



EMPLOYMENT OUTCOMES FOR SOUTH CAROLINA TECHNICAL COLLEGE SYSTEM NURSING GRADUATES IN THE STATE OF SOUTH CAROLINA

By Sophia Casler

South Carolina Department of Employment and Workforce



SOUTH CAROLINA DEPARTMENT OF
Employment and Workforce

SC Department of Employment and Workforce
Labor Market Information Division
Columbia, South Carolina 29202

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Section I:

INTRODUCTION

Registered nurses are the second most in-demand occupation in South Carolina.¹ Thus, it is imperative to understand the state of nursing employment and job opportunities and the educational pipeline which provides the education and training for these crucial positions.

The goal of this publication is to examine the demographics, sector of employment, and return on investment (ROI), of graduates from 15 of the 16 member institutions of the South Carolina Technical College System (SCTCS). This report uses nursing graduation data from SCTCS matched with unemployment insurance (UI) wage records collected by the South Carolina Department of Employment and Workforce (DEW) to examine several research questions:

I

WHAT IS THE RACE, SEX, AND RESIDENCY DISTRIBUTION OF THE STUDENTS FOUND IN THE DEW WAGE RECORDS COMPARED TO THOSE WHO ARE NOT FOUND? ARE THERE CERTAIN TYPES OF STUDENTS WHO ARE MORE LIKELY TO REMAIN IN THE STATE AND FIND EMPLOYMENT ONE, FIVE, AND TEN YEARS AFTER GRADUATION?

II

WHAT ARE THE MEDIAN EARNINGS FOR STUDENTS ONE, FIVE, AND TEN YEARS AFTER GRADUATION AND HOW DO THOSE EARNINGS VARY BASED ON DEMOGRAPHIC CHARACTERISTICS?

III

IN WHAT SECTORS ARE SC NURSING COLLEGE GRADUATES MOST LIKELY TO BE EMPLOYED ONE, FIVE, AND TEN YEARS AFTER GRADUATION? HOW DOES THE SECTOR OF EMPLOYMENT VARY BASED ON THE NUMBER OF YEARS AFTER GRADUATION?

IV

HOW LONG DOES IT TAKE TO RECEIVE A POSITIVE ROI ON TUITION PAID TO OBTAIN A DEGREE?

Section II:

DATA AND LIMITATIONS

Before moving into actual data analysis, we outline and detail the data set. Program and graduation data used in the first section of this report were provided by SCTCS. Records were limited to students who completed an associate degree in nursing at a technical college from calendar year (CY) 2004 through CY2021.²

The data set was created by merging SCTCS graduate data with wage records housed within the State Unemployment Insurance Tax System (SUITS) from DEW. SUITS wage records do not include students who work outside of the state or individuals who are self-employed, work as independent contractors, or work for the federal government or military, since these individuals are not covered by the unemployment insurance program. Additionally, if an individual graduate appeared more than once in the graduation data, the most recent graduation date record was used for further employment and earnings analysis.

¹According to 2024 data from JobsEQ

²See [Appendix A](#) for a full list of institutions.

After determining the graduation dates, we tabulated the employment status and earnings for each graduate, and we examined the wage records for the four quarters following their graduation date. For example, a student who graduated in the fall semester of 2015 (2015 Q4) would be matched to earnings data for the four quarters of the following year (2016 Q1, 2016 Q2, 2016 Q3, and 2016 Q4).³ First year earnings are the sum of all wages earned by the graduate in South Carolina. If an individual had less than four quarters of wages, the wages reported in the available quarters were annualized. For example, if the graduate had three quarters of wages, their total wages were divided by three and multiplied by four. The data include only graduates who met a minimum wage threshold.⁴

Then, to calculate the ROI, we estimated out-of-pocket college tuition and compared it to earnings after graduation. A weighted average was calculated for each group of graduates, accounting for the number of graduates from each institution and tuition costs⁵ adjusted to 2023 dollars.

Within each wage analysis we present the number of potential graduates from South Carolina programs that could be found in the wage records. For example, students that graduated from a program in 2020 could be found within the one-year after graduation wage records but cannot, yet, be found within the five years after graduation wage records, as it has not been five years since they graduated. Additionally, we only include wage records up to 2023 Q4. Therefore, wage data after that time frame are not included in the analysis. For example, a student graduating in 2019 Q1 could potentially appear our data set one year after graduation, but not five years after graduation, as the required 2024 Q1 wage records are not included in the data set.

Additionally, it is important to note that graduates' earnings are not the only measure of how well a program is performing. Individual students' success reflects a variety of factors such as each student's background, personal career goals, and the local job market. Nevertheless, students who enter the job market upon completing their education represent an important segment of the labor force, and the information presented here can assist students, families, and policymakers as they make decisions regarding higher education.

Section III:

SCTCS NURSING GRADUATES EMPLOYED IN SOUTH CAROLINA

Before moving into the analysis, here we provide a brief overview of the data. A total of 21,715 unique students graduated from nursing programs at South Carolina technical colleges between CY2004 and CY2021. Individuals who appeared in the graduation records more than once in this time frame were noted and only their most recent completion was kept and used in future analysis. These individuals were then matched with wage records.

In total, there are 21,715 graduates of SCTCS nursing programs who potentially could have been working in the State of South Carolina one year after graduation.⁶ Of these graduates, 87.2 percent were found with wages in at least one quarter in the first four quarters after their graduation date. A more detailed demographic breakout of those found in the wage records (WR) one year after graduation can be found in **Exhibit 1**.

³See **Appendix B** for additional information on graduation dates and quarters used.

⁴Only students whose annualized earnings equal or exceeded \$14,500 were included in the wage progression analysis. This represents the earnings of someone working 40 hours per week 50 weeks per year at a minimum wage of \$7.25. This was done in an attempt to eliminate as many people working part-time hours as possible.

⁵Tuition was determined from the CHE Statistical Abstract and was the tuition for the 2022-23 Academic Year. Tuition was then adjusted to 2023 US dollars using the Consumer Price Index

⁶Those who graduated before or during the following quarters could potentially be in the wage records one, five, ten, and fifteen years after graduation, respectively: 2021 Q4, 2018 Q4, 2013 Q4, 2008 Q4

EXHIBIT 1: DEMOGRAPHICS OF SCTCS NURSING GRADUATES

DEMOGRAPHICS	ALL STUDENTS	COUNT IN WAGE RECORDS (ONE YEAR)	% IN WAGE RECORDS (ONE YEAR)
Total ⁷	21,715	18,925	87.2%
Female	19,554	17,038	87.1%
Male	2,161	1,887	87.3%
White	16,182	14,212	87.8%
Black or African American	3,796	3,312	87.2%
Hispanic or Latino	519	391	75.3%
Asian	333	265	79.6%
Two or More Races	249	213	85.5%
In-State	20,106	18,038	89.7%
Out-of-State	1,609	887	55.1%

In general, female and male graduates are found in the South Carolina wage records one year after graduation at comparable rates. White graduates are the most likely racial group to be found in the state's wage records followed by African American students and students who are of two or more races, though the difference is not statistically significant. As one would expect, students who are South Carolina residents at the time of enrollment are more likely to be found in the wage records one year after graduation than are those who are not from South Carolina.

Five years after graduation, of the 21,715 unique graduates in the dataset, 17,756 could potentially be in the wage records. Of these 17,756 graduates, 77.9 percent were found in the wage records five years after graduation. A more detailed demographic breakout of those found in the wage records five years after graduation can be found in [Exhibit 2](#).

EXHIBIT 2: DEMOGRAPHICS OF SCTCS STUDENTS EXPECTED TO BE FOUND AND FOUND WITHIN WAGE RECORDS FIVE YEARS AFTER GRADUATION

FIVE YEARS AFTER GRADUATION	STUDENTS POTENTIALLY IN FIVE-YEAR WAGE RECORDS	IN WAGE RECORDS (FIVE YEARS)	% IN WAGE RECORDS (FIVE YEARS)
Total ⁸	17,756	13,824	77.9%
Female	16,034	12,546	78.2%
Male	1,722	1,278	74.2%
White	13,515	10,708	79.2%
Black or African American	2,927	2,223	75.9%
Hispanic or Latino	368	235	63.9%
Asian	268	170	63.4%
Two or More Races	132	95	72.0%
In-State	16,484	13,308	80.7%
Out-of-State	1,272	516	40.6%

⁷The total number of students does not equal the sum of the count for race due to suppressed information to maintain the privacy of individuals in smaller racial groups. The categories that are not shown are American Indian and Alaskan Native, Native Hawaiian or Pacific Islander, and those where the race was not known.

⁸The total number of students does not equal the sum of the count for race due to suppressed to maintain the privacy of individuals in smaller racial groups. The racial categories that are not shown are American Indian and Alaskan Native, Native Hawaiian or Pacific Islander, and those where the race was not known.

Whereas one year after graduation a comparable percentage of male and female graduates were found in the wage records, by five years after graduation there is a higher percent of female graduates than male graduates found in the wage records. White students are still the most likely to be found in the wage records, and Hispanic or Latino graduates are still the least likely to be found in the wage records.

By five years after graduation there are still above 80 percent of South Carolina residents found in the wage records, whereas the percentage of out-of-state graduates has dropped below 50 percent.

Of the 21,715 unique graduates in the dataset, 11,687 could potentially be in the wage records ten years after graduation. Of these 11,687 graduates, 71.9 percent were found in the wage records ten years after graduation. The percent of graduates found in the wage records drops approximately six percentage points from five to ten years after graduation, compared to a 9.3 percentage points drop from year one and five years after graduation. A more detailed demographic breakout of those found in the wage records ten years after graduation can be found in **Exhibit 3**.

EXHIBIT 3: DEMOGRAPHICS OF SCTCS STUDENTS EXPECTED TO BE FOUND AND FOUND WITHIN WAGE RECORDS TEN YEARS AFTER GRADUATION

TEN YEARS AFTER GRADUATION	STUDENTS POTENTIALLY IN TEN-YEAR WAGE RECORDS	IN WAGE RECORDS (TEN YEARS)	% IN WAGE RECORDS (TEN YEARS)
Total ⁹	11,687	8,407	71.9%
Female	10,601	7,704	72.7%
Male	1,086	703	64.7%
White	9,028	6,603	73.1%
Black or African American	1,884	1,331	70.6%
Hispanic or Latino	174	95	54.6%
Asian	172	105	61.0%
Two or More Races	27	16	59.3%
In-State	10,964	8,148	74.3%
Out-of-State	723	259	35.8%

As with five years after graduation, ten years after graduation, female graduates are more likely to be found in the South Carolina wage records than males. White and Black or African American graduates are the only racial groups to be found in the wage records at rates of greater than 70 percent. Hispanic or Latino graduates remain the least likely group to appear in the wage records, as was found in one and five years after graduation as well. Notably, all racial groups are still appearing in the wage records at rates greater than 50 percent even ten years after graduation.

Like before, in-state graduates are still more likely than out-of-state graduates to be found in the wage records ten years after graduation.

Of the 21,715 unique graduates in the dataset, 5,206 could potentially be in the wage records fifteen years after graduation. Of these 5,206 graduates, 67.7 percent were found in the wage records fifteen years after graduation. This is a drop of about 4.2 percentage points between ten and fifteen years after graduation, suggesting that the percent of those in the wage records plateaus as years after graduation increase. A more detailed demographic breakout of those found in the wage records fifteen years after graduation can be found in **Exhibit 4**.

⁹The total number of students does not equal the sum of the count for race due to suppressed information because of low values. The racial categories that are not shown are American Indian and Alaskan Native, Native Hawaiian or Pacific Islander, and those where the race was not known.

EXHIBIT 4: DEMOGRAPHICS OF SCTCS STUDENTS EXPECTED TO BE FOUND AND FOUND WITHIN WAGE RECORDS FIFTEEN YEARS AFTER GRADUATION

FIFTEEN YEARS AFTER GRADUATION	STUDENTS POTENTIALLY IN FIFTEEN-YEAR WAGE RECORDS	IN WAGE RECORDS (FIFTEEN YEARS)	% IN WAGE RECORDS (FIFTEEN YEARS)
Total ¹⁰	5,206	3,527	67.7%
Female	4,784	3,286	68.7%
Male	422	241	57.1%
White	4,079	2,815	69.0%
Black or African American	879	575	65.4%
Hispanic or Latino	65	32	49.2%
In-State	4,995	3,462	69.3%
Out-of-State	211	65	30.8%

Furthermore, females are more likely to be found in the wage records than males fifteen years after graduation. White graduates are the most likely to be found in the wage records and Hispanic or Latino graduates are in the wage records at a rate of less than 50 percent.

Unsurprisingly, in-state graduates are still in the wage records at a rate of almost 70 percent, whereas out-of-state graduates are found in the wage records at a rate of only about 30 percent.

Section IV:

MEDIAN EARNINGS FOR SCTCS NURSING GRADUATES IN SOUTH CAROLINA

Having examined the demographics of nursing graduates working in South Carolina, this section examines the median earnings¹¹ of individuals employed in South Carolina one, five, ten, and fifteen years after graduation. Only graduates meeting a wage threshold were included in this analysis to try and remove as many individuals working part-time as possible. This reduces the number of individuals analyzed, as 595 did not meet the wage threshold one year after graduation, 445 did not meet the wage threshold five years after graduation, 304 did not meet the wage threshold ten years after graduation, and 147 did not meet the wage threshold fifteen years after graduation.

Of all graduates who potentially could have been found within the wage records one year after graduation, 18,330 were found in the wage records. Of those expected to have wages five years after graduation, 13,379 met the threshold of \$14,500 and were found in the wage records. For the group of graduates expected to have wages ten years after graduation, 8,103 met the wage threshold and were found in the wage records. Of those expected to have wages fifteen years after graduation, 3,380 met the wage threshold and were found in the wage records. These groups of graduates will be analyzed in this section to determine median wages by demographics.

The median earnings for all non-excluded graduates were \$60,637 one year after graduation, \$70,956 five years after graduation, and \$77,132 ten years after graduation. The median earnings for graduates fifteen years after graduation was \$82,890, an annualized growth rate of 2.3 percent from one to fifteen years after graduation after inflation (**Exhibit 5**).

¹¹All wages were inflation-adjusted to 2023 dollars using the Bureau of Labor Statistics' Annual Average Consumer Price Index for All Items, US City Average, Non-Seasonally Adjusted

EXHIBIT 5: WAGES FOR SCTCS NURSING GRADUATES BY SEX



The wages of male graduates were higher than the wages of female graduates one, five, ten, and fifteen years after graduation (**Exhibit 5**). One year after graduation female wages were 93.4 percent of their male counterparts, and this wage disparity increased five, ten, and fifteen years after graduation.

EXHIBIT 6: MEDIAN EARNINGS FOR SCTCS NURSING GRADUATES BY RACE

RACE	ONE YEAR	FIVE YEARS	TEN YEARS	FIFTEEN YEARS
Total	\$60,637	\$70,956	\$77,132	\$82,890
White	\$60,310	\$70,351	\$76,629	\$81,725
Black or African American	\$62,435	\$73,992	\$79,672	\$86,530
Hispanic or Latino	\$58,558	\$70,852	\$74,542	\$80,121
Asian	\$59,756	\$77,262	\$82,218	\$92,318
Two or More	\$62,945	\$78,630	\$83,098	Suppressed ¹²

Graduates who were Black or African American or two or more races made the most one year after graduation. Five, ten, and fifteen years after graduation, graduates who were Asian or Two or More races made the most (**Exhibit 6**). Hispanic or Latino graduates made the least one year after graduation, but by five years after graduation were making around the median earnings for all graduates. Ten and fifteen years after graduation Hispanic or Latino students were making the least, about \$2,500 less than all graduates.

Section V:

EMPLOYMENT AND EARNINGS BY SECTOR

Nearly all nursing graduates, as one would expect, are found working in the health care and social assistance sector one, five, ten, and fifteen years after graduation (**Exhibit 7**). Of those found in the wage records one year after graduation who meet the wage threshold and are employed in a known sector, about 92.1 percent are in the health care and social assistance sector. This percentage drops to 86.7 percent five-years after graduation, 81.1 percent ten years after graduation, and 79.3 percent fifteen years after graduation. The second highest sector of employment is in the administrative and support and waste management and remediation services sector, which includes temporary help services. Thus, the true percentage of nursing graduates working in the health care field may be higher than what is

¹²Indicates a suppressed value due to the observation count being less than 10 students.

demonstrated by employment in the health care and social assistance sector. As the percent of nursing graduates found in the health care and social assistance sector declines after graduation, the percent of individuals employed in the finance and insurance sector grows from 0.1 percent one year after graduation to 4.1 percent fifteen years after graduation. Additionally, the percent of those in the educational services sector grows from 0.4 percent one year after graduation to 5.3 percent fifteen years after graduation.

EXHIBIT 7: TOP FIVE SECTORS OF EMPLOYMENT OF SCTCS NURSING GRADUATES

SECTOR OF EMPLOYMENT	ONE YEAR	FIVE YEARS	TEN YEARS	FIFTEEN YEARS
Health Care and Social Assistance	92.1%	86.7%	81.1%	79.3%
	\$60,933	\$72,006	\$78,733	\$85,365
Administrative and Support and Waste Management and Remediation Services	4.8%	6.4%	6.0%	5.6%
	\$60,557	\$66,866	\$71,047	\$76,425
Public Administration	1.0%	1.7%	2.2%	2.0%
	\$55,234	\$65,275	\$68,150	\$73,219
Educational Services	0.4%	2.0%	3.6%	5.3%
	\$41,956	\$48,734	\$52,907	\$57,725
Finance and Insurance	0.1%	1.2%	3.4%	4.1%
	\$61,546	\$68,175	\$74,448	\$76,182
All Other	1.7%	1.9%	3.7%	3.7%
	\$36,459	\$54,270	\$72,784	\$77,532

The earnings one, five, ten, and fifteen years after graduation for the health care and social assistance sector, which likely consists mainly of graduates employed as nurses, were higher than the averages for all graduates regardless of sector of employment. The sectors displayed encompass all sectors which may be in the top three sectors of employment either one, five, ten, or fifteen years after graduation. Graduates employed in the educational services sector make less than those in the other sectors displayed, however, the percentage of those employed in this sector grows over time. The percentage of those in all sectors displayed, except health care and social assistance, increases from year one to year fifteen after graduation, suggesting that perhaps individuals are exiting the health care and social assistance sector and joining the other displayed sectors.

Section VI: RETURN ON INVESTMENT

The estimated tuition cost of receiving an associate degree in nursing in South Carolina at a State Technical College is \$9,879.¹³ One year out of college, the median annual earnings for graduates was \$60,637. The median annual earnings for all high school graduates is \$37,290.¹⁴ Not accounting for lost wages and other opportunity costs associated with obtaining an associate degree, this leaves a wage premium of \$23,347 for the first year after graduation. This is compared to a wage premium of \$1,946 a month, so it takes about five months to break even and realize a return on investment for the money spent on a degree. Currently, we are limited to calculating ROI based only on income after graduation and cost of attendance. For a more comprehensive ROI analysis we require additional data including, but not limited to, scholarship information, full or part-time status, and total time to degree.

¹³Computed by a weighted average of graduates from different technical colleges in South Carolina. Adjusted to 2023 dollars.

¹⁴2022 1 Year Estimates American Community Survey Table S2001

Section VII:

CONCLUSION

From this analysis it is clear that the return on investment for an associate degree in nursing is high, as it takes approximately five months to “breakeven” when considering the increase in median pay. Additionally, 87.2 percent of the graduates of a South Carolina associate degree nursing programs are found within the South Carolina wage records one year later, and 67.7 percent are found in the South Carolina wage records fifteen years later. Graduates of South Carolina nursing associate degree programs are found within the South Carolina wage records far more often than graduates of other programs.¹⁵ These data therefore suggest that a large portion of nursing graduates stay in South Carolina and find gainful employment and continue to be employed within the state at least ten years later.

Unsurprisingly, students that are from South Carolina are more likely to find employment within South Carolina, but even so 30.8 percent of those out-of-state students who graduated from a South Carolina associate degree nursing program are still found in the South Carolina wage records fifteen years later.

It is important to provide students and families with this employment and wage information as they make decisions on whether to attend post-secondary education, how to finance that degree, and determine if nursing is a major that provides desirable employment outcomes and wage growth potential.

Appendix A

STUDENT COUNTS BY INSTITUTION

SCTCS COLLEGES:	
INSTITUTION	CY 2004-21 NURSING GRADUATES
PUBLIC TECHNICAL COLLEGES	
Aiken	800
Central Carolina	1,295
Florence-Darlington	1,669
Greenville	3,321
Horry-Georgetown	2,183
Midlands	2,486
Northeastern	293
Orangeburg-Calhoun	891
Piedmont	1,405
Spartanburg CC	615
TC of the Lowcountry	870
Tri-County	1,839
Trident	3,448
Williamsburg	20
York	580

¹⁵Data from E. Von Nessen 2023 "Employment Outcomes for South Carolina Post-Secondary Graduates" reports that graduates of all programs are found in the wage records 63.9 percent one year after graduation and 43.4 percent ten years after graduation. <https://dew.sc.gov/sites/dew/files/Documents/Post-Secondary%20Workforce%20Evaluation%208-3-2023.pdf>

Appendix B

WAGE MATCHING QUARTERS

STATE TECH. GRADUATES – EXAMPLE CY 2006 ONE YEAR AFTER GRADUATION:

<i>DATE OF GRADUATION 1-YEAR</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>
01/01/2006 – 03/31/2006	2006/2	2006/3	2006/4	2007/1
04/01/2006 – 06/30/2006	2006/3	2006/4	2007/1	2007/2
07/01/2006 – 09/30/2006	2006/4	2007/1	2007/2	2007/3
10/01/2006 – 12/31/2006	2007/1	2007/2	2007/3	2007/4

<i>DATE OF GRADUATION 5-YEARS</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>
01/01/2006 – 03/31/2006	2010/2	2010/3	2010/4	2011/1
04/01/2006 – 06/30/2006	2010/3	2010/4	2011/1	2011/2
07/01/2006 – 09/30/2006	2010/4	2011/1	2011/2	2011/3
10/01/2006 – 12/31/2006	2011/1	2011/2	2011/3	2011/4

<i>DATE OF GRADUATION 10-YEARS</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>
01/01/2006 – 03/31/2006	2015/2	2015/3	2015/4	2016/1
04/01/2006 – 06/30/2006	2015/3	2015/4	2016/1	2016/2
07/01/2006 – 09/30/2006	2015/4	2016/1	2016/2	2016/3
10/01/2006 – 12/31/2006	2016/1	2016/2	2016/3	2016/4

<i>DATE OF GRADUATION 15-YEARS</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>	<i>YR/QUARTER</i>
01/01/2006 – 03/31/2006	2020/2	2020/3	2020/4	2021/1
04/01/2006 – 06/30/2006	2020/3	2020/4	2021/1	2021/2
07/01/2006 – 09/30/2006	2020/4	2021/1	2021/2	2021/3
10/01/2006 – 12/31/2006	2021/1	2021/2	2021/3	2021/4

