The Cigarette Tax, the Federal Medicaid Match, and Economic Stimulus in South Carolina

Prepared for
The South Carolina Hospital Association

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January 2003
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Executive Summary

Health care is a leading generator of economic activity in South Carolina. This study analyzes one important component of this crucial service industry: Medicaid, the health care program for low-income citizens. It is argued that Medicaid serves as a source of economic stimulus because state funding for Medicaid can be used to attract federal-matching funds. A cigarette tax increase dedicated to Medicaid could be used to leverage allocations from the federal government. If state funds were augmented though the state’s cigarette tax, federal match money would rise by about 2.3 times the new state contribution.

Based on a state- and county-level economic impact analysis, this study examines how the state’s economic development has the potential to gain from expanded Medicaid funding. The economic benefits are assessed from greater federal matching funds injected into the health care system. Because the Medicaid system is pervasive in South Carolina, greater funding could spread employment and income to every county in the state.

The increase in federal matching dollars to South Carolina—made possible on a recurring basis through annual state contributions garnered from cigarette taxes—comes at a time when many communities in South Carolina need economic stimulus. Medicaid expenditure works well in this regard because it extends economic benefits to the whole state, including both the urban and rural areas. In contrast, without the increases in funding, health care costs of the poor could be shifted to local communities (through emergency room and other uncompensated care for the poor), disrupting the health care system and acting as a drag on economic development.

This study finds that Medicaid has a significant effect on jobs and income creation. Using an impact (or input-output) model, researchers at the Division of Research (DOR) at the Moore School of Business, the University of South Carolina, calculated Medicaid economic stimulus effects. The results are based on a model tailored to fit Medicaid payments into the economies of South Carolina and its 46 counties. The model calculates the economic multiplier effect of the Medicaid federal match on employment and income.

Two scenarios are considered in this study. One considers the impact of the current Medicaid match; that is, the baseline scenario. A second scenario determines how cigarette taxes can be used to create additional jobs and income in South Carolina. This scenario can be summarized in simple terms. First, it is assumed
that increased state funds are raised though higher cigarette taxes. Then, it is assumed that the state funds are leveraged though federal matching funds. The funds go to hospitals and other health service providers, who in turn make new purchases from local suppliers. These input purchases extend economic activity further along the value chain through their own purchases, generating more jobs and income to economic sectors not directly associated with health care provision. At the same time, the employees working in the health service industry earn incomes that are spent and re-spent throughout the community, creating another economic surge effect—a source of stimulus only available through the expanded federal Medicaid match.

The key findings are the following:

- Currently, the health service sector directly employs about 100,000 people in South Carolina. It is the third-largest industry, following business services (the second-largest in the state) and eating and drinking places (the largest industry, according to government classifications).
- The current federal match for Medicaid annually injects $2.1 billion into South Carolina, a substantial sum for the state’s economy.
- Overall, the current federal Medicaid match supports 58,362 jobs and $1.56 billion in income for South Carolina citizens. Thus, Medicaid supports a large segment of the state’s economy.
- A cigarette tax funding increase to the national average of $0.59 per pack would allow the state to raise about $168 million internally. The Medicaid federal transfer would then amount to $389 million.
- The federal matching funds would lead to net gains of 10,905 jobs and $291 million in income for South Carolina citizens. The study shows that these effects of an expanded Medicaid program would spread across every county in South Carolina.
- The Medicaid multiplier benefits many state businesses and would be as large as a major industry complex coming into the state.
- The stimulus effect of additional Medicaid match money is larger than many existing state sectors.
- The new federal Medicaid money alone ($389 million) amounts to more than the total annual receipts in the state economy from all tobacco sales ($131 million in 2001).
- The incremental impacts on jobs and income from the new federal matching funds far exceed the total economic impacts of tobacco farming in South Carolina. In 2001, tobacco production supported a total of 4,082 jobs and $47.8 million in labor income in South Carolina.

It appears, then, that a significant opportunity to bolster economic development in South Carolina through federal Medicaid funds is available, but only if the state commits to funding the program. Given the state’s difficult fiscal situation and the budget realities of 2003, the cigarette tax increase is an attractive option for South Carolina. The cigarette tax funds could be used to directly stimulate health care providers and spread both health and economic benefits to many South Carolina citizens.
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Introduction
In recent years South Carolina has experienced slow employment and income growth. Throughout the state, business activity has fallen below its potential. Yet budget constraints hamper state and local government efforts to inject new stimulus into the economy. Moreover, state and local government programs and income transfers often merely recycle economic benefits from one sector and area of the state to another, rather than spur new business and employment opportunities. Thus, enhancing employment opportunities and raising incomes—critical aims of South Carolina policy—are hard to achieve.

Federal government spending can boost business activity when new funds flow into the state. Medicaid is a significant source of stimulus from the federal government. In turn, increased economy activity emanating from the health service system results from new federal injections into the Medicaid program. The federal matching funds for Medicaid work like expanding exports from the state’s manufacturing plants or increased spending by out-of-state tourists, contributing to the state’s economic base.

This study examines the economic stimulus potential of Medicaid, a program that covers one-third of South Carolinians. The coverage includes 50 percent of babies born in South Carolina, over 40 percent of the state’s children, and 75 percent of the elderly in nursing homes. First and foremost, the program is designed to raise the health standards of the state; typically, Medicaid is not considered a source of economic development. Yet there is a strong economic impact emanating from Medicaid, determined by the extent that federal match funding enters South Carolina’s economy, which in turn depends on the extent that the state government contributes to Medicaid. When the state expands Medicaid funds, the ensuring federal match leads to proportional increases in health care spending across South Carolina. Medicaid expansion can have real implications for jobs across the communities of South Carolina. But to what extent does Medicaid expansion lead to job and income increases?

Through an impact model of the state and local economies, this study calculates the potential economic gains from Medicaid expenditure. The analysis takes the increase in the state’s contribution as the amount raised by a cigarette tax increase from the current $0.07 per pack of 20 cigarettes to the national average of $0.59. The analysis is based on reasonable assumptions about the response of state revenue to an increase in the cigarette tax. The corresponding increase in Medicaid expenditures draws federal funds, which is the only source of new stimulus considered in the model. The ripple effects of the federal flow of funds generate a direct impact in the health service sector and an indirect effect on other sectors of the South Carolina economy. Thus, health service, an important sector of the state’s economy, supports many business activities. From the Lowcountry to the Upstate, Medicaid spending adds significantly to the local job and income base.
The study begins with a brief overview of the health service sector and its role in the South Carolina economy. Next, the study describes the Medicaid multiplier, including the methods and data used to analyze impact from an increase in the cigarette tax. This discussion is followed by the results of the impact modeling. The study then offers conclusions. The major finding is that by dedicating an increase in the cigarette taxes to Medicaid and using the funds to leverage more federal spending, South Carolina can expect to create almost 11,000 additional jobs and $300 million in incremental income.

The Health Service Industry in South Carolina

The health care industry in South Carolina provides necessary and vital services to citizens across the state. Health care is also a source of economic growth and development. Health service providers exist throughout the state, benefiting every community. Health care services are especially important in the state’s rural areas, where a system of hospitals and other facilities not only meet the essential health needs of the population, but also form an important economic backbone for the community.

According to conventional federal government definitions (as defined by the U.S. Bureau of Labor Statistics), the health services industry accounted for 99,835 jobs, or 5.58 percent of the South Carolina’s employment base in 2001. At just fewer than 100,000 employees, health services ranks as the third-largest industry, following only the broad categories of business services (second-largest) and eating and drinking places (the largest “industry” in the state). Interestingly, health services is larger than any individual “two-tier” manufacturing industry as defined by the Bureau of Labor Statistics (see Appendix A).

Besides employment, to measure the economic contributions made by the health service industry to the South Carolina economy one can examine the annual output and income. Both annual Gross State Product (GSP) data, a measure of overall annual economic activity or output, and personal income data by industry are available from the U.S. Department of Commerce, Bureau of Economic Analysis. These data show that the health services sector contributes substantially to the South Carolina economy. For example, in 2000 (the latest GSP figures available), health services (as defined by the Bureau of Economic Analysis) contributed over five percent of the annual state’s output. The individuals working in the health service sector generated more than $5 billion.

Personal income figures from the U.S. Department of Commerce reveal that individuals in South Carolina benefit significantly from health services employment. In 2000, health services contributed more than $4.246 billion in personal income. This was 6.3 percent of all labor earnings received by South Carolina residents. Among other Tier 2 industries, health services was the largest contributor to personal income in 2000. As a percentage of all income created by the services sector, health services came out on top in 2000, contributing more than one-fourth of all income. Apparently, health services has made a positive impact on the state of South Carolina economy by contributing income and employment for South Carolina residents.

Another perspective on the economic contributions of the health service industry can be gleaned from data on health care occupations. The U.S. Bureau of Labor Statistics tracks hourly compensation for all occupations. The occupations and corresponding hourly compensation for healthcare practitioners and support occupations (2000) are given in Appendix B. From doctors and dentists to pharmacy technicians, nurse aides, and medical assistants, the health care field covers a wide range of skills and compensation. Thus, the employment base is broad and can
potentially benefit many citizens in the state, at various levels of education and experience.

It should be stressed that the provision of health care has an effect on many industries and occupations in the state beyond the health services. By purchasing inputs from local businesses and through local retail spending by those individuals working in health care fields, manufacturing suppliers, retail establishments, and many other industries feel the ripple effect of this large sector of the economy. Through linkages with other sectors the total employment supported by the industry estimated to be 145,000 in 2001. The total economic value of the state’s health service industry, once the linkages are considered, is about $11.0 billion.

Finally, it should be pointed out that health care is more than the sum of economic benefits calculated in this study. Beyond economic effects, the presence and expansion of the health care helps define the overall quality of life of a community. This quality of life factor enhances the business climate attractiveness of South Carolina, however, and can itself spur economic development by helping to attract and retain businesses. A healthy workforce is no doubt a more productive workforce, just as healthy children are better students. Increasing the quality and availability of health care will help sell the state’s overall workforce readiness, and generate more employment and income in the future.

The Medicaid Multiplier

This section discusses how Medicaid stimulates economic activity. The Medicaid multiplier is a process that links health care with the state’s economy and transmits economic benefits broadly across state industries and regions.

The multiplier effect in South Carolina begins with an injection of new money into the state. The stimulus of any economic activity can be measured by calculating the multiplier effect on employment and income. It is a well-accepted economic principle that economic development depends on new money flowing in from outside the region. Otherwise, there is no net increase in spending, and no new job creation, only a reallocation of jobs and income among different industries and regions.

In fact, most state government expenditures reallocate spending from one sector of the economy to another—with no net state income or jobs directly resulting from state government spending. Specific agency functions may support economic development, but they do not necessarily create employment and income gains in the overall economy.

Medicaid, however, is a genuine source of economic stimulus because it attracts federal money, pumping spending into the state’s health care system. For every dollar spent by the state government, the federal government matches the spending by approximately $2.31 (some programs receive a much higher match rate, some are lower). The federal Medicaid money then ignites the multiplier process as Medicaid spending generates income for health care workers and contracts for suppliers.

The total impact of any multiplier process derives from three sources: direct, indirect, and induced impacts. The direct economic impact of Medicaid spending is represented by the local health care expenditures made possible by the federal match—the sum of all spending by hospitals, nursing homes, and other health-care and related businesses. This spending creates direct income and jobs for individuals in the health care system, and these effects rise as greater federal matching funds flow into the state.
The indirect and induced Medicaid effects derive from several sources. With higher spending on health care business, providers supported by the Medicaid funds buy supplies in South Carolina. The suppliers receive this incremental income and then spend a large portion of the new revenue in South Carolina, leading to further rounds of income and expenditure by other businesses and individuals. As a result, considerable employment and income are generated beyond the direct effects. This indirect effect can be modeled through a technique called input-output analysis.

Moreover, employee income in the health care system that is supported by Medicaid expenditures will be spent, creating yet another impact, called the induced impact. For example, health care employees spend part of their salaries on new cars, which leads auto dealer employees to spend part of their salaries on groceries and so on. In each round of the spending and income cycle, some of the impact dissipates as the money is taxed, saved, or used to buy goods and service outside of the state. The multiplier effect continues, but grows smaller, as spending turns into income, which is spent as a smaller share. An input-output model can trace the indirect and induced ripple effects and provide complete estimates of employment and income.

The total economic impact of the Medicaid program encompasses all the effects of spending and income circulating through the economy of the region, given some initial stimulus (the federal Medicaid match in this case). Using and input-output model, researchers in the Division of Research (DOR) at the Moore School of Business, the University of South Carolina, have measured the extent to which the Medicaid program provides employment and income for South Carolina residents.

Various scenarios can be considered for assessing the Medicaid multiplier effect. In this study, the total impact of the federal match is considered first—this is the current, or baseline scenario. Then, the increase in funds from the cigarette tax is calculated. Using information provided by the Department of Health and Human Services on Medicaid expenditures at the state and county level, the research team estimated the current economic multiplier effect (using 2001 figures) and potential Medicaid increase, focusing on the two most common impact measures—employment and income.

The basic assumption about the Medicaid match used in both scenarios is straightforward. The current federal Medicaid match for South Carolina is .3019 state funds to .6981 federal funds. So, every $1 of state money brings in $2.31 in federal matching funds.
The scenario involving an increased federal flow of funds into Medicaid is based on the assumption that state funds are first dedicated from a rise in the cigarette tax from $0.07 to $0.59. It was necessary then to estimate new state tax revenues garnered from the cigarette tax rate increase. The South Carolina Board of Economic Advisors has calculated that increasing the cigarette tax from $0.07 to $0.59 will generate $168,099,174 annually in new tax revenues. This estimate fully accounts for the expected decline in in-state cigarette purchases resulting from higher cigarette prices.

As a check of this estimate, two independent estimates of the new tax revenue were generated using two alternative approaches. One estimate was based on the actual revenue experience of states that have raised cigarette taxes in the past. These results indicate that, for the average state, a 10 percent increase in the cigarette excise tax rate has led to an 8.4 percent increase in cigarette tax revenues. Applying this ratio to the South Carolina proposal suggests that new tax revenues would total $160 million.

The second alternative approach was to apply an estimated cigarette price elasticity of -0.4, a number frequently mentioned in the literature. This approach generated an estimate of new tax revenues equal to $178.6 million. Therefore, the estimate of new revenue from the South Carolina Board of Economic Advisors is consistent with these other approaches. Indeed, the average estimate from these two alternative approaches is $169.3 million—only $1.2 million higher than the South Carolina Board of Economic Advisors’ estimate used in this study.

As discussed earlier, the economic impact of state Medicaid expansion starts with the state contribution of $168,099,174 (the Board of Economic Advisors’ estimate) and calculates the federal match (based on the the ratio of 0.3019 state funds to 0.6981 federal funds). The resulting federal match ($388,704,980) is the base figure used to calculate the indirect and induced effects. The total impact is determined through a model capturing the interindustry linkages that form the basic structure of the South Carolina economy.

Specifically, the impact model employed is IMPLAN, an input-output modeling program used across the United States. Input-output analysis is the method used to calculate detailed employment and income effects of changes in the economy for different industries and regions. Medicaid spending is inserted into appropriate industry classifications (hospitals, other health care providers, pharmacies, etc.) and the model accounts for purchase patterns and other linkage effects that give rise to the Medicaid multiplier.

In both scenarios presented in this study, the model takes the gains from the Medicaid match as the starting inputs and calculates the indirect and induced impacts on the state’s economy and on individual counties. The model generates indirect and induced impacts based on the most recent data available for South Carolina.

Results
Table 1 presents the results of the impact analysis for South Carolina. First, consider the baseline scenario. The current federal match for Medicaid totals $2,090,366,288. This influx of federal money into the health care system of South Carolina supports more than 58,362 jobs and generates $1,558,954,770 in income for South Carolina citizens. These are the total impacts, which combine the direct, indirect, and induced effects of the federal match into one summary impact measure. Employment and income effects for all 46 counties in South Carolina can be found in Table 1, and are shown in Figures 1 and 2.
### Table 1
Economic Impacts of Current Federal Matching Money: Baseline Scenario

#### State Impacts

<table>
<thead>
<tr>
<th>Total Fed Money</th>
<th>Statewide Impacts on:</th>
<th></th>
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<td></td>
<td>Mone y</td>
<td>Jobs</td>
<td>Income</td>
<td>Output</td>
</tr>
<tr>
<td>$2,080,366,288</td>
<td>58,362</td>
<td>$1,558,954,770</td>
<td>$3,283,962,474</td>
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#### County Impacts

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<th>County</th>
<th>Initial Fed money</th>
<th>Jobs</th>
<th>Income</th>
<th>Output</th>
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<td>Percent Inc.</td>
<td>Statewide Increases in:</td>
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<td></td>
<td>Income</td>
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<td>Union</td>
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<td>354.7</td>
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<td>$5,724,133</td>
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<tr>
<td>Williamsburg</td>
<td>$15,720,888</td>
<td>413.5</td>
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<td>York</td>
<td>$46,106,324</td>
<td>1,209.6</td>
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<td>$33,079,512</td>
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Note: County totals do not sum to state total because there are additional multiplier effects that spillover beyond each county that affect the state.

**Table 2**

<table>
<thead>
<tr>
<th>Economic Impacts of New Federal Matching Money: Cigarette Tax Rate Increase</th>
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<tr>
<td>State Impacts</td>
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<tr>
<td>New Cig. Tax Revenues</td>
</tr>
<tr>
<td>Revenues</td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td>$168,099,174</td>
</tr>
<tr>
<td>$291,282,110</td>
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<tr>
<td>County Sum</td>
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<tr>
<td>Abbeville</td>
</tr>
<tr>
<td>Aiken</td>
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<td>Allendale</td>
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<td>Anderson</td>
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<td>Beaufort</td>
</tr>
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<td>Berkeley</td>
</tr>
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<td>Calhoun</td>
</tr>
<tr>
<td>Charleston</td>
</tr>
<tr>
<td>Cherokee</td>
</tr>
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<td>Chester</td>
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<td>Chesterfield</td>
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<td>Clarendon</td>
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<tr>
<td>Colleton</td>
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<tr>
<td>Darlington</td>
</tr>
<tr>
<td>Dillon</td>
</tr>
<tr>
<td>County</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Dorchester</td>
</tr>
<tr>
<td>Edgefield</td>
</tr>
<tr>
<td>Fairfield</td>
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<td>Florence</td>
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<td>Georgetown</td>
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<td>Greenville</td>
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<td>Greenwood</td>
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<td>Hampton</td>
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<td>Horry</td>
</tr>
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<td>Jasper</td>
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<td>Kershaw</td>
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<td>Lancaster</td>
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<td>McCormick</td>
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<td>Marion</td>
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<td>Marlboro</td>
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<td>Newberry</td>
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<td>Oconee</td>
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<td>Orangeburg</td>
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<td>Pickens</td>
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<td>Richland</td>
</tr>
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<td>Saluda</td>
</tr>
<tr>
<td>Spartanburg</td>
</tr>
<tr>
<td>Sumter</td>
</tr>
<tr>
<td>Union</td>
</tr>
<tr>
<td>Williamsburg</td>
</tr>
<tr>
<td>York</td>
</tr>
</tbody>
</table>

**Notes:**

1) County totals do not sum to state total because there are additional multiplier effects that spillover beyond each county that affect the state.

2) New Tax Revenues represent the incremental increase in revenue, as estimated by the S.C. Board of Economic Advisors.

3) Estimate of new federal match money based on match rate of .3019 to .6981, such that $1 of state money brings in $2.31 in fed money.
Next, consider the alternative scenario based on increasing the federal Medicaid match. If South Carolina increases Medicaid spending by $168 million, this would cause the state to gain the corresponding federal match of $389 million, as discussed earlier. As Table 2 reveals, this increase in matching funds would create an additional 10,905 jobs and $291,282,110 in income for South Carolina, after the direct, indirect, and induced effects are taken into account. This economic stimulus—almost 11,000 jobs—rivals South Carolina's largest industry recruitment successes in recent years. Unlike most of the new plants attracted to the state, the effects of Medicaid expansion would filter throughout every county. Table 2 shows the employment and income results for all South Carolina counties from the cigarette tax scenario. The county-level impacts are shown in Figures 3 and 4.

To better understand these impacts, consider tobacco in South Carolina. According to the South Carolina Agricultural Statistics Service, tobacco receipts in 2001 totaled $131,232,000.\textsuperscript{4} Total tobacco farm production of $131 million supports a total of 4,083 jobs in South Carolina. This employment impact is the result of the full multiplier process including the direct, indirect, and induced impacts. Tobacco farming supported a total of $47.8 million in labor income in South Carolina during 2001. Accordingly, it can be seen that raising the cigarette tax to the national average and earmarking the funds to Medicaid could have a greater impact than the entire tobacco sales for the year. The total impact of the current Medicaid funding, along with the additional funds, far outstrips the tobacco industry, and, indeed, many sectors, of the state’s economy. The annual Medicaid multiplier would create 69,266 jobs and $1,850,236,880 in income for state citizens.
Conclusion
From Connecticut to Washington, state governments have recently chosen to raise cigarette taxes. The increased state revenue has been used to fund a variety of programs and services. South Carolina, still well below the national average for the cigarette tax, has an opportunity to use enhanced cigarette tax revenue to promote economic development. From an economic development perspective, it may make most sense to leverage an increase in the cigarette tax with federal money available to assist Medicaid programs. The stimulus works to create new jobs and income only when state funds are used to leverage the federal funds. The money flows into the state to the extent that the state commits to funding Medicaid. In this way, the tax can become a net job and income generator for South Carolina. This conclusion follows because the federal Medicaid funds infuse new money into South Carolina’s income stream, just like tourist expenditures and manufacturing exports.

This study shows how the injection of new federal money, made possible by raising the cigarette tax, would lead to significant increases in jobs (almost 11,000) and income (nearly $300 million) for South Carolina citizens. Even with a constrained budget, a judicious use of the new state funds can directly stimulate the health services industry and then spread benefits to many additional businesses and individuals through indirect and induced effects.

Endnotes
2 The webpage for the U.S. Department of Commerce, Bureau of Economic Analysis is http://www.bea.gov.
Appendix A
Employment Statistics
## Employment Statistics

### Average Monthly Private Sector Employment for 2001 - State of South Carolina

#### Tier 2 Industry Employment Ranked in Descending Order

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating and Drinking Places</td>
<td>132,412</td>
<td>7.40%</td>
</tr>
<tr>
<td>Business services</td>
<td>109,712</td>
<td>6.13%</td>
</tr>
<tr>
<td><strong>Health services</strong></td>
<td><strong>99,835</strong></td>
<td><strong>5.58%</strong></td>
</tr>
<tr>
<td>Special Trade</td>
<td>66,875</td>
<td>3.74%</td>
</tr>
<tr>
<td>Textiles</td>
<td>60,317</td>
<td>3.37%</td>
</tr>
<tr>
<td>Food Stores</td>
<td>56,328</td>
<td>3.15%</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>44,072</td>
<td>2.46%</td>
</tr>
<tr>
<td>Wholesale, Durable</td>
<td>44,060</td>
<td>2.46%</td>
</tr>
<tr>
<td>Misc. Retail</td>
<td>37,323</td>
<td>2.09%</td>
</tr>
<tr>
<td>Nonelectric Machines</td>
<td>36,278</td>
<td>2.03%</td>
</tr>
<tr>
<td>Auto Dealers - Service Stations</td>
<td>34,136</td>
<td>1.91%</td>
</tr>
<tr>
<td>Mgmt and Rltd Services</td>
<td>33,902</td>
<td>1.90%</td>
</tr>
<tr>
<td>Wholesale, NonDurable</td>
<td>31,281</td>
<td>1.75%</td>
</tr>
<tr>
<td>Social services</td>
<td>30,899</td>
<td>1.73%</td>
</tr>
<tr>
<td>Trucking - Warehousing</td>
<td>29,149</td>
<td>1.63%</td>
</tr>
<tr>
<td>General Building</td>
<td>28,062</td>
<td>1.57%</td>
</tr>
<tr>
<td>Hotels and other lodging places</td>
<td>27,802</td>
<td>1.55%</td>
</tr>
<tr>
<td>Transportation Equipment</td>
<td>26,754</td>
<td>1.50%</td>
</tr>
<tr>
<td>Rubber, Misc Plastics</td>
<td>25,583</td>
<td>1.43%</td>
</tr>
<tr>
<td>Electric, gas and sanitary services</td>
<td>24,570</td>
<td>1.37%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>23,464</td>
<td>1.31%</td>
</tr>
<tr>
<td>Electric - Electric Equipment</td>
<td>23,376</td>
<td>1.31%</td>
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<tr>
<td>Amusement and Recreation Services</td>
<td>23,334</td>
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<tr>
<td>Banking</td>
<td>21,189</td>
<td>1.18%</td>
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<tr>
<td>Fabricated Metal</td>
<td>20,791</td>
<td>1.16%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>20,547</td>
<td>1.15%</td>
</tr>
<tr>
<td>Communications</td>
<td>18,441</td>
<td>1.03%</td>
</tr>
<tr>
<td>Food Products</td>
<td>17,862</td>
<td>1.00%</td>
</tr>
<tr>
<td>Building Materials - Garden</td>
<td>17,644</td>
<td>0.99%</td>
</tr>
<tr>
<td>Personal services</td>
<td>16,987</td>
<td>0.95%</td>
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<td>Paper</td>
<td>16,907</td>
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<td>Apparel and Accessories</td>
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<td>Insurance Carriers</td>
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<td>Furniture and Home Furnishings</td>
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<td>Auto repair - Services</td>
<td>15,437</td>
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<td>Educational services</td>
<td>15,004</td>
<td>0.84%</td>
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<tr>
<td>Heavy Construction</td>
<td>14,421</td>
<td>0.81%</td>
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<tr>
<td>Apparel</td>
<td>14,323</td>
<td>0.80%</td>
</tr>
<tr>
<td>Lumber</td>
<td>13,365</td>
<td>0.75%</td>
</tr>
<tr>
<td>Printing - Publishing</td>
<td>13,246</td>
<td>0.74%</td>
</tr>
<tr>
<td>Agricultural Services</td>
<td>13,075</td>
<td>0.73%</td>
</tr>
<tr>
<td>Legal services</td>
<td>12,765</td>
<td>0.71%</td>
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<tr>
<td>Stone - Clay - Glass</td>
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<td>0.63%</td>
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<td>Industry</td>
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<td>Percentage</td>
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<tr>
<td>----------------------------------------------</td>
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<tr>
<td>Air Transport</td>
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<tr>
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<td>Misc. Repair - Services</td>
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<td>Membership organizations</td>
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<td>Transportation services</td>
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<td>0.32%</td>
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<tr>
<td>Instruments</td>
<td>4,597</td>
<td>0.26%</td>
</tr>
<tr>
<td>Furniture</td>
<td>4,446</td>
<td>0.25%</td>
</tr>
<tr>
<td>Agricultural Production/Crops</td>
<td>4,259</td>
<td>0.24%</td>
</tr>
<tr>
<td>Misc. Manufacturing</td>
<td>4,242</td>
<td>0.24%</td>
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<td>Private Household</td>
<td>4,135</td>
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<td>Nonclassified Establishments</td>
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<td>Motion Pictures</td>
<td>3,786</td>
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<tr>
<td>Agricultural Production/Livestock</td>
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<td>0.19%</td>
</tr>
<tr>
<td>Water Transportation</td>
<td>3,258</td>
<td>0.18%</td>
</tr>
<tr>
<td>Local - Urban Transportation</td>
<td>2,942</td>
<td>0.16%</td>
</tr>
<tr>
<td>Securities - Commodities Brokers - Services</td>
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<tr>
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<td>1,549</td>
<td>0.09%</td>
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<tr>
<td>Nonmetallic Minerals, except fuels</td>
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<td>0.08%</td>
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<td>Holding and Investments</td>
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<td>Museums, Zoos, Etc.</td>
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<td>Petroleum - Coal</td>
<td>311</td>
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<tr>
<td>Leather</td>
<td>100</td>
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<tr>
<td>Fishing-Hunting-Trapping</td>
<td>99</td>
<td>0.01%</td>
</tr>
<tr>
<td>Oil and Gas Exploration</td>
<td>37</td>
<td>0.00%</td>
</tr>
<tr>
<td>Metal Mining</td>
<td>18</td>
<td>0.00%</td>
</tr>
<tr>
<td>Tobacco</td>
<td>7</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,788,845</strong></td>
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*Source: South Carolina Employment Security Commission.*
### Average Monthly Private Sector Employment for 2001 - State of South Carolina
by Industry Division

<table>
<thead>
<tr>
<th>Industry Division</th>
<th>2001</th>
<th>% of Total</th>
</tr>
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<tr>
<td><strong>Agriculture</strong></td>
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</tr>
<tr>
<td>Agriculture</td>
<td>22,297</td>
<td>1.25%</td>
</tr>
<tr>
<td>Agricultural Production/Crops</td>
<td>4,259</td>
<td>0.24%</td>
</tr>
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<td>0.09%</td>
</tr>
<tr>
<td>Fishing-Hunting-Trapping</td>
<td>99</td>
<td>0.01%</td>
</tr>
<tr>
<td><strong>Mining</strong></td>
<td>1,616</td>
<td>0.09%</td>
</tr>
<tr>
<td>Metal Mining</td>
<td>18</td>
<td>0.00%</td>
</tr>
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<tr>
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</tr>
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<td>0.81%</td>
</tr>
<tr>
<td>Special Trade</td>
<td>66,875</td>
<td>3.74%</td>
</tr>
<tr>
<td><strong>Manufacturing</strong></td>
<td>326,608</td>
<td>18.26%</td>
</tr>
<tr>
<td>Food Products</td>
<td>17,862</td>
<td>1.00%</td>
</tr>
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<td>Tobacco</td>
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</tr>
<tr>
<td>Transportation Equipment</td>
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<td>1.50%</td>
</tr>
<tr>
<td>Instruments</td>
<td>4,597</td>
<td>0.26%</td>
</tr>
<tr>
<td>Misc. Manufacturing</td>
<td>4,242</td>
<td>0.24%</td>
</tr>
<tr>
<td><strong>Transportation, Communication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public Utilities</strong></td>
<td>93,396</td>
<td>5.22%</td>
</tr>
<tr>
<td>Railroad transportation</td>
<td>D</td>
<td>N/A</td>
</tr>
<tr>
<td>Local - Urban Transportation</td>
<td>2,942</td>
<td>0.16%</td>
</tr>
<tr>
<td>Trucking - Warehousing</td>
<td>29,149</td>
<td>1.63%</td>
</tr>
<tr>
<td>Water Transportation</td>
<td>3,258</td>
<td>0.18%</td>
</tr>
<tr>
<td>Air Transport</td>
<td>9,196</td>
<td>0.51%</td>
</tr>
<tr>
<td>Pipelines</td>
<td>D</td>
<td>N/A</td>
</tr>
<tr>
<td>Transportation services</td>
<td>5,802</td>
<td>0.32%</td>
</tr>
<tr>
<td>Communications</td>
<td>18,441</td>
<td>1.03%</td>
</tr>
<tr>
<td>Service</td>
<td>Value</td>
<td>Percentage</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>Electric, gas and sanitary services</td>
<td>24,570</td>
<td>1.37%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>75,341</td>
<td>4.21%</td>
</tr>
<tr>
<td>Wholesale, Durable</td>
<td>44,060</td>
<td>2.46%</td>
</tr>
<tr>
<td>Wholesale, NonDurable</td>
<td>31,281</td>
<td>1.75%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>354,541</td>
<td>19.82%</td>
</tr>
<tr>
<td>Building Materials - Garden</td>
<td>17,644</td>
<td>0.99%</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>44,072</td>
<td>2.46%</td>
</tr>
<tr>
<td>Food Stores</td>
<td>56,328</td>
<td>3.15%</td>
</tr>
<tr>
<td>Auto Dealers - Service Stations</td>
<td>34,136</td>
<td>1.91%</td>
</tr>
<tr>
<td>Apparel and Accessories</td>
<td>16,794</td>
<td>0.94%</td>
</tr>
<tr>
<td>Furniture and Home Furnishings</td>
<td>15,829</td>
<td>0.88%</td>
</tr>
<tr>
<td>Eating and Drinking Places</td>
<td>132,412</td>
<td>7.40%</td>
</tr>
<tr>
<td>Misc. Retail</td>
<td>37,323</td>
<td>2.09%</td>
</tr>
<tr>
<td>Finance, Insurance, Real Estate</td>
<td>81,262</td>
<td>4.54%</td>
</tr>
<tr>
<td>Banking</td>
<td>21,189</td>
<td>1.18%</td>
</tr>
<tr>
<td>Credit Agencies</td>
<td>10,576</td>
<td>0.59%</td>
</tr>
<tr>
<td>Securities - Commodities Brokers - Services</td>
<td>2,844</td>
<td>0.16%</td>
</tr>
<tr>
<td>Insurance Carriers</td>
<td>15,913</td>
<td>0.89%</td>
</tr>
<tr>
<td>Insurance Agents - Brokers</td>
<td>9,173</td>
<td>0.51%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>20,547</td>
<td>1.15%</td>
</tr>
<tr>
<td>Holding and Investments</td>
<td>1,018</td>
<td>0.06%</td>
</tr>
<tr>
<td>Services</td>
<td>410,494</td>
<td>22.95%</td>
</tr>
<tr>
<td>Hotels and other lodging places</td>
<td>27,802</td>
<td>1.55%</td>
</tr>
<tr>
<td>Personal services</td>
<td>16,987</td>
<td>0.95%</td>
</tr>
<tr>
<td>Business services</td>
<td>109,712</td>
<td>6.13%</td>
</tr>
<tr>
<td>Auto repair - Services</td>
<td>15,437</td>
<td>0.86%</td>
</tr>
<tr>
<td>Misc. Repair - Services</td>
<td>7,941</td>
<td>0.44%</td>
</tr>
<tr>
<td>Motion Pictures</td>
<td>3,786</td>
<td>0.21%</td>
</tr>
<tr>
<td>Amusement and Recreation Services</td>
<td>23,334</td>
<td>1.30%</td>
</tr>
<tr>
<td>Health services</td>
<td>99,835</td>
<td>5.58%</td>
</tr>
<tr>
<td>Legal services</td>
<td>12,765</td>
<td>0.71%</td>
</tr>
<tr>
<td>Educational services</td>
<td>15,004</td>
<td>0.84%</td>
</tr>
<tr>
<td>Social services</td>
<td>30,899</td>
<td>1.73%</td>
</tr>
<tr>
<td>Museums, Zoos, Etc.</td>
<td>944</td>
<td>0.05%</td>
</tr>
<tr>
<td>Membership organizations</td>
<td>7,874</td>
<td>0.44%</td>
</tr>
<tr>
<td>Mgmt and Rlt Services</td>
<td>33,902</td>
<td>1.90%</td>
</tr>
<tr>
<td>Private Household</td>
<td>4,135</td>
<td>0.23%</td>
</tr>
<tr>
<td>Misc. Services</td>
<td>129</td>
<td>0.01%</td>
</tr>
<tr>
<td>Nonclassified Establishments</td>
<td>4,077</td>
<td>0.23%</td>
</tr>
</tbody>
</table>

**TOTAL**                                       | 1,788,845 |

D—Not Disclosed.

*Source: South Carolina Employment Security Commission.*
Appendix B
Occupational Employment and Wage Statistics
### Healthcare Practitioners and Technical Occupations

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>Employment</th>
<th>Median Hourly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare Practitioners and Technical Occupations</td>
<td>79,670</td>
<td>$18.59</td>
</tr>
<tr>
<td>Chiropractors</td>
<td>240</td>
<td>$40.78</td>
</tr>
<tr>
<td>Dentists</td>
<td>1,590</td>
<td>$52.59</td>
</tr>
<tr>
<td>Dietitians and Nutritionists</td>
<td>940</td>
<td>$14.79</td>
</tr>
<tr>
<td>Optometrists</td>
<td>150</td>
<td>$49.89</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>2,720</td>
<td>$33.89</td>
</tr>
<tr>
<td>Anesthesiologists</td>
<td>note 3</td>
<td>$56.30</td>
</tr>
<tr>
<td>Family and General Practitioners</td>
<td>1,030</td>
<td>$64.81</td>
</tr>
<tr>
<td>Internists, General</td>
<td>650</td>
<td>$67.47</td>
</tr>
<tr>
<td>Obstetricians and Gynecologists</td>
<td>260</td>
<td>note 2</td>
</tr>
<tr>
<td>Pediatricians, General</td>
<td>140</td>
<td>$62.75</td>
</tr>
<tr>
<td>Psychiatrists</td>
<td>210</td>
<td>$43.06</td>
</tr>
<tr>
<td>Surgeons</td>
<td>900</td>
<td>note 2</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>2,430</td>
<td>$19.20</td>
</tr>
<tr>
<td>Podiatrists</td>
<td>note 3</td>
<td>$39.19</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>26,320</td>
<td>$20.72</td>
</tr>
<tr>
<td>Audiologists</td>
<td>150</td>
<td>$28.46</td>
</tr>
<tr>
<td>Occupational Therapists</td>
<td>880</td>
<td>$25.17</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>1,620</td>
<td>$26.51</td>
</tr>
<tr>
<td>Radiation Therapists</td>
<td>290</td>
<td>$20.43</td>
</tr>
<tr>
<td>Recreational Therapists</td>
<td>260</td>
<td>$11.44</td>
</tr>
<tr>
<td>Respiratory Therapists</td>
<td>1,040</td>
<td>$18.29</td>
</tr>
<tr>
<td>Speech-Language Pathologists</td>
<td>1,200</td>
<td>$23.19</td>
</tr>
<tr>
<td>Veterinarians</td>
<td>530</td>
<td>$28.30</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technologists</td>
<td>2,460</td>
<td>$17.28</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technicians</td>
<td>2,740</td>
<td>$12.91</td>
</tr>
<tr>
<td>Dental Hygienists</td>
<td>1,410</td>
<td>$24.77</td>
</tr>
<tr>
<td>Cardiovascular Technologists and Technicians</td>
<td>790</td>
<td>$18.80</td>
</tr>
<tr>
<td>Diagnostic Medical Sonographers</td>
<td>330</td>
<td>$20.43</td>
</tr>
<tr>
<td>Nuclear Medicine Technologists</td>
<td>190</td>
<td>$20.39</td>
</tr>
<tr>
<td>Radiologic Technologists and Technicians</td>
<td>2,080</td>
<td>$17.41</td>
</tr>
<tr>
<td>Emergency Medical Technicians and Paramedics</td>
<td>3,030</td>
<td>$11.28</td>
</tr>
<tr>
<td>Dietetic Technicians</td>
<td>210</td>
<td>$8.08</td>
</tr>
<tr>
<td>Pharmacy Technicians</td>
<td>3,050</td>
<td>$9.30</td>
</tr>
<tr>
<td>Psychiatric Technicians</td>
<td>440</td>
<td>$8.38</td>
</tr>
<tr>
<td>Respiratory Therapy Technicians</td>
<td>580</td>
<td>$16.83</td>
</tr>
<tr>
<td>Surgical Technologists</td>
<td>730</td>
<td>$12.47</td>
</tr>
<tr>
<td>Veterinary Technologists and Technicians</td>
<td>530</td>
<td>$9.44</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>9,380</td>
<td>$12.85</td>
</tr>
<tr>
<td>Medical Records and Health Information Technicians</td>
<td>1,450</td>
<td>$10.27</td>
</tr>
<tr>
<td>Opticians, Dispensing</td>
<td>370</td>
<td>$12.98</td>
</tr>
<tr>
<td>Orthotists and Prosthetists</td>
<td>note 3</td>
<td>$27.72</td>
</tr>
<tr>
<td>Occupational Health and Safety Specialists and Technicians</td>
<td>1,370</td>
<td>$11.56</td>
</tr>
<tr>
<td>Athletic Trainers</td>
<td>260</td>
<td>note 1</td>
</tr>
</tbody>
</table>

**Note 1.** Hourly wage rates for occupations where workers typically work fewer than 2,080 hours per year are not available.

**Note 2.** Median hourly wage is equal to or greater than $70.00 per hour.

**Note 3.** Estimates not released due to high relative standard error. The relative standard error (RSE) is a measure of the reliability of a survey statistic. The smaller the relative standard error, the more precise the estimate.

## Healthcare Support Occupations

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>Employment</th>
<th>Median Hourly</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Healthcare Support Occupations</strong></td>
<td>33,590</td>
<td>$8.44</td>
</tr>
<tr>
<td>Home Health Aides</td>
<td>4,000</td>
<td>$7.87</td>
</tr>
<tr>
<td>Nursing Aides, Orderlies, and Attendants</td>
<td>14,710</td>
<td>$7.98</td>
</tr>
<tr>
<td>Psychiatric Aides</td>
<td>480</td>
<td>$8.08</td>
</tr>
<tr>
<td>Occupational Therapist Assistants</td>
<td>220</td>
<td>$16.98</td>
</tr>
<tr>
<td>Occupational Therapist Aides</td>
<td>50</td>
<td>$7.77</td>
</tr>
<tr>
<td>Physical Therapist Assistants</td>
<td>740</td>
<td>$16.67</td>
</tr>
<tr>
<td>Physical Therapist Aides</td>
<td>210</td>
<td>$9.14</td>
</tr>
<tr>
<td>Massage Therapists</td>
<td>110</td>
<td>$11.99</td>
</tr>
<tr>
<td>Dental Assistants</td>
<td>2,970</td>
<td>$11.92</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>4,220</td>
<td>$9.94</td>
</tr>
<tr>
<td>Medical Equipment Preparers</td>
<td>750</td>
<td>$9.38</td>
</tr>
<tr>
<td>Medical Transcriptionists</td>
<td>1,030</td>
<td>$11.89</td>
</tr>
<tr>
<td>Pharmacy Aides</td>
<td>720</td>
<td>$8.32</td>
</tr>
<tr>
<td>Veterinary Assistants and Laboratory Animal Caretakers</td>
<td>1,080</td>
<td>$7.60</td>
</tr>
</tbody>
</table>