

Grenada, Mississippi Medical Industry Analysis



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OCTOBER 2019



Executive Summary

Healthcare services and providers in Grenada County, Mississippi, have potential to grow their workforce, education and healthcare industry sector according to current and projected staffing patterns, education pipelines, geographic advantage, and changing population demographics.

Findings suggest that Holmes Community College, in Grenada County, as well as neighboring institutions with nursing and other medical training programs, could justify increasing their matriculation numbers based on population demographic changes. Holmes offers an Associate Practicing Nurse (APN) degree and serves as the primary pipeline for higher education in the region. University of Mississippi Medical Center-Grenada (UMMC-Grenada) is the primary creator of employer demand in the region and offers more than 20 kinds of specialized care.

Grenada County's strategic location on Interstate-55 is located far enough away from other metro regions to be able to justify its potential for growth of medical professions. Currently, commuters seeking healthcare services drive more than an hour for specialized health care.

Demand for healthcare services in the region was evaluated to determine where Grenada County residents drive to receive specialized healthcare. The study found that the metropolitan areas within two hours north and south of Grenada provide a greater selection of healthcare providers and a wider variety of jobs within the industry sector of Health Care and Social Assistance.

However, the distance required to commute to the services is significantly greater than the average daily commute of 18.1 minutes.

In terms of supply, these metropolitan areas have more pipelines for employment in the medical field, which suggests those graduating with advanced degrees have a greater chance of seeking and obtaining employment. The Grenada County medical field has ample opportunity to expand and has a positive five-year outlook for the Health Care and Social Assistance industry.

The Grenada County population in 2018 was 21,055. The demographic composition highlights fifty-two percent of the population being between the ages of 18 to 64, seventeen percent of persons being over the age of 65 and six percent for persons under five years old. Statistical inference based on the census bureau data highlights population sustainability for any expansive purposes towards the Grenada Health Care and Social Assistance industry. An aging population indicates less sustainable population numbers.

Introduction

This study analyzes the current and projected supply and demand of the health care and medical industry and occupations in Grenada County, Mississippi. The Grenada, Mississippi Economic Development District highlights the University of Mississippi Medical Center Grenada as the hub for healthcare in the region, offering 156 beds and serving residents of North Central Mississippi (2019). To determine the state of the medical field in Grenada, the issue of supply and demand in the medical field had to be addressed. This study began with the evaluation of demand created by employers over the previous five years (2014-2019) and analyzed the projected growth of the Health Care and Social Assistance industry for the next five years (2019-2024). Starting with a 2-digit NAICS code (62) for Health Care and Social Assistance, the job growth and availability was compared to the nation, Mississippi and neighboring states of Arkansas, Louisiana, Alabama, and Tennessee.

Addressing the question, “Is there room for the healthcare industry in Grenada to grow?”, location quotient (LQ) data assists in evaluating the concentration of jobs in the industry in a micropolitan community compared to a metropolitan community. Based on staffing patterns, occupational demand, and healthcare needs for Grenada County and adjacent counties, the LQ comparison of regions helps create a basis for analysis in terms of job demand. The LQ broken

down into occupation codes provides demand patterns for certain occupations as well as indications of the supply of employees, i.e. how supply in a certain area might affect demand. Projected job growth coupled with a lower LQ in the healthcare industry suggests an opportunity for the state and Grenada County to grow.

Methodology

This study used a series of steps to identify the state of the healthcare industry for Grenada County as compared to Mississippi and the nation. First was to evaluate if jobs in the healthcare industry have grown and are anticipated to grow (EMSI, Industry Trend). Second, occupation codes within the industry were identified to determine if there is an adequate supply of nurses, physicians and surgeons (EMSI, Occupation Employment). These three occupations represent the foundation of other supporting jobs for the medical field. Third, training providers in the Grenada region were compared to other providers in Mississippi, Arkansas, Louisiana, Alabama and Tennessee to determine if completion rates are similar (EMSI, IDEPS 2018).

Overview of Health Care Industry

For a broad analysis of the healthcare industry in Mississippi and surrounding states, the NAICS code for Health Care and Social Assistance (62) was used to gather data. The NAICS 62 category encompasses all occupations in both medical and social assistance (NAICS Association, 2019). The Health Care and Social Assistance industry sector is comprised of institutions providing:

- healthcare,
- social assistance,
- hospital and ambulatory services,
- inpatient and outpatient care, and
- nursing and residential care facilities.

Due to the polymorphic nature of the industry, distinctions on what is comprised solely of healthcare and social assistance respectively is difficult to gauge without knowledge or use of the other. Within the definition, hospital and ambulatory services reflects an industry umbrella of occupations through which an associate degree, certificate or community college training program is required. These occupations include Licensed Nurse Practitioners (LPN), Emergency Medical Technicians (EMT), and other secondary¹ healthcare jobs.

When considering Grenada County specifically, there is an understanding that Holmes Community College is producing medical professionals who fall in the category of the definition. Completions from community colleges that are indicated in this study are different to completions in medical fields from four-year colleges and universities. This understanding is imperative in order to evaluate the workforce that is produced through educational systems in Grenada County.

From 2014 to 2019, the Health Care and Social Assistance industry grew at a national rate of 10 percent. Mississippi, Arkansas, Louisiana, Alabama, and Tennessee also experienced growth, but at a slower rate, ranging from 8 to 10 percent. All states saw an increase in jobs and demand, similar to the national trend which suggests projected growth trends in the Health Care and Social Assistance industry sector. Mississippi's growth is closely aligned with the national trend, growing 8 percent (128,623 in 2014 to 138,484 in 2019). In 2014, there were 18.9 million jobs in the Health Care and Social Assistance industry in the United States which grew to 20.8 million in 2019, a 10 percent increase. However, average earnings in Mississippi, Arkansas, Louisiana,

¹ While primary healthcare workers are considered Registered Nurses (RN), physicians, surgeons, and specialized medical professionals with advanced degrees, "secondary" healthcare workers are those that obtain associate degrees, specialized certificates, or other medical training and do not provide primary healthcare to the individual.

and Alabama are below the national average of \$60,809, while Tennessee’s average earnings are above the average at \$63,713 (see Table 1).

Comparing program completion rates and admission standards with Health Care and Social Assistance LQ in Grenada County and neighboring regions suggests that Associate Nursing Program completion rates in the Grenada area are proportional to the demand of APNs in the area. Population demographics suggest an increased demand in professional nursing program graduates and medical specialists.

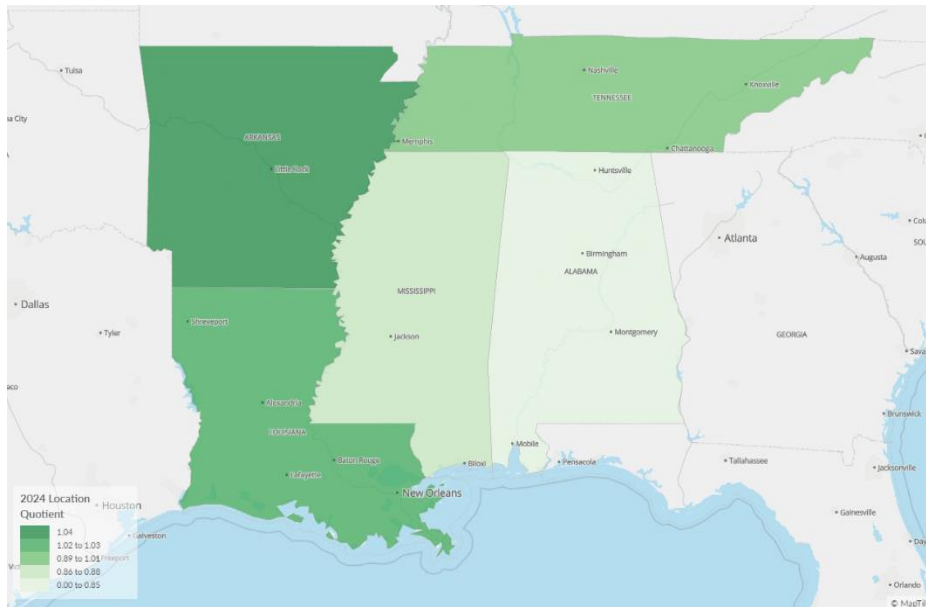
Table 1.

Industry Change: United States, Mississippi, Arkansas, Louisiana, Alabama, and Tennessee

Region	2014 Jobs	2019 Jobs	Change	% Change	2019 Average Earnings
United States	18,942,879	20,860,311	1,917,432	10%	\$60,809
Mississippi	128,623	138,484	9,861	8%	\$51,132
Arkansas	165,146	181,523	16,377	10%	\$51,354
Louisiana	265,020	280,235	15,215	6%	\$53,524
Alabama	206,565	222,498	15,933	8%	\$57,128
Tennessee	362,469	389,319	26,850	7%	\$63,713

Source: EMSI

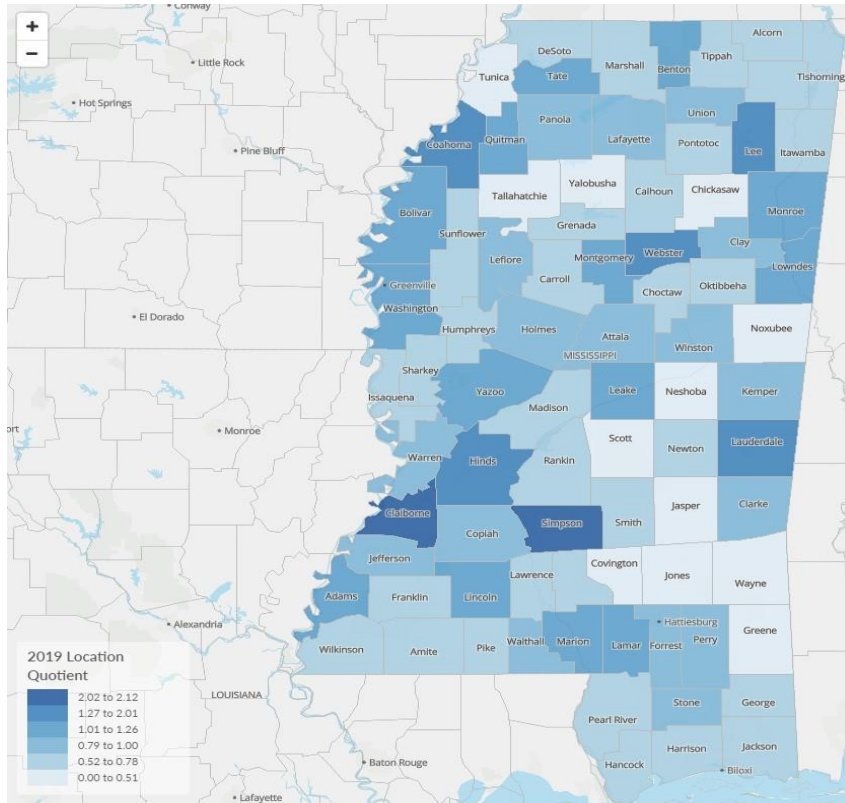
Mississippi’s concentration of health care workers is less than the nation, as measured by a location quotient of 0.85 (see Map 1). This suggests potential for industry growth and availability of jobs in the state, as opposed to a larger LQ which may suggest saturation. Most neighboring states, other than Alabama, have a greater LQ than Mississippi thus less potential for growth in the health care industry. Mississippi’s future job growth is on par with surrounding states, anticipated to increase at a rate of 9 percent by 2024. Comparatively, the national average is slowing from 13 to 10 percent growth rate. Projected job growth coupled with a lower LQ in the healthcare industry suggests an opportunity for the state to grow.



Map 1:
2024 LQ for
Mississippi and
Surrounding States

Source: EMSI

Grenada County is most dependent on jobs in manufacturing (NAICS 31) with an LQ of 2.85 as compared to healthcare and social assistance (NAICS 62) of 0.57, which ranks as the 12th largest



job sector. Comparatively, the Jackson MSA has a LQ of 1.07 in which healthcare ranks 7th largest job sector. Memphis MSA healthcare ranks 8th in the job sector and has an LQ of 0.98.

Map 2: 2019 for Mississippi
counties and LQ Healthcare and
Social Assistance Industry

Demand for Healthcare—Population Demographics

Demand for healthcare services was evaluated based on the size of the region's population, age and overall state of health of individuals. Total population for 2019 of Grenada County and the surrounding 14-county region is 288,906. Although Grenada County's population is anticipated to decline by 2.2 percent by 2024, the region's population living within an hour drive time is anticipated to decline by only 1 percent. Changing population demographics will be functional in the determination of demand for healthcare in the region.

An aging and declining population in the Grenada County region suggests a lack of sustainable health care need and workforce demand. Grenada's aging population (65 years and older) will increase steadily through 2024 (see Table 2). An aging population typically has greater need for health care assistance, suggesting a potential need for medical services in Grenada. However, without increasing population numbers in all age groups, demand for healthcare will decrease. While a declining and aging population would dissuade expansion of medical practices in Grenada County, a lesser decline of 1 percent in the region as a whole may justify the expansion of the medical industry in Grenada.

Table 2.

Projected Population Demographics for Grenada 2019-2024

Age	2019 Population	2024 Projected Population	Change	% Change
Under 5 years	1,303	1,210	-93	-7%
5 to 14 years	2,792	2,626	-166	-12%
15 to 44 years	7,457	7,283	-174	-12%
45 to 64 years	5,482	5,169	-313	-23%
65 years and over	3,815	4,090	275	36%
Total	20,849	20,378	-471	-18%

Source: EMSI

Health trends in the Grenada region also suggest an increased need for medical industry expansion. Leading causes of death in Mississippi highlight expedient need for far reaching healthcare intervention, increased personnel, and infrastructure. Demographically, the Grenada region population's health emulates that of Mississippi. As of 2017, according to the Center for Disease Control (CDC), Mississippi ranks first in heart disease, second in stroke, cancer and diabetic related issues. Mississippi's high obesity prevalence rate ties into leading causes for these health issues prompting potential for healthcare growth in the Grenada. The CDC's health statistics highlight a critical need in specified healthcare areas, offers potential for increased infrastructure, and personnel and assistance in the sector. Grenada could expansively look to offer specialized healthcare for heart disease, cancer, chronic respiratory disease, accidents, stroke, Alzheimer's disease, diabetes, flu/pneumonia, kidney disease, and septicemia through attraction of specialists who service regionally. Availing such specialist services, increases Grenada County's probability of turning into a healthcare epicenter regionally offering services comparatively to other healthcare hubs.

Studies have shown correlation between diabetic prevalence to cardiovascular disease and stroke induced mortality. According to the National Institute of Diabetes and Digestive and Kidney Diseases NIH, adults with diabetes are nearly twice as likely to die from heart disease and stroke compared to non-diabetics. Obesity in turn increases diabetic risk, rounding up leading causes of death within Mississippi, reiterating urgency in addressing issues. Grenada's diabetic percentage count has steadily increased since 2009-2016 (see Table 3).

Table 3.

Total Diagnosed Diabetics in Mississippi and Grenada, 2009-2016

Year	Mississippi Total (%)	Grenada Total (%)
2009	10.8	12.3
2010	11.7	12.7
2011	11.6	13.2
2012	11.7	13.1
2013	12	12.8
2014	11.9	13.1
2015	13.6	13
2016	12.4	14

Source: CDC US Diabetes Surveillance System

Employer Demand

Grenada County will face significant competition for medical professions due to higher employer demand in healthcare hubs within an hour drive time. Through the Shift-Share Analysis² of the Jackson MSA, Memphis MSA, and Grenada region, the competitive demand for those in the Health Care and Social Assistance industry was evaluated. While Grenada County has a competitive effect³ score of eight (8) for registered nurses, Jackson MSA has a score of -1,010 (EMSI) for registered nurses. This suggests higher employer demand in the Jackson MSA which could lead to higher wages and more competitive employment packages compared to those offered in the Grenada region. However, a shortage of nurses in Jackson MSA could lead to workforce migration to the region, rendering medical field expansion efforts in Grenada County unsuccessful. Memphis MSA has a competitive effect score of 224, meaning employer demand

² Determines what portions of a region's economic growth or decline is attributed to national, economic industry, and regional factors.

³ A component of shift-share analysis, the competitive effect measures regional growth compared to national growth. National growth is subtracted from regional growth to determine the competitive effect score. A higher score indicates a highly concentrated, growing industry within the region.

is being met significantly in that region. Therefore, the Grenada region would be facing employer demand competition from only one of two proximate healthcare hubs.

Demographics of Nursing Occupations

The type of degree earned by students as well as the institution type is imperative. For example, if a county has a need for registered nurses and nurse practitioners but does not have an institution in the county that offers the higher levels of education, the workforce would come from outside the county.

Evaluating Mississippi's competitiveness in the Health Care and Social Assistance industry involves examining education demographics and availability of necessary degrees within the region. Further, Mississippi's occupations are strong in relation to the median hourly earnings of medical occupations and are comparable to neighboring states (see Table 4). For occupations that require a postsecondary award from a 2-year community college, Mississippi's wages tend to fall below the averages of surrounding states. This may suggest that those in these occupations would look to surrounding states for higher wages. For surgeons, Mississippi has the highest median hourly earnings. These wages suggest competitiveness in certain occupations which require advanced degrees and disadvantages in occupations produced from local community colleges.

Table 4.

Mississippi, Alabama, Louisiana, Tennessee, and Arkansas Degree Earnings, 2018

SOC	Description	Typical Entry Level Education	2018 Median Hourly Earnings				
			Mississippi	Alabama	Louisiana	Tennessee	Arkansas
29-1067	Surgeons	Doctoral or professional degree	\$133.72	\$130.02	\$124.34	\$127.09	\$122.18
29-1069	Physicians and Surgeons, All Other	Doctoral or professional degree	\$70.90	\$78.90	\$79.89	\$108.75	\$61.44
29-1141	Registered Nurses	Bachelor's degree	\$27.62	\$27.84	\$29.98	\$28.92	\$28.67
29-1151	Nurse Anesthetists	Master's degree	\$80.14	\$77.22	\$75.06	\$72.57	\$77.86
29-1161	Nurse Midwives	Master's degree	\$45.80	\$52.23	\$58.00	\$41.87	\$46.84
29-1171	Nurse Practitioners	Master's degree	\$49.29	\$45.66	\$47.83	\$46.40	\$47.91
29-2041	Emergency Medical Technicians and Paramedics	Postsecondary nondegree award	\$15.41	\$14.30	\$16.47	\$16.39	\$14.09
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary nondegree award	\$17.95	\$18.25	\$18.65	\$19.01	\$18.80
29-9099	Healthcare Practitioners and Technical Workers, All Other	Postsecondary nondegree award	\$14.83	\$17.58	\$23.45	\$25.07	\$20.47
31-1014	Nursing Assistants	Postsecondary nondegree award	\$10.82	\$11.20	\$10.61	\$12.36	\$11.83

Source: EMSI

Occupational Demand

An evaluation of the LQ and competitive effect of medical occupations in the Grenada region demonstrates a high employer demand, as the concentration of those in medical professions is significantly lower than that of the nation. In 2019, the Grenada region is competitive in the nursing profession, suggesting high employer demand. LQs of all evaluated medical professions, except for RNs, are expecting to decrease, suggesting a loss of jobs in the industry (see Table 5).

Table 5.

Competitive Effect and Location Quotient for Grenada County, 2019 to 2024

SOC	Description	Competitive Effect	2019 Location Quotient	2024 Projected Location Quotient
29-1067	Surgeons	(0)	0.49	0.33
29-1069	Physicians and Surgeons, All Other	0	0.15	0.17
29-1141	Registered Nurses	8	0.71	0.76
29-1151	Nurse Anesthetists	(0)	0.38	0.33
29-1161	Nurse Midwives	(0)	0.18	0.12
29-1171	Nurse Practitioners	(2)	0.94	0.86
29-2041	Emergency Medical Technicians and Paramedics	1	0.13	0.17
29-2061	Licensed Practical and Licensed Vocational Nurses	(3)	1.69	1.67
29-9099	Healthcare Practitioners and Technical Workers, All Other	(0)	0.20	0.17
31-1014	Nursing Assistants	1	1.20	1.23

Source: EMSI

Location quotients for nursing occupations suggest further employment competition in the Health Care and Social Assistance industry between Grenada County, Jackson MSA, and Memphis MSA. Higher nursing employment numbers in the Jackson MSA and Memphis MSA suggests a higher employer demand, which directly correlates to nurse retention and attraction in Grenada County.

When evaluating the Grenada County region, its demand for the healthcare profession, and its education pipelines it is necessary to evaluate the demand for advanced medical professions. Evaluating the demand in counties within a 1-hour drive time radius indicated direct competition for workforce, while evaluating the major metropolitan medical hubs, Jackson MSA and Memphis MSA, determined consumer demand for physicians and surgeons in the region. The occupational demand for physicians and surgeons in Grenada County compared to its neighbors indicates Grenada's ability to provide advanced medical care (see Table 6). Employer demand in the Jackson MSA is stronger than in the other regions examined, indicating that Grenada County is competing for Health Care and Social Assistance workforce with the Jackson MSA.

Table 6.

Health Care and Social Assistance Location Quotient and Shift Share

Region	2019 Location Quotient	Ind. Mix Effect	Nat'l Growth Effect	Expected Change	Competitive Effect
Grenada County	0.59	29	62	91	131
Jackson MSA	1.07	1,188	2,584	3,772	1,049
Memphis MSA	0.98	2,555	5,556	8,111	923

Source: EMSI

Workforce Supply

Workforce supply in the Health Care and Social Assistance industry was measured through an evaluation of staffing patterns, a measure of the employment base, and an assessment of training programs and education pipelines for medical professions. Staffing patterns serve as indicators of the adequate supply of medical professionals filling employer demand in the region. Supply for the medical industry will be evaluated through comparison of occupational LQs and competitive advantages of the Grenada County region to the Jackson MSA and Memphis MSA.

Physicians and Surgeons Occupational Supply

A comparison of the supply of physicians and surgeons in metropolitan healthcare hubs to the Grenada County region demonstrates a proportional supply of physicians and surgeons considering location, demand and nearby training available. While there were a few physicians and surgeons employed in Grenada County in 2019, Jackson MSA and Memphis MSA physician and surgeon employment numbers were greater than 1,000 (EMSI). An LQ analysis of physician and surgeon occupations suggests room for attraction of these occupations to the Grenada region, as its LQ is significantly lower than those metropolitan healthcare hubs. Therefore, the Grenada County region may focus its efforts on increasing supply of physicians and surgeons servicing the area.

The size of the employment base for the Grenada County region is projected to be stagnant for occupations, with the exception of registered nurses, licensed practical nurses, and licensed vocational nurses through 2026 (see Table 7). Grenada County shows a steady decline of employed staff and absence of certain occupations within the health care and medical industry, by standard occupational codes (SOC) through the year 2024. There may be underlying trends within staffing patterns alluding to the decline in occupational areas. However, this offers Grenada the opportunity for occupational growth.

Table 7.

North-Central MS Occupational Employment Projections: 2016-2026

SOC	Occupation	Projected Employment Growth 2016-2026				Total Projected Avg. Annual Job Openings
		2016 Employment	2026 Projected Employment	Number	Percent	
29-1062	Family and General Practitioners	40	40	0	0.0%	5
29-1063	Internists, General	10	10	0	0.0%	5
29-1065	Pediatricians, General	10	10	0	0.0%	5
29-1069	Physicians and Surgeons, All Other	30	30	0	0.0%	5
29-1141	Registered Nurses	970	1,100	130	13.4%	65
29-1171	Nurse Practitioners	40	40	0	0.0%	5
29-2061	Licensed Practical and Vocational Nurses	420	430	10	2.4%	35

Source: MDES

Competing medical hubs, however, show an increase in nursing professionals by 2024. Thus, competitive factors, such as education pipelines, quality of life concerns, and employer demand between Grenada County and metropolitan hubs for the Health Care and Social Assistance industry critically need evaluation.

Evaluation of employment numbers was used to determine the availability of workforce to fill employer demand. Jackson MSA staffing patterns (see Table 8) were summarized to gain an understanding of staffing and consumer attraction, retention and affinities to the numbers in Grenada. It can be inferred that Grenada County's health care and medical industry staffing patterns are responsive to consumer and workforce tendencies to seek employment and medical care in the Jackson MSA due to having a larger and more diverse health care and medical industry.

Table 8.

Jackson MSA Staffing Patterns 2014-2024

SOC	Description	2014 Employed in Industry	2018 Employed in Industry	2024 Projected Employed in Industry
29-1141	Registered Nurses	5,315	5,528	5,755
29-2061	Licensed Practical/Licensed Vocational Nurses	1,535	1,581	1,706
29-1171	Nurse Practitioners	450	665	773
29-1069	Physicians and Surgeons, All Other	522	633	659
29-1062	Family and General Practitioners	321	287	299
29-1063	Internists, General	88	59	61
29-1067	Surgeons	51	39	40
29-1151	Nurse Anesthetists	33	37	42
29-1065	Pediatricians, General	39	34	35
29-1066	Psychiatrists	16	14	17
29-1022	Oral and Maxillofacial Surgeons	<10	<10	<10
29-1061	Anesthesiologists	11	<10	10
29-1064	Obstetricians and Gynecologists	11	<10	<10
29-1081	Podiatrists	<10	<10	<10
29-1161	Nurse Midwives	<10	<10	<10

Source: EMSI

Memphis MSA staffing patterns (see Table 9) were gathered for analysis of staffing and consumer attraction, retention affinities within Grenada County's health care and medical industry. Alluding to Grenada's health care and medical industry consumers and workforce gravitating towards the Memphis MSA for employment and medical care. This can be attributed to a larger and more diverse health care and medical industry based on occupational staffing patterns compared to Grenada.

Table 9.

Memphis MSA Staffing Patterns 2014-2024

SOC	Description	2014 Employed in Industry	2018 Employed in Industry	2024 Projected Employment in Industry
29-1141	Registered Nurses	9,993	11,708	13,229
29-2061	Licensed Practical/Licensed Vocational Nurses	3,053	3,324	3,616
29-1069	Physicians and Surgeons, All Other	1,017	1,299	1,438
29-1171	Nurse Practitioners	787	1,203	1,440
29-1065	Pediatricians, General	533	521	547
29-1151	Nurse Anesthetists	340	435	464
29-1061	Anesthesiologists	230	251	268
29-1063	Internists, General	233	171	185
29-1062	Family and General Practitioners	200	157	190
29-1066	Psychiatrists	66	64	74
29-1064	Obstetricians and Gynecologists	44	34	39
29-1067	Surgeons	38	22	28
29-1161	Nurse Midwives	16	20	22
29-1081	Podiatrists	23	18	17
29-1022	Oral and Maxillofacial Surgeons	14	11	11

Source: EMSI

Supply of Labor Force

The current availability of workers employed in healthcare and the pipeline of new workers entering the workforce demonstrates the labor force supply in the Grenada region. Evaluation of future labor force, occupation projections, and training programs indicates that the training programs for medical jobs is proportional to the prospective labor force in Grenada County. By comparing number of completions, institution type, and location of the institution, the education pipeline and workforce supply for the Health Care and Social Assistance industry in the region was evaluated.

Statistical data and analysis into Grenada included nursing program completion rates within Mississippi and a five-state region. Nursing programs in Mississippi, Louisiana, Alabama, Arkansas, and Tennessee were compared by completion numbers for insight into average graduating class size and the amount of new nurses entering the workforce in an area. Types of nursing certifications are differentiated in the study in relation to institution type. Demand-side data was gathered from the Mississippi Board of Nursing on Licensed Practicing Nurse (LPN), Registered Nurse (RN), Nurse Practitioner (NP), Certified Radiologic Nurse (CRN), and Certified Registered Nurse Anesthetist (CRNA) by county. The data allowed for evaluation of employer demand in Grenada County and 14 counties within an hour driver-time radius. Jackson MSA and Memphis MSA employer demand was sourced nursing employment data from EMSI. Comparisons were made of consumer and employer demand with those areas through collection and examination of data. Collected data provided a framework for analysis into the feasibility of projected increases in demand and impact on increased migration of nurses to those areas, highlighting supply concerns.

Nursing Completion Rates in Mississippi and Neighboring States

Completion rates for community college and university nursing programs in Mississippi and surrounding states revealed that the education pipelines for medical professions in the Grenada region are comparable to those in areas with similar demographics. In order to gauge where the nursing population in Mississippi, Tennessee, Alabama, Louisiana, and Arkansas are being produced, completion rates for nursing programs throughout these states (see Appendix A through D for Tennessee, Alabama, Louisiana and Arkansas) were gathered. This data may be viewed in comparison to population changes in various counties within the state, as well as population trends throughout the five state region.

LPN, RN, NP, CRN, and CRNA programs and completions in the state of Mississippi in 2017 revealed a correlation between region and workforce availability. In comparison to location quotients of the Health Care and Social Assistance industry of the counties where they are located, a need for increased nursing program enrollment could be suggested. When evaluated in conjunction with population trends and additional factors in each county, however, location quotients and lower completion numbers are average and adequate.

One additional factor is institutional type—whether the program is offered through a university or community college. If the community’s concern is the migration of potential nursing students to different programs, if not accepted to a local community college program, admission standards may be evaluated, leading to conclusions about possible relocation of potential workforce.

Average standards for admittance into the Holmes Community College nursing program are consistent with other community college standards throughout the state; admittance into the Associate Degree Nursing program requires an 18 or higher composite ACT score and a 2.0 overall grade point average (Holmes Community College 2019). At The University of Southern Mississippi admission requirements to the School of Professional Nursing are a grade point average of at least 3.5 and a minimum 24 ACT score.

Current completion rates of nursing schools in Mississippi as of 2017 highlight the supply for staffing the Health Care and Social Assistance industry, specifically medical professions in Grenada (see Table 10). With 3,190 nurses completing programs, employers in Grenada potentially can acquire new hires into their health care and medical industry from this pool, adding to current employees in the county. With UMMC’s nursing program having increased market share as of 2017, the program can be viewed as feeder for the University of Mississippi Medical Center Grenada and other health care and medical providers in the county. The

completion numbers signify the state of nursing and outlook in the health care and medical industry of Grenada as it looks to service its population and compete with neighboring states.

Table 10.

Snapshot of Mississippi Nursing Program Completion Rates, 2017

Institution	Completions 2017	Growth % YOY 2017	Market Share 2017	County
Mississippi University for Women	475	-7.6%	14.9%	Lowndes
University of Mississippi	312	6.5%	9.8%	Lafayette
Meridian Community College	272	18.3%	8.5%	Lauderdale
Hinds Community College	235	-20.6%	7.4%	Hinds
Northwest Mississippi Community College	205	8.5%	6.4%	Tate
Mississippi Gulf Coast Community College	169	-13.8%	5.3%	Harrison
University of Southern Mississippi	166	-19.0%	5.2%	Forrest
Pearl River Community College	146	15.9%	4.6%	Pearl River
Jones County Junior College	131	-5.1%	4.1%	Jones
Northeast Mississippi Community College	124	-9.5%	3.9%	Prentiss
Itawamba Community College	123	13.9%	3.9%	Itawamba
Holmes Community College	122	37.1%	3.8%	Grenada
William Carey University	120	-3.2%	3.8%	Forest
Southwest Mississippi Community College	112	38.3%	3.5%	Pike
Mississippi College	66	-14.3%	2.1%	Hinds
Mississippi Delta Community College	66	13.8%	2.1%	Sunflower
Delta State University	62	12.7%	1.9%	Bolivar
Copiah-Lincoln Community College	59	-7.8%	1.8%	Copiah
East Mississippi Community College	51	27.5%	1.6%	Kemper
East Central Community College	46	-29.2%	1.4%	Newton
Antonelli College-Hattiesburg	39	Insf. Data	1.2%	Forest
Coahoma Community College	35	25.0%	1.1%	Coahoma
Alcorn State University	31	-49.2%	1.0%	Claiborne
Belhaven University	23	91.7%	0.7%	Hinds

Source: EMSI

Comparison of enrollment numbers and completion rates in Mississippi are utilized in highlighting healthcare supply against concentration. Evaluation of enrollment and completion rates in Mississippi institutions offering courses in associate nursing, baccalaureate, masters and

doctoral medical programs offers insight into the maintenance of the workforce being educated within the state (see Table 11).

Table 11.

Mississippi Associate Degree Nursing Programs Enrollment Numbers & Completion Rates

College/University Nursing Program	Enrollment Numbers				Completion Rates		
	2015	2016	2017	2018	2015/ 2016	2016/ 2017	2017/ 2018
Alcorn State University	46	29	31	35	70.8%	73.1%	72.7%
Coahoma Community College	23	26	29	26	56.3%	61.3%	75.9%
Copiah-Lincoln Community College	84	91	79	78	52.9%	46.9%	46.3%
East Central Community College	102	83	86	84	87.7%	76.9%	67.3%
East Mississippi Community College	50	53	51	49	75.0%	70.6%	71.8%
Hinds Community College	396	404	378	396	84.3%	72.5%	63.5%
Holmes Community College	223	191	196	250	63.2%	60.4%	57.5%
Itawamba Community College	224	246	245	233	56.9%	52.4%	60.5%
Jones County Junior College	157	155	156	149	92.2%	94.3%	83.1%
Meridian Community College	391	442	476	434	63.9%	72.0%	72.9%
Mississippi Delta Community College	101	100	111	105	60.3%	71.1%	52.7%
Mississippi Gulf Coast Community College	407	332	368	456	64.8%	57.6%	62.9%
Mississippi University for Women	97	98	114	116	63.6%	77.6%	61.0%
Northeast Mississippi Community College	195	187	182	187	73.6%	75.6%	78.8%
Northwest Mississippi Community College	279	273	239	259	80.4%	71.8%	68.9%
Pearl River Community College	195	212	195	214	84.3%	89.2%	82.2%
Southwest Mississippi Community College	135	152	158	171	78.3%	75.9%	74.4%
Total	3,105	3,074	3,094	3,242	71.1%	70.6%	67.8%

Source: Mississippi IHL

The baccalaureate enrollment numbers and completion rates for Mississippi institutions evaluation was utilized in gauging concentration of Mississippi's nursing supply. Baccalaureate completion rates ranged in between 72.9% to 97.9%, highlighting high attainment rates and supply into the health care industry (see Table 12). Enrollment numbers and completion rates for baccalaureate degrees offer possible insights into migration of nursing associate degree holders into higher degree programs.

Table 12.

Mississippi Baccalaureate Degree Nursing Programs Enrollment Numbers & Completion Rates

College/University Nursing Program	Enrollment Numbers				Completion Rates		
	2015	2016	2017	2018	2015/ 2016	2016/ 2017	2017/ 2018
Alcorn State University	61	58	64	55	85.1%	80.7%	72.9%
Belhaven University	46	55	48	51	86.7%	94.4%	90.3%
Delta State University	160	148	146	158	87.5%	80.8%	86.1%
Mississippi College	156	171	285	358	93.2%	94.5%	97.3%
Mississippi University for Women	461	490	457	456	95.4%	94.7%	95.8%
University of Mississippi Medical Center	416	436	399	390	96.4%	94.8%	90.3%
University of Southern Mississippi	412	413	428	439	97.9%	95.9%	96.7%
William Carey University	157	158	223	202	79.6%	73.5%	81.5%
Total	1,869	1,929	2,050	2,109	90.2%	86.7%	88.9%

Source: Mississippi IHL

Advanced degree completion rates for Mississippi's institutions' masters in nursing programs ranged between 69.6% to 100% from 2015 to 2018, and doctoral programs between 83.3% to 100% in the same years (see Table 13 & 14). Mississippi's nursing patterns and concentration could also be explained through entrance of baccalaureate holders into master and doctoral programs.

Table 13.

Mississippi Master's Degree Nursing Programs Enrollment & Completion Rates

College/University Nursing Program	Enrollment Numbers				Completion Rates		
	2015	2016	2017	2018	2015/ 2016	2016/ 2017	2017/ 2018
Alcorn State University	28	30	20	12	69.6%	80.0%	85.0%
Delta State University	33	24	15	13	95.0%	92.9%	90.0%
Mississippi University for Women	36	31	38	29	100%	97.01%	100%
University of Mississippi Medical Center	353	330	277	227	91.3%	96.8%	84.7%
University of Southern Mississippi	111	151	157	128	100%	95.8%	100%
William Carey University	79	70	47	29	100%	93.2%	95%
Total	640	636	554	438	92.7%	92.6%	92.5%

Source: Mississippi IHL

Table 14.

Mississippi Doctoral Degree Nursing Programs Enrollment Numbers & Completion Rates

College/University Nursing Program	Enrollment Numbers				Completion Rates		
	2015	2016	2017	2018	2015/ 2016	2016/ 2017	2017/ 2018
Delta State University	19	16	21	14	100%	100%	100%
Mississippi University for Women	12	13	9	9	100%	100%	83.3%
University of Mississippi Medical Center	55	66	65	40	100%	100%	100%
University of Southern Mississippi	91	97	90	103	95%	95.8%	100%
William Carey University	74	71	69	75	NA	NA	NA
Total	251	263	254	241			

Source: Mississippi IHL

LPNs and RNs Residency and Employment Statistics

Those who have completed an associate program, have passed the Nursing Licensure exam, and reside in the Holmes Community College service district may seek employment outside the service district. The reason is the demand for nurses in the service district is lower than the number of graduates from within the service district. Service district encompasses Attala, Carroll, Choctaw, Grenada, Holmes, Madison, Montgomery, Webster, and Yazoo Counties. Grenada County has a greater number of LNP and RN residents than those employed and further comparison to job openings highlights significantly low demand compared to completions at Holmes Community College (see Table 15). This is true for most counties within the Holmes Community College service district. This is an indicator that licensed nurses are leaving the county to seek employment.

Table 15.

Holmes Community College Service District Supply and Demand, 2018

County	LPN Supply		LPN Demand		RN Supply		RN Demand	
	Resident	Employed	Job Openings		Resident	Employed	Job Openings	
Attala	261	82	<10		488	114	<10	
Carroll	293	24	<10		555	21	<10	
Choctaw	133	31	<10		274	48	<10	
Grenada	161	122	13		344	250	16	
Holmes	121	59	<10		165	77	<10	
Madison	306	308	26		2,631	594	40	
Montgomery	0	49	<10		0	79	<10	
Webster	3	57	<10		8	81	<10	
Yazoo	43	76	<10		94	121	13	
Total	1,321	808			4,559	1,385		

Source: Mississippi Board of Nursing

Completion rates of the Holmes Community College indicates that there are currently more people graduating with nursing associate or medical preparatory degrees than demanded in Holmes Community College service district (see Table 16). As noted, completions from Holmes Community College are less than demand alluding to nurses migrating within service district and outside, seeking opportunities.

Table 16.

Holmes Community College Completion/Demand vs. State Completion/Demand, 2018

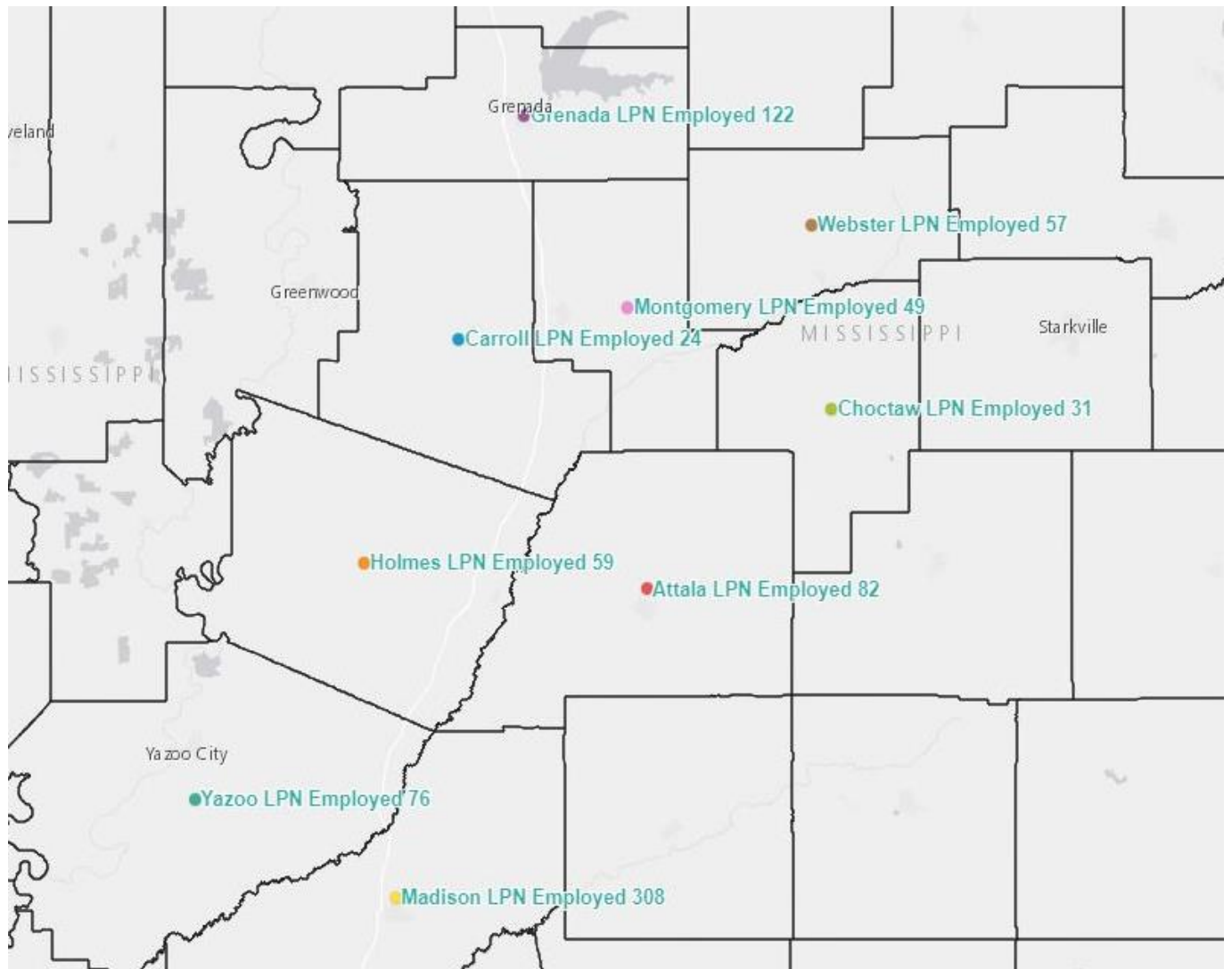
CIP Code	Program	Completions - HCC	Demand – HCC	Completions – State	Demand – State
51.3801	Registered Nursing/Registered Nurse	51 (19%)	96 (22%)	2,511 (71%)	1,734 (24%)
51.3901	Licensed Practical/Vocational Nurse Training	38 (14%)	58 (13%)	686 (19%)	728 (10%)
51.1199	Health/Medical Preparatory Programs, Other	59 (22%)	126 (29%)	157 (4%)	2,253 (31%)
51.1105	Pre-Nursing Studies	119 (45%)	154 (35%)	192 (5%)	2,462 (34%)
Totals		267	434	3,546	7,177

Source: EMSI

The Jackson MSA shows more promising statistics. Hinds County has 904 LPN residents with 979 employed, and 2,722 RN residents with 6,534 employed within the region. Appendix E shows the 2018 completing numbers for each Mississippi county. The data shows the inverse of the nursing demand in the Grenada and Holmes Community College service district. Because there are more jobs than licensed professionals living in the area, it is inferred that nursing professionals are migrating to the Jackson MSA for employment.

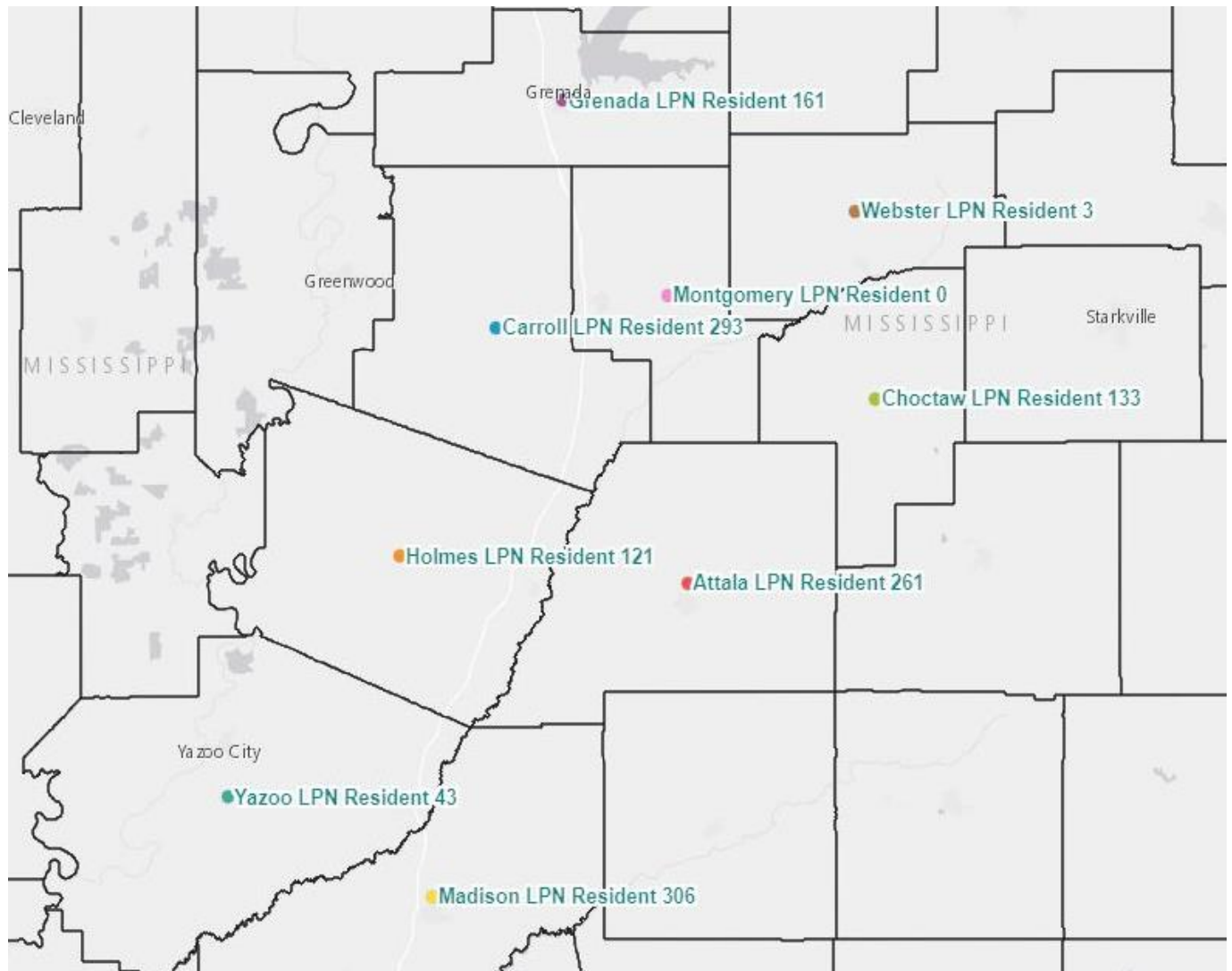
Based on LPN's who are currently employed and residing within the service district, it is evident that Holmes Community College's completion rates are above demanded employment opportunities, alluding to graduates migrating to MSAs such as Jackson to seek employment (see Map 3 and 4).

Map 3: LPNs Employed in the Holmes Community College Service District



Source: ARC GIS

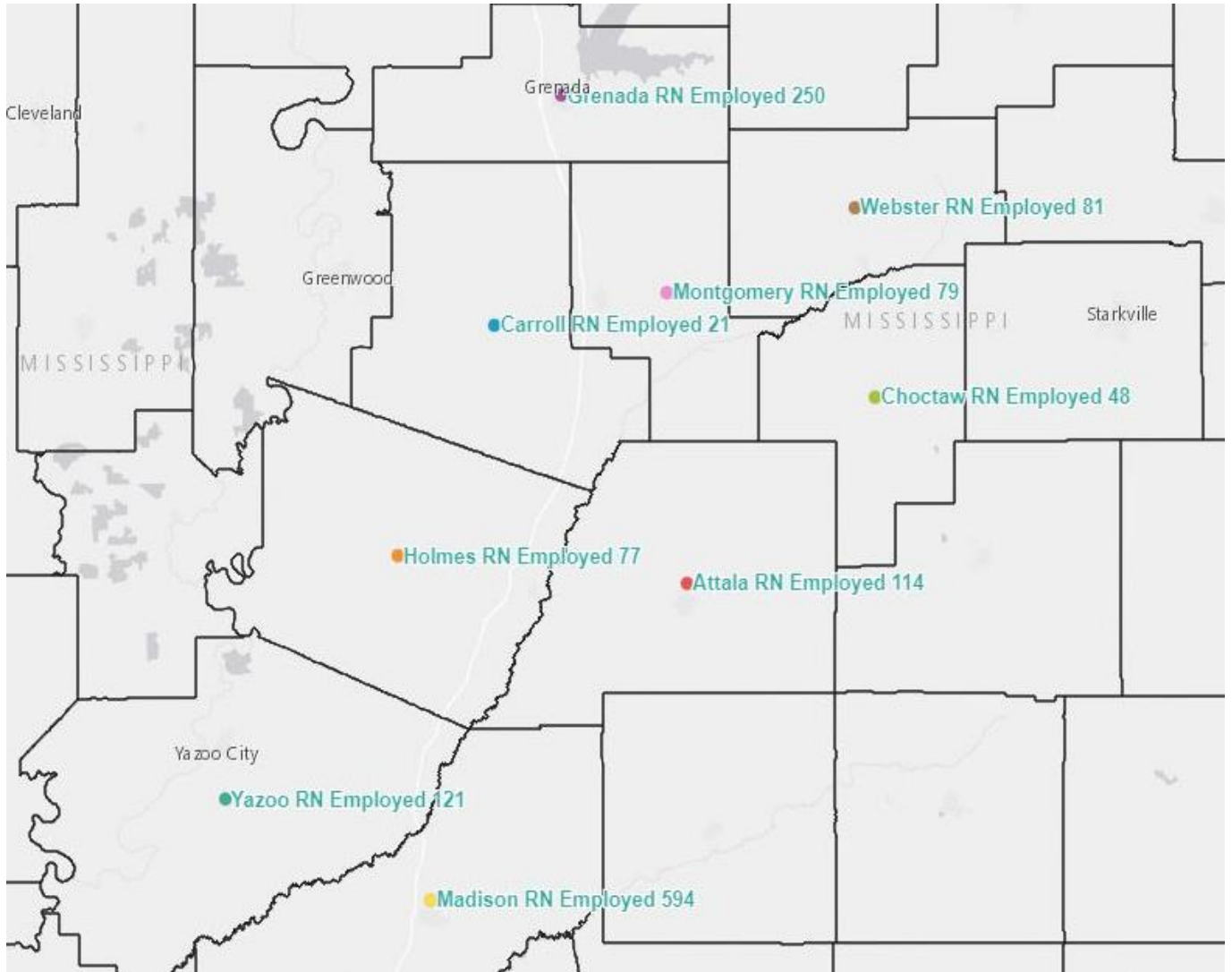
Map 4: LPNs Residents in the Holmes Community College Service District



Source: ARC GIS

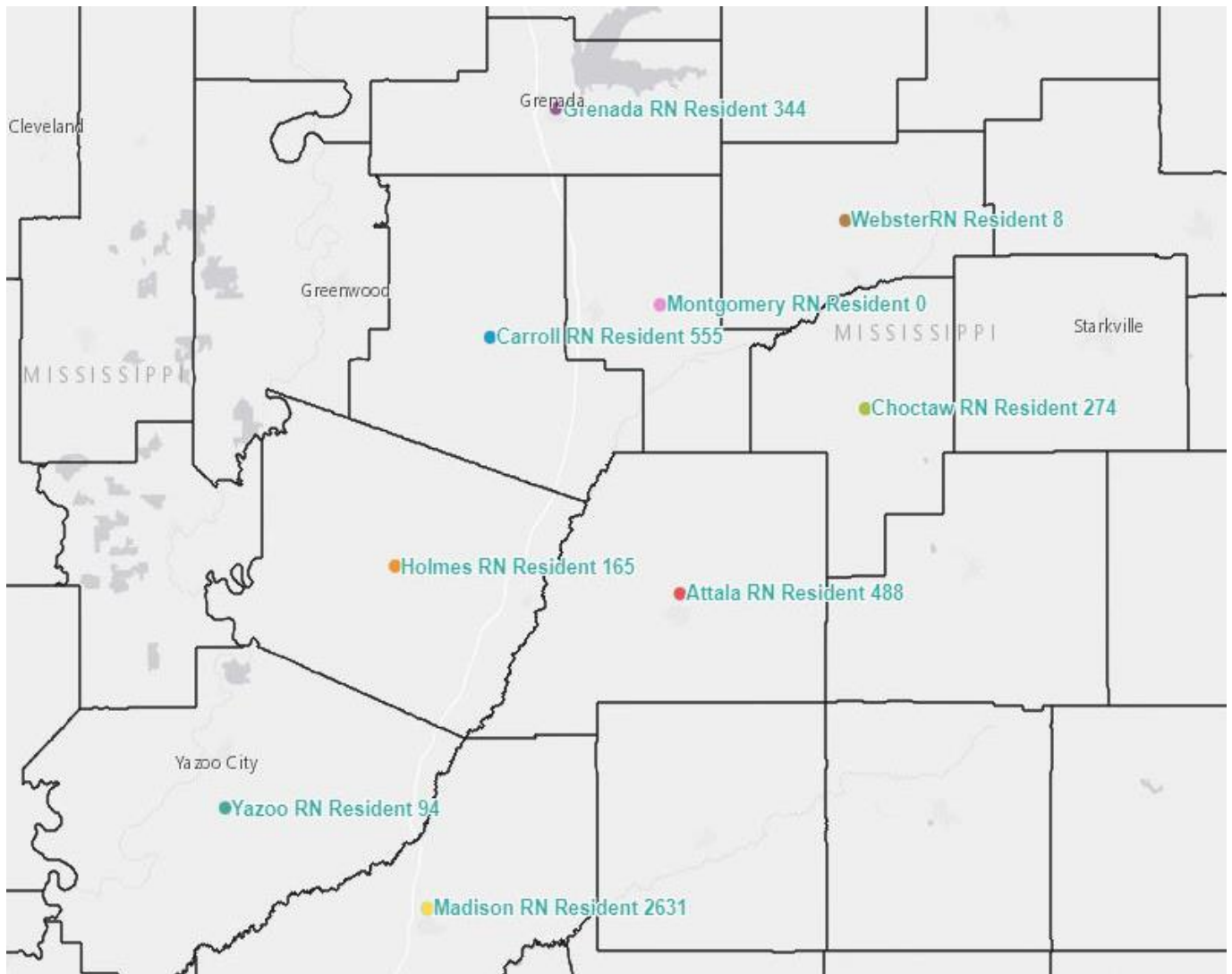
Similar trends were noted for RNs within the Holmes Community College service district. With Holmes Community College's completion rates being over demanded supply, inferring to a saturated market within Grenada and Holmes Counties. Graduates are likely to migrate towards MSAs such as Jackson and Memphis or within regions in close proximity (see Map 5 and 6).

Map 5: RNs Employed in the Holmes Community College District



Source: ARC GIS

Map 6: RNs Resident in the Holmes Community College District



Source: ARC GIS

Any over saturation within the Holmes Community College service district, preludes to surrounding counties turning into feeder programs for rich job markets such as Jackson, MS and Memphis Tennessee as they already the capacity for further hiring due to larger populations and demand (see Table 17).

Table 17.

Job Market Comparison of Holmes Community College

Region	LPN 2018 Jobs	LPN 2019 Jobs	RN 2018 Jobs	RN 2019 Jobs
Attala County, MS	26	25	121	121
Choctaw County, MS	22	22	97	99
Carroll County, MS	14	14	13	13
Grenada County, MS	79	87	141	150
Holmes County, MS	41	40	49	50
Madison County, MS	363	361	678	684
Montgomery County, MS	29	27	79	77
Webster County, MS	32	31	109	110
Yazoo County, MS	99	97	241	242
Jackson, MS	2,237	2,228	1,177	1,172
Shelby County, TN	3,219	3,213	11,663	11,729

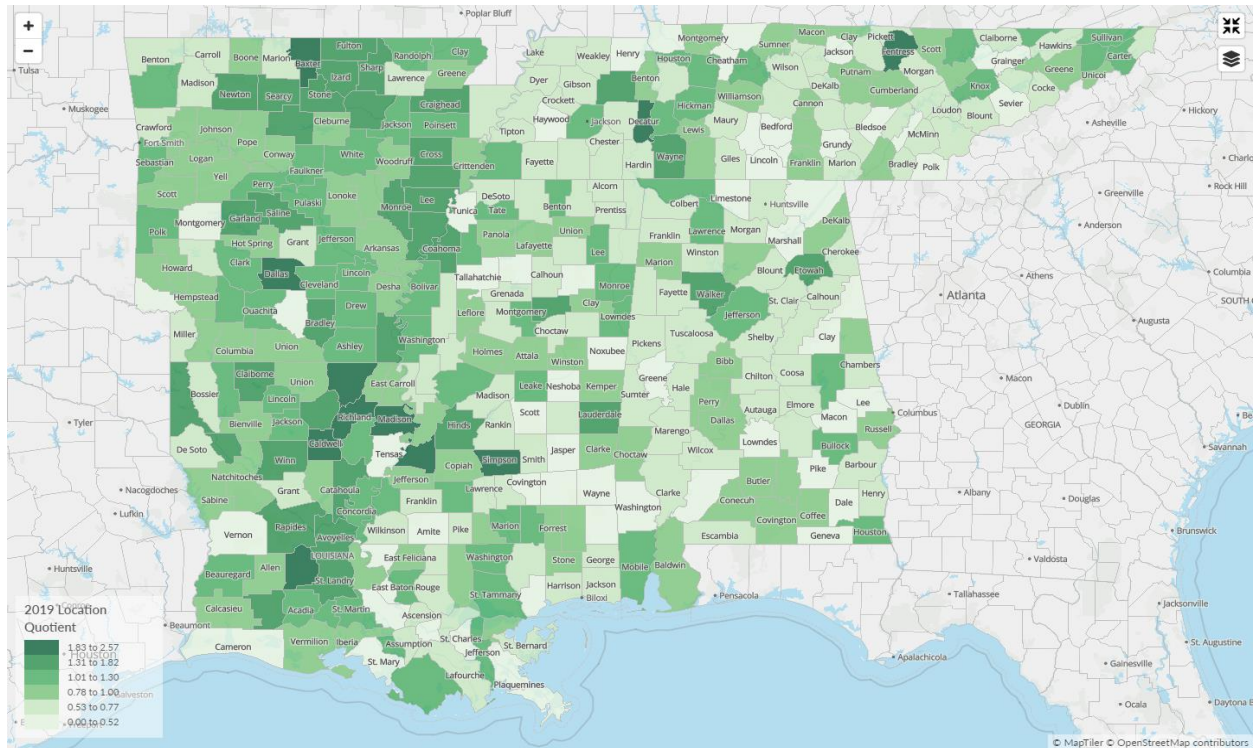
Source: EMSI

Nursing School Ratios

Programs wanting to increase admission rates must consider faculty to student ratios and access to clinical facilities for the desired student increase population. An expansion of clinical facilities and infrastructure will be dependent on meeting nursing criteria as specified by the Accreditation Commission for Education in Nursing (ACEN 2017). ACEN stipulates full-time faculty sufficiency ensuring end-of-program student learning outcomes are achieved, inferring any increases in infrastructure in pursuit of increased admittance rates requires similar adjustment towards faculty and staff. In tandem with increased student, faculty and staffing numbers, ACEN standard and criteria for baccalaureate stipulates sufficiency of physical resources ensuring achievement of the end-of-program student learning and program outcomes, meeting faculty, staff and student needs. Learning resources and technology are to be current, comprehensive and accessible to faculty and students. The location quotients for the Health Care and Social Assistance Industry in each county in Mississippi, Louisiana, Arkansas, Tennessee, and

Alabama, paired with education completion rates, illustrates a correlation between program completion size and a region's industry size. Counties with higher concentrations of the healthcare industry (see Map 7), include programs with proportional completion numbers.

Map 7: Location Quotient of Health Care and Social Assistance Industry in the Five State Region



Source: EMSI

Conclusion and Recommendations

The Health Care and Social Assistance Industry in Grenada County has the opportunity for growth over the next five years through a focus on maintaining the workforce, strengthening education pipelines in the area, and a projected growing need for medical care. Though its location on Interstate-55 is strategic in terms of competition with neighboring counties, it must compete with employer demand, consumer demand, and educational opportunities in Jackson MSA, Memphis MSA, and Tennessee, which are also strategically located along the interstate. Lack of advanced medical professionals limit the amount that demand for nursing professionals may increase, so the employer demand for physicians and surgeons must increase in the region to balance higher graduation rates of nurses.

While regions that provide more job opportunities for nurses and have a higher demand may be represented through data, it is not possible to answer the question “where are Mississippi trained licensed nurses going after their education?” without conducting primary research with those graduates. It is suggested that Grenada conduct primary research, such as surveys and direct contact with program graduates, in conjunction with Holmes Community College so to receive information about job opportunities for recent graduates.

This study was also limited in that data representative of the program as a whole, not parent programs and their satellite campuses. For example, the Ridgeland campus of Holmes Community College may feed directly into that and the Jackson MSA area. However, the graduates from that campus are still listed as graduating from Holmes Community College on IHL data. In order to differentiate between the total number of program completions, it is suggested that the reader reach out to Holmes Community College and gather specific data.

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APPENDIX A: Tennessee Nursing Program Completions 2017

Institution	Completions (2017)
East Tennessee State University	432
University of Memphis	408
Lincoln Memorial University	314
The University of Tennessee-Knoxville	247
Southern Adventist University	239
Tennessee State University	218
Middle Tennessee State University	189
Austin Peavy State University	181
The University of Tennessee-Chattanooga	177
Baptist Memorial College of Health Sciences	173
Belmont University	172
Cumberland University	159
Tennessee Technological University	156
Union University	139
Tennessee College of Applied Technology Nashville	127
Tennessee College of Applied Technology-Elizabethton	125
Tennessee College of Applied Technology-Newbern	114
Walters State Community College	113
Chattanooga State Community College	108
Tennessee College of Applied Technology-Knoxville	108
Tennessee College of Applied Technology-Dickson	99
Southwest Tennessee Community College	89
Pellissippi State Community College	88
Jackson State Community College	85
Columbia State Community College	85
Dyersburg State Community College	83
King University	81
Tennessee College of Applied Technology-Livingston	81
Lipscomb University	78
Tennessee College of Applied Technology-Jackson	74
South College	72
Middle Tennessee School of Anesthesia Inc	72
Roane State Community College	72
Tennessee College of Applied Technology-Morristown	71
Tennessee Wesleyan University	68
Northeast State Community College	67
Motlow State Community College	63
Tennessee College of Applied Technology-Hohenwald	62
The University of Tennessee-Martin	61
Tennessee College of Applied Technology-Paris	56
Tennessee College of Applied Technology-Ripley	50
The University of Tennessee-Health Science Center	49
Tennessee College of Applied Technology-Murfreesboro	49
Milligan College	45
Martin Methodist College	43

Cleveland State Community College	43
Tennessee College of Applied Technology-Athens	38
Tennessee College of Applied Technology-McMinnville	37
Tennessee College of Applied Technology-Harriman	37
Tennessee College of Applied Technology-Pulaski	36

Source: EMSI

APPENDIX B: Alabama Nursing Program Completions 2017

Institution	Completions (2017)
University of South Alabama	1,174
University of Alabama at Birmingham	897
The University of Alabama	461
Troy University	300
Jacksonville State University	291
Bevill State Community College	227
Southern Union State Community College	224
Auburn University	211
Jefferson State Community College	208
University of Alabama in Huntsville	204
George C Wallace Community College-Dothan	202
University of North Alabama	192
John C Calhoun State Community College	177
George C Wallace State Community College-Hanceville	171
Gadsden State Community College	161
Samford University	151
Shelton State Community College	147
Auburn University at Montgomery	130
Coastal Alabama Community College	84
Northwest-Shoals Community College	78
George C Wallace State Community College-Selma	75
Herzing University-Birmingham	74
Lurleen B Wallace Community College	70
Jefferson Davis Community College	68
Bishop State Community College	67
Reid State Technical College	66
Central Alabama Community College	59
Northeast Alabama Community College	55
Lawson State Community College-Birmingham Campus	52
Chattahoochee Valley Community College	49
Snead State Community College	40
University of West Alabama	39
University of Mobile	38
Alabama Southern Community College	36
J. F. Drake State Community and Technical College	28
South University-Montgomery	23
Virginia College-Montgomery	22
Judson College	21
Oakwood University	18
Tuskegee University	17
H Council Trenholm State Community College	16
Fortis College-Montgomery	14
Spring Hill College	13
Virginia College-Mobile	6
Concordia College Alabama	4

Source: EMSI

APPENDIX C: Louisiana Nursing Program Completions 2017

Institution	Completions (2017)
University of Louisiana at Lafayette	657
Northwestern State University of Louisiana	382
Franciscan Missionaries of Our Lady University	272
Delgado Community College	269
Central Louisiana Technical Community College	264
Louisiana State University Health Sciences Center-New Orleans	238
Northwest Louisiana Technical College	198
Southeastern Louisiana University	179
Louisiana Delta Community College	166
McNeese State University	164
South Louisiana Community College	142
Southern University and A & M College	135
Nicholls State University	131
Northshore Technical Community College	126
SOWELA Technical Community College	101
Louisiana State University-Alexandria	91
University of Louisiana at Monroe	73
Delta College of Arts & Technology	66
South Central Louisiana Technical College	61
Bossier Parish Community College	57
Louisiana Tech University	47
Delta College of Arts & Technology-Lafayette Campus	42
Delta College-Slidell Campus	40
Southern University at Shreveport	40
University of Holy Cross	39
Louisiana State University-Eunice	37
Baton Rouge Community College	36
Louisiana College	35
Fletcher Technical Community College	32
Baton Rouge General Medical Center-School of Nursing	31
Unitech Training Academy-Metairie	27
River Parishes Community College	21
Nunez Community College	20
Dillard University	18
Delta College Inc	16
Healthcare Training Institute	7
Compass Career College	7
Grambling State University	5
Loyola University New Orleans	2

Source: EMSI

APPENDIX D: Arkansas Nursing Program Completions 2017

Institution	Completions (2017)
University of Arkansas at Little Rock	330
Arkansas State University-Main Campus	327
University of Arkansas	307
Baptist Health College-Little Rock	302
University of Arkansas for Medical Sciences	269
Arkansas Tech University	227
College of the Ouachitas	142
Arkansas State University-Newport	128
University of Central Arkansas	125
Ozark College	112
University of Arkansas Community College-Morrilton	86
Black River Technical College	85
South Arkansas Community College	81
North West Arkansas Community College	81
University of Arkansas-Fort Smith	76
National Park College	70
University of Arkansas Community College-Batesville	70
Southern Arkansas University Main Campus	64
North Arkansas College	63
Arkansas Northeastern College	62
University of Arkansas Community College-Hope	53
Cossatot Community College of the University of Arkansas	52
Northwest Technical Institute	45
Harding University	44
Arkansas State University-Beebe	39
University of Arkansas Community College Rich Mountain	39
Arkansas State University-Mountain Home	38
University of Arkansas at Monticello	37
Henderson State University	31
Southern Arkansas University Tech	28
Jefferson Regional Medical Center School of Nursing	25
Crowley's Ridge Technical Institute	21
Southeast Arkansas College	20
Phillips Community College of the University of Arkansas	15
University of Arkansas at Pine Bluff	12
East Arkansas Community College	10

Source: EMSI

APPENDIX E: LPN and RN Residents and Employees in MS Counties 2018

County	LPN Resident	LPN Employed	RN Resident	RN Employed
Adams	143	92	468	325
Alcorn	206	136	648	453
Amite	214	27	458	55
Attala	261	82	488	114
Benton	306	22	478	23
Bexar	0	0	1	0
Bolivar	343	118	688	261
Calhoun	125	48	253	70
Carroll	293	24	555	21
Chickasaw	90	31	284	58
Choctaw	133	31	274	48
Claiborne	83	25	105	40
Clarke	459	37	1236	55
Clay	164	47	538	114
Coahoma	46	80	68	200
Cobb	1	0	0	0
Copiah	247	77	801	136
Coryell	0	0	1	0
Covington	595	76	1771	86
DeSoto	703	209	3621	1057
Emanuel	0	0	1	0
Faulkner	0	0	1	0
Forrest	535	477	1421	1837
Franklin	145	23	498	68
George	155	40	516	144
Greene	149	52	237	49
Gregg	0	0	1	0
Grenada	161	122	344	250
Hamblen	0	0	1	0
Hancock	414	78	1465	189
Harrison	562	546	3009	2827
Hinds	904	979	2722	6534
Holmes	121	59	165	77
Humphreys	114	24	170	40
Issaquena	97	0	247	2
Itawamba	309	77	1160	58
Jackson	270	224	1759	1418
Jasper	307	46	688	48
Jefferson	22	28	47	30
Jefferson Davis	183	22	317	35
Jones	124	350	202	538
Kemper	250	12	1014	44
Lafayette	498	271	1049	697
Lamar	0	169	1	508
Lauderdale	129	366	656	1691
Lawrence	40	34	121	73
Leake	67	58	314	152

Lee	286	378	1309	2122
Leflore	31	146	49	314
Lincoln	44	154	137	393
Lowndes	239	186	744	725
Macon	0	0	1	0
Madison	306	308	2631	594
Marion	145	106	278	146
Marshall	8	87	16	81
Monroe	157	134	371	259
Monterey	0	0	1	0
Montgomery	0	49	0	79
Neshoba	13	120	31	289
Newton	64	55	253	145
Noxubee	11	25	17	57
Oktibbeha	1	110	7	331
Oneida	1	0	0	0
Panola	238	131	481	241
Pearl River	1	130	4	298
Perry	10	26	15	40
Pike	147	179	261	479
Pontotoc	86	87	305	114
Prentiss	135	59	335	192
Putnam	1	0	0	0
Quitman	10	20	17	12
Rankin	703	502	4130	1492
Richland	0	0	1	0
Scott	55	63	190	165
Sharkey	24	19	50	28
Shelby	1	0	0	0
Simpson	77	137	129	169
Smith	61	35	78	31
Stone	14	50	38	93
Sunflower	113	120	246	208
Tallahatchie	64	60	90	69
Tarrant	0	0	1	0
Tate	1	63	0	89
Tippah	14	63	31	99
Tishomingo	70	46	245	86
Tunica	17	23	22	21
Union	0	83	0	264
Unspecified	58	1	99	11
Walthall	0	42	0	49
Warren	215	177	369	430
Washington	114	155	234	380
Wayne	11	55	25	124
Webster	3	57	8	81
Wilkinson	19	32	44	38

Source: Mississippi Board of Nursing

Limitations

Matthew Harrison speculated that those not accepted into the nursing program at Holmes Community College would not change their major, they would apply to a nursing program in a neighboring county, university or state and then move to that region, thus limiting the supply of nurses in Grenada County. He believed that we would find that Holmes Community College should increase their acceptance rates in order to have more nurses in Grenada County's education pipeline. While we could compare completion rates to other nursing programs, we could not directly confirm the idea that prospective students would apply to a different college or university rather than changing their major. The only way to confirm this idea would be through a direct survey of those not accepted into Holmes' nursing program, and we are unable to access that data due to privacy constraints.

1. Lack of sufficient findings into nursing candidates' motivations for choosing other programs within different counties or states, instead of remaining in Grenada.
2. Inability to survey rejected applicants from Holmes county's nursing program and gauge their intent to apply into another nursing program, reapplication into Holmes county's nursing program or a different program entirely.



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and
Trent Lott National Center for Economic Development and Entrepreneurship**

The College of Business and Economic Development offers graduate education in economic development through the Master of Science in Economic Development (MSED) program and a Graduate Certificate in Economic Development. The Trent Lott National Center partners with the MSED program to further the students experience by working with economic developers, communities, companies, and non-profit organizations through five main approaches:

1. University Economic Development researchers provide technical assistance in defining problems or opportunities; evaluating the effects of change; and providing recommendations for improvements.
2. Graduate students work on applied research projects involving actual community or organization case scenarios (e.g., retail trade studies, economic impact studies).
3. Each student is required to complete a data analytics capstone project. The capstone project involves completing a Quality-of-Place (QOP) study for a community.
4. Each student is required to complete an internship in an economic development organization.
5. Communities may have sponsored research projects and tap into the faculty expertise and university data sources (e.g., EMSI and REMI).

Examples of class projects involving research for Mississippi communities:

- Retail Analysis for Marion County
- Feasibility of a multi-sports complex in Grenada County
- Economic Impact of the Gulfport-Biloxi International Airport
- Ecotourism Development for the Mississippi Aquarium in Gulfport
- Strategic Plans for the City of Pearl and Simpson County Development Foundation
- Community Study for the Hattiesburg Mid-Town District
- Competitiveness studies for defense-dependent communities
- Multimodal transportation research for Mississippi Port Directors
- Workforce Analyses for the Mississippi Department of Education and Department of Human Services

The University of Southern Mississippi also offers economic development training for working professionals and graduate students through its annual True South Basic Economic Development Course - an International Economic Development Council accredited introductory course. This course fulfills one of the prerequisites for those who wish to take the Certified Economic Developer (CEcD) exam.