$79,240	\$78,510	\$82,200	\$78,870	\$85,570
29-1141	Registered Nurses (Advanced Practice Psychiatric Nurses)	\$62,390	\$60,510	\$61,530	\$75,040	\$62,480	\$60,790	\$72,220	\$77,600
29-1223	Psychiatrists	\$170,720	\$100,580	\$196,080	\$132,060	*	\$134,370	*	\$208,000
29-2053	Psychiatric Technicians	\$29,650	\$29,000	\$29,340	\$36,640	\$29,650	\$28,780	\$35,560	\$36,570
31-1133	Psychiatric Aides	\$29,270	\$24,120	\$24,120	\$28,520	\$24,240	\$23,120	*	\$30,260
31-9099	Healthcare Support Workers, All Other	\$30,100	\$37,120	\$30,680	\$36,640	\$37,990	\$24,240	\$36,590	\$37,740
	2021 Median Wage Total (All Occupation)	\$37,700	\$37,250	\$36,680	\$38,340	\$37,660	\$35,070	\$38,370	\$45,760

Sources: U.S. Bureau of Labor Statistics (<https://www.bls.gov>)



JONES COLLEGE OF BUSINESS

Business and Economic Research Center

Director Murat Arik

Associate Director Steven G. Livingston

Research Associate Rubi Devi

Administrative Assistant Andrea Lawrence

Phone (615) 898-2610

Email berc@mtsu.edu

Website www.mtsu.edu/berc