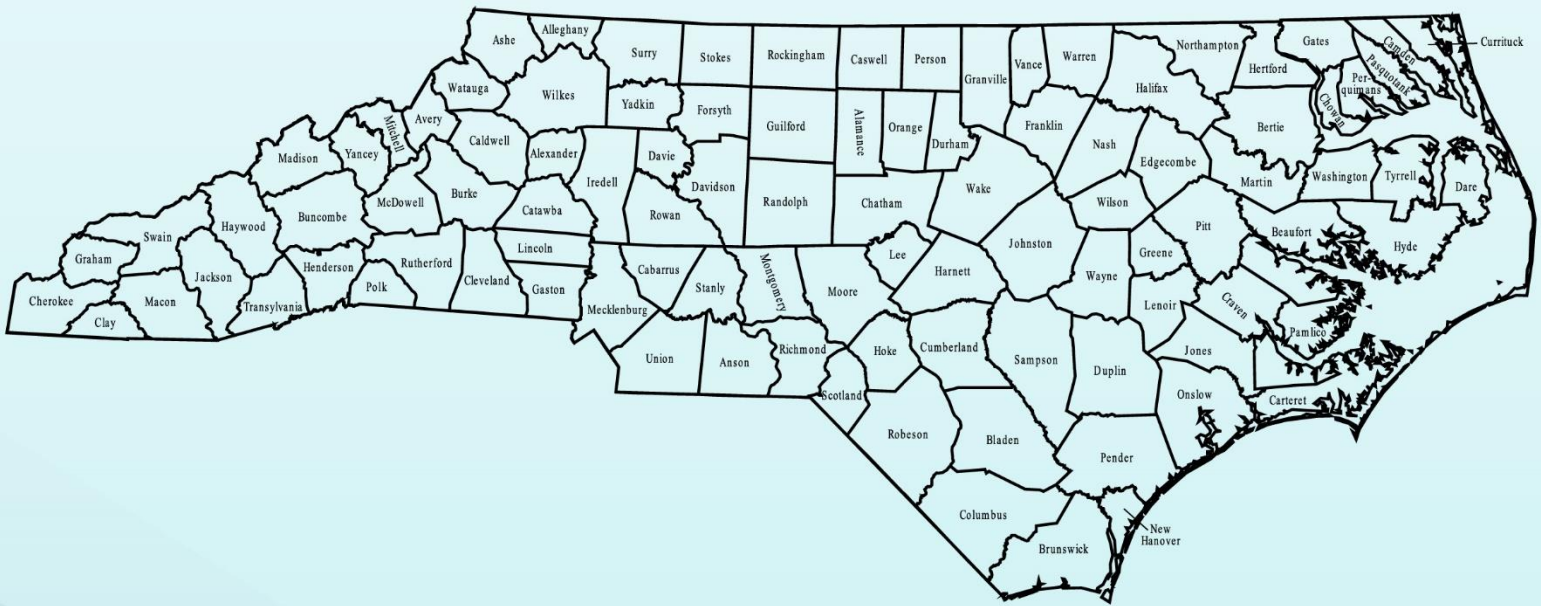


The Economic and Employment Benefits of Expanding Medicaid in North Carolina:

June 2019 Update



Leighton Ku, PhD, MPH
Brian Bruen, PhD
Erin Brantley, MPH, PhD (cand.)

Center for Health Policy Research
The George Washington University

Milken Institute School
of Public Health

THE GEORGE WASHINGTON UNIVERSITY



Kate B. Reynolds
Charitable Trust
Investing in Impact

***EMBARGOED UNTIL
JUNE 26, 2019 at
12:01 A.M.***

About Cone Health Foundation

[Cone Health Foundation's](#) mission is to measurably improve the health of the people in the greater Greensboro area. Founded in 1997, the Foundation has long been focused on increasing access to care and is Greensboro's only health-specific philanthropic organization. Since its inception, Cone Health Foundation has awarded more than \$91 million to community nonprofit partners. Most of these grants fall into the Foundation's four focus areas: Access to Health Care, Adolescent Pregnancy Prevention, HIV and Substance Use and Mental Health Disorders.

About the Kate B. Reynolds Charitable Trust

The Kate B. Reynolds Charitable Trust works to improve the health and quality of life of financially disadvantaged residents in Forsyth County and around the state, as Mrs. Reynolds stated when she established the Trust in 1947. We support thriving North Carolina communities and thriving residents by working toward equitable access to care and equitable health outcomes. We invest in promising programs, efforts that foster systems change, and innovative ideas to help residents and communities succeed. Wells Fargo Bank, N.A. serves as sole trustee. Learn more at www.kbr.org.

About the Authors

***Leighton Ku**, PhD, MPH, is the Director of the Center for Health Policy Research and Professor of Health Policy and Management in the Milken School of Public Health, The George Washington University. He is a nationally known expert who has conducted health policy research about Medicaid, health reform and economic aspects of health policies for more than 25 years. He previously was on the staff of the Urban Institute and the Center on Budget and Policy Priorities. He is on the Executive Board of the District of Columbia's Health Benefits Exchange Authority.*

***Brian Bruen**, PhD, is a Lead Research Scientist and Lecturer in the Department of Health Policy and Management at The George Washington University. He has conducted research and analyses about health policy and Medicaid for more than 20 years, including research about the economic effects of health policies. He previously worked at Avalere Health, the National Association of Chain Drug Stores and the Urban Institute. He recently received his PhD in public policy and administration at The George Washington University and will soon join the staff of RTI International.*

***Erin Brantley**, MPH, PhD (cand.) is a Senior Research Associate and doctoral candidate at The George Washington University. She has conducted several studies about health policy, including recent research about work requirements.*

The Economic and Employment Benefits of Expanding Medicaid in North Carolina: A 2019 Update

Executive Summary

Governor Roy Cooper has proposed expanding eligibility in North Carolina's Medicaid health insurance program. North Carolina currently covers parents with incomes up to 42 percent of the poverty line and generally does not cover adults without dependent children. The expansion would lift income criteria to 138 percent of the poverty line for adults 19 to 64 (\$29,400 for a family of three). North Carolina is one of 14 states that has not expanded Medicaid; only eight states in the U.S. have more austere income guidelines.

This brief is an update of a December 2014 report about the potential economic and employment consequences of expanding Medicaid in North Carolina. The earlier report examined the consequences of not expanding Medicaid in 2014 and then estimated what would happen if the Tar Heel state expanded it in 2016. This report addresses the consequences of the Governor's proposal to expand Medicaid beginning November 2019. It offers a nonpartisan analysis of potential changes in economic growth at the state level and in each of North Carolina's 100 counties.

Briefly, the analysis indicates that if Medicaid is expanded:

- In Calendar Year 2020, about 464,000 more people will gain Medicaid coverage. This will rise to about 634,000 people in 2022, then stabilize.
- New federal funding flowing into North Carolina will rise by \$2.8 billion in 2019 and gradually climb to \$4.7 billion by 2022 because the federal government would pay 90 percent of Medicaid costs for newly eligible adults. From 2020 to 2022, North Carolina will gain \$11.7 billion more in federal funding.
- The injection of billions of dollars into North Carolina's economy will spur business activity, which will in turn create more jobs. We estimate that 24,400 additional jobs would be created in 2020, climbing to 37,200 more jobs in 2022, compared to levels if Medicaid is not expanded.
- The Gross State Product (a measure of economic activity in North Carolina) would be increased by \$1.9 billion in 2020 and \$2.9 billion in 2022.
- The increased economic activity and employment would trigger increases in state and county tax revenues, totaling \$500 million in state revenue from 2020 to 2022 and \$100 million in county revenue over the three-year period. The additional revenues can help the state and the counties address other budgetary needs.

Since more low-income people will get health insurance coverage, increasing health care access across the state, the benefits will be broadly dispersed. This analysis estimates economic gains in all 100 counties. Almost half the job gains – 17,900 jobs by 2022 -- will occur in six large counties

(Buncombe, Durham, Forsyth, Guilford, Mecklenburg and Wake Counties), while the other 19,200 new jobs will be distributed across the rest of the state, including rural areas.

Slightly more than half of the job growth (20,600 jobs) would be in the health care field, hardly surprising since Medicaid is a health insurance program. But the other 16,600 jobs created would be in other fields such as construction, retail sales, professional and management services, etc. Although Medicaid funds would first flow to health care providers, they would then ripple out into other parts of the economy as staff employed in health and other fields purchase food, pay their rent and mortgages, and make other consumer purchases. The economic growth would increase North Carolina's tax base and ultimately increase both state and county tax revenues.

The current employment estimates are similar to but a little lower than we projected in 2014. The main reason is that the current proposal would not be effective until late 2019, as compared to the 2016 start assumed before. In addition, projected Medicaid expenditures are somewhat lower than estimated before.

These estimates are projections, based on a sophisticated, dynamic economic model produced by Regional Economic Models, Inc. As with any projection, there is uncertainty and other factors may affect the outcomes. The economic methods employed are well-respected and widely used to estimate effects of changing state and local policies for local economies.

An alternative to the Governor's proposal has been introduced in the House of Representatives, House Bill 655. It also presents a health insurance option for adults with incomes up to 138 percent of the poverty line but adds requirements that low-income beneficiaries pay monthly premiums and comply with work requirements. We are not aware of detailed analyses of that bill and cannot conduct a comparable analysis. This bill would also increase Medicaid participation and federal funding flowing into the state, compared to current law. However, when compared to the expansion proposed by the Governor, the premiums and work requirements would depress participation. Enrolling fewer North Carolinians would yield lower federal revenue and reduced economic and employment gains.

Medicaid expansion could be an important engine for economic growth and job creation across the breadth of North Carolina. More fundamentally, expanding Medicaid coverage will empower 634,000 low-income North Carolinians get Medicaid coverage by 2022 which will help assure they can get affordable care when they are sick and preventive and primary care to help them stay healthy.

Introduction

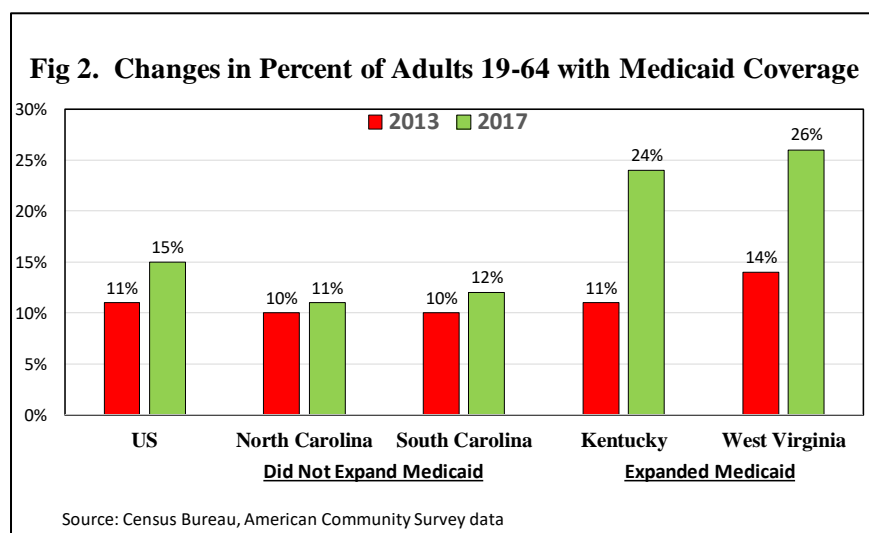
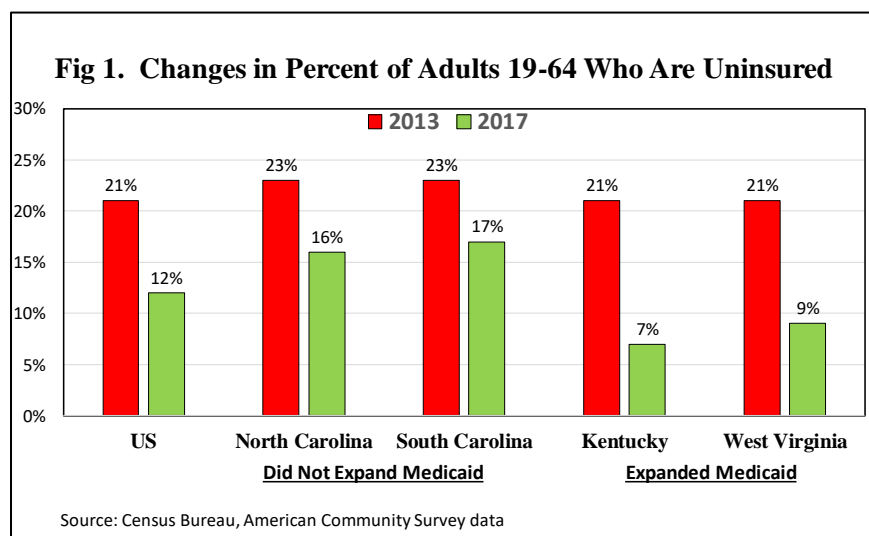
As of May 2019, North Carolina was one of 14 states that has not expanded its Medicaid program, an option under the Patient Protection and Affordable Care Act (ACA).¹ Thirty-four states (including the District of Columbia) have implemented expansions, while Idaho, Nebraska and Utah voters passed referenda to expand Medicaid and are pending implementation. Governor Roy Cooper has proposed expanding North Carolina’s Medicaid eligibility, effective November 2019. This issue is currently before the legislature.

Most states in the nation now offer Medicaid to low-income adults with incomes up to 138 percent of the federal poverty level (\$29,400 for a family of three). In North Carolina, parents are not eligible if their incomes exceed 42 percent of poverty and most adults without dependent children are ineligible for Medicaid.

As a result, North Carolinians are about twice as likely to be uninsured as their neighbors in Kentucky or West Virginia, which expanded Medicaid (see Figure 1). The most recent Census data indicates that almost a million (994,000) North Carolina adults 19 to 64 lacked health insurance coverage in 2017, roughly one-sixth (16%) of the state’s adult population, far higher than the 7% of adults uninsured in Kentucky or 9% in West Virginia. The differences were primarily driven by the Medicaid expansions (see Figure 2).

The ACA requires the federal government to cover most (or all) of the cost of expanding Medicaid eligibility. From 2014 to 2016 the federal government financed 100 percent of the costs of Medicaid

eligibility expansions. The federal share declined after the initial period, reaching 93 percent in 2019. In 2020 and thereafter, the federal government will pay 90 percent of the cost. As a result, expansion will bring a substantial inflow of additional federal funding to the state, triggering economic and employment growth, particularly in the health care sector.



An earlier report², issued in December 2014, indicated that by failing to adopt a Medicaid expansion, North Carolina lost access to billions of federal dollars, and did not gain the economic growth opportunities experienced by most states. The analysis estimated that if North Carolina expanded Medicaid in 2016, the number of jobs could increase by 43,000 by 2020. And while much of the job growth would occur in the health care sector, growth would occur in other areas too, due to the “economic multiplier” effect.

This brief updates the 2014 report, based on more recent information such as changes in estimates of Medicaid costs. This update focuses on the effects of Medicaid expansion and does not address other important changes under discussion in the state, including the transformation of the state Medicaid’s system of delivering health care from fee-for-service to managed care and an expansion of services to address the opioid crisis. A bill proposed in the legislature (House Bill 655) would also expand Medicaid but would require that newly eligible adults pay monthly premiums and comply with new work requirements, unless they have a dependent child or are exempt (e.g., medically frail or pregnant).

Key differences between this update and the 2014 report are:

- The earlier report examined effects if Medicaid expansion began in 2016. Based on the current proposal, this analysis assumes Medicaid expansion begins November 2019 and takes two years for enrollment to ramp up.
- As a result, federal revenue increases are lower than estimated before due to the later start date. Our earlier report projected that federal revenue would rise from \$5.05 billion in 2020 to \$5.78 billion in 2022, while we now estimate additional federal revenue of \$2.85 billion in 2020, rising to \$4.69 billion in 2022. The change in projections appears to be because Medicaid costs grew more slowly in North Carolina than anticipated earlier.
- Since the economic benefits of Medicaid expansion are related to the contribution of new federal funding into North Carolina’s economy, the projected economic effects are somewhat lower, particularly in the initial years. While the 2014 report estimated that Medicaid expansion could lead to 43,000 additional jobs by 2020, this update estimates employment growth of 24,400 jobs in calendar year 2020. By 2022, 37,200 more jobs would exist across the state than would exist if Medicaid does not expand.

Research About Benefits of Medicaid Expansion

A March 2018 review by the Kaiser Family Foundation identified over 200 studies about the effects of Medicaid expansions across a variety of areas.³ The review found that Medicaid expansions (a) increased insurance coverage and reduced the number of uninsured, benefiting both rural and urban residents and those who are African-American, white and Latino, (b) strengthened access to health care services, (c) increased low-income families’ financial security, (d) improved a variety of health outcomes, (e) reduced uncompensated care costs and stabilized safety net health care providers and (f) have done so with without creating major cost increases for states.

A more focused review on health benefits, published in the *New England Journal of Medicine*, found consistent evidence that expanding health insurance coverage, especially Medicaid, improves access to and utilization of appropriate health care, such as cancer screening, improves

assessments of health, eases depression, increases financial security and appears to lower mortality.⁴

Some additional impacts of expansion that may be important in North Carolina:

- Medicaid expansions lower hospitals' uncompensated care burdens, improves their balance sheets and reduces the risk that rural hospital close.⁵ This may be particularly relevant to North Carolina, where six rural hospitals (Washington County Hospital, Our Community Hospital (Halifax County), Davie Medical Center-Mocksville, Yadkin Valley Community Hospital, Vidant Pungo Hospital, and Blowing Rock Hospital) closed between 2014 and May 2019 (Note: The reopening of Washington County Hospital was announced in late April).⁶ Of the 76 rural hospitals that closed across the nation in that period, 83% were in states that did not expand Medicaid, while only 17% were in the more numerous states that expanded Medicaid, according to data from the Sheps Center at the University of North Carolina.⁷ Other North Carolina rural hospitals could be at risk if Medicaid is not expanded.⁸ Randolph Health has reported being in severe distress.⁹
- Medicaid expansions have also benefited other safety net facilities that provide care to low-income and uninsured patients, including community health centers.¹⁰
- Expansions of Medicaid eligibility help get more people into treatment for opioid use disorder and have not fueled greater addiction. States that expanded Medicaid have been able to increase access to buprenorphine and related medications used to help treat opioid addiction, compared to states that did not expand Medicaid.¹¹ Both expansion and non-expansion states have reduced prescriptions of opioid pain relief medications in recent years at roughly equal rates to curb future addiction. Medicaid expansions also help finance hospital care for treatment of opioid use disorder; they reduced uncompensated care costs and gained Medicaid revenue to support treatment services.¹²
- Contrary to some criticisms, Medicaid expansions have not created serious budget problems for states; in fact they sometimes helped state budgets.^{13 14} This is in part because state spending on uncompensated care and mental health services can decline if more health care use is covered under Medicaid.^{15 16} Prof. Mark Hall of Wake Forest University explained that “claims that the costs of Medicaid expansion have far exceeded expectations are overstated, misleading and substantially inaccurate, based on a review of the credible evidence from either academic or government sources.”¹⁷
- Medicaid programs have been particularly effective in holding down increases in health care costs. A recent analysis compared growth in per person insurance costs from 2006 to 2017. The annual growth in Medicaid costs per person averaged 1.6% per year, lower than increases in Medicare costs, which averaged 2.4%. Growth in both Medicaid and Medicare were below average cost increases in private insurance costs (4.4% per year).¹⁸
- The financial performance above is consistent with research that it is less expensive to insure low-income adults through Medicaid than through private insurance.^{19 20} In addition, Medicaid beneficiaries – who are quite poor – have lower out-of-pocket cost

burdens than similarly low-income people with private insurance, improving their ability to get necessary preventive and primary care, as well as medications.

- Some critics have inaccurately claimed that Medicaid expansions prevent states from meeting the needs of elderly or residents with disabilities who are on waiting lists to receive home or community-based care service. In fact, analyses have shown that between 2013 and 2017, waiting lists were much likely to grow in states that did not expand Medicaid (69%) than in expansion states (41%).²¹ Expanding Medicaid and providing more home and community-based care need not be mutually exclusive choices. Both choices would earn additional federal matching funds as well as help meet residents' health needs. However, Medicaid expansion earns a 90% matching rate while increasing support for home and community-based care setting would earn the regular 67% federal match.

North Carolina's Medicaid Program and Proposed Expansion

North Carolina currently provides Medicaid coverage to parents with family incomes up to 42 percent of the federal poverty line, but does not cover most non-elderly, non-disabled adults without dependent children, regardless of their incomes.²² (Some childless adults may be eligible for Medicaid if they are disabled or pregnant.) Only eight states (Alabama, Florida, Georgia, Idaho, Kansas, Mississippi, Missouri and Texas) have lower income eligibility guidelines. In the past year, Virginia and Maine expanded Medicaid and voter-approved referenda to expand Medicaid in Idaho, Nebraska and Utah are pending implementation.

North Carolina's "regular" federal Medicaid match rate is 67.16% for federal fiscal year 2019, falling slightly to 67.03% in 2020. That is, the state generally pays about 33% of the total cost of Medicaid services. If North Carolina had expanded Medicaid in the 2014 to 2016 period, the federal government would have covered the full cost of the Medicaid expansion. Even now, the government will provide an enhanced match rate of 93% for eligibility expansion costs in 2019 and 90% in 2020 and later years.

If Medicaid expands, it is likely some additional Medicaid enrollees who are already eligible (i.e., parents with incomes at or below 42% of poverty) will enroll, but the number should be modest. This effect, sometimes called the "woodwork" effect, occurs because already eligible people come "out of the woodwork" and enroll after publicity about expansions. In North Carolina, most of the woodwork effect of the ACA already occurred, due to the publicity about ACA implementation and the development of the HealthCare.gov website, which referred income-eligible people to the Medicaid program. Between SFY 2012-13 and 2015-16, North Carolina's Medicaid enrollment grew by 227,000.²³ (Since then, there has been growth in Medicaid due to an increase in the number of women and men getting a very limited family planning benefit; the number of other Medicaid enrollees declined slightly through SFY 2017-18.) Thus, it is expected that a modest number of already eligible people would join Medicaid if expansions occur later this year, further reducing the number of uninsured. These individuals are eligible for the regular 67% match.

A recent report by the Urban Institute, a nonpartisan think tank, estimated that Medicaid expansion in North Carolina could increase the number of Medicaid enrollees in North Carolina by 626,000 and reduce the number of uninsured by 365,000.²⁴ Some of those who will gain Medicaid currently have other forms of insurance, primarily subsidized insurance from the ACA's health insurance

marketplace. There are budgetary advantages to such a shift; supporting Medicaid may be less costly than subsidizing marketplace beneficiaries.²⁵

North Carolina Governor Roy Cooper has proposed to expand Medicaid eligibility from 42 percent of the poverty line for parents and zero percent for other low-income adults to 138 percent for both groups. The state estimated the following budget impacts of his proposal to expand Medicaid beginning November 2019:²⁶

- In Governor Cooper's budget proposal, the SFY 2019-20 costs of care for the expansion group are projected to require a total of \$2.13 billion, of which \$1.91 billion will be covered by federal matching funds and \$216 million will be covered by non-federal funds (primarily hospital assessments). The budget proposes to fund the remaining need of \$3.3 million with a tax on managed care capitation payments made on behalf of the expansion population. In addition, the state will need \$63 million to meet the additional costs of existing eligible people and will gain \$46 million in federal matching funds and \$2 million in non-federal funds (hospital assessments).
- The budget anticipates that costs will ramp up in SFY 2020-21 as the expansion takes hold: the costs of the expansion group will increase to \$4.17 billion, of which federal matching revenue will cover \$3.74 billion and non-federal revenue will cover \$356 million. The budget anticipates the tax on managed care capitation payments for the expansion population will generate the remaining balance of \$75 million. The projected costs of serving additional people who are already eligible is estimated at \$126 million and North Carolina will receive \$92 million from federal and non-federal sources.
- The costs ought to rise a little more in SFY 2021-22, after which the enrollment and cost increases are expected to plateau. Based on the experience of other states, it should take about two years to reach a steady state.

Some of the costs of Medicaid expansion are expected to be offset by savings of about \$31 million in SFY 2019-20 and \$69 million in SFY 2020-21 for other care, mental health services, corrections, the state health plan and state operated health facilities.²⁷

These projections are consistent with Urban Institute analyses, based on its Health Reform Policy Simulation Model, which estimated that expanding Medicaid in North Carolina would increase federal funding by \$4.012 billion if it was fully implemented in 2019.²⁸ This includes not only the additional costs of Medicaid, but accounts for the fact that some North Carolinians who currently receive premium tax credits under the ACA health insurance marketplaces (Obamacare) would transfer to Medicaid, reducing federal spending on marketplace coverage.

Other important changes in North Carolina's Medicaid program are afoot as well, particularly a major transformation from providing care under a fee-for-service delivery system to a managed care program. This report focuses exclusively on the effects of a Medicaid expansion, although we note that it is possible to simultaneously expand Medicaid to implement other major delivery system changes, as other states have done.

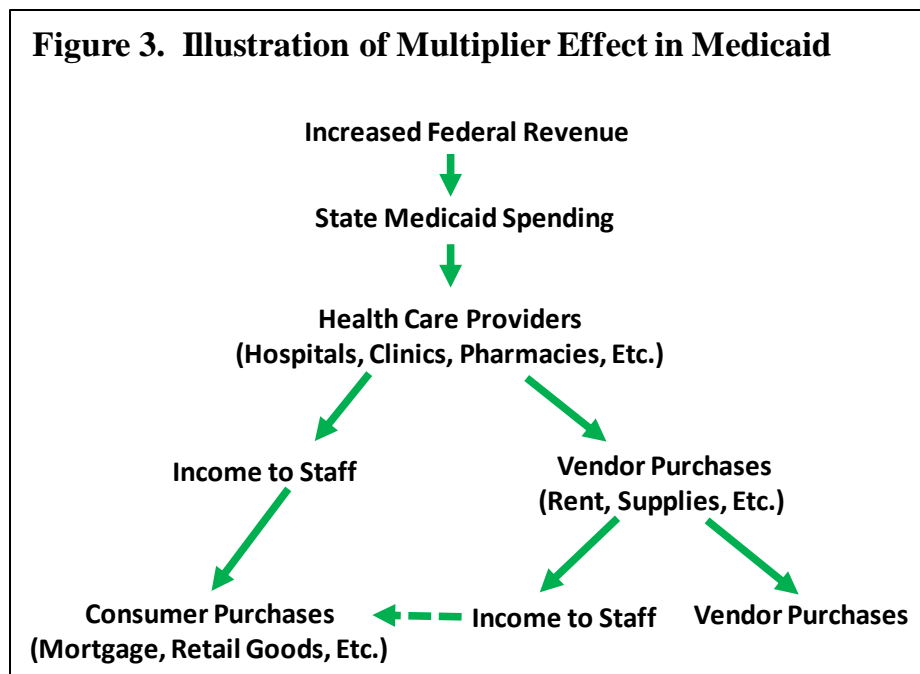
The Updated Economic Analysis

This brief updates our December 2014 report on the economic and employment effects of expanding Medicaid in North Carolina. The earlier report considered the effects of expanding Medicaid beginning in 2016. We now estimate the effects of an expansion beginning in November 2019. We project that effects will phase-in over a two-year period. Thus, we estimate effects for calendar years 2020, 2021 and 2022.

This analysis, like the earlier one, is based on an economic model developed by Regional Economic Models, Inc. (REMI)²⁹ The model is well-respected and has been used by governments and universities around the nation, including North Carolina's Office of State Budget and Management and the State Legislature. The model examines the flows of revenue and outputs through the state's economy and the effect of economic multipliers. The use of multiplier estimates in economic impact studies is well-accepted; the approach is used by not only ourselves and those in North Carolina, but by economists at the Congressional Budget Office³⁰, the International Monetary Fund,³¹ the White House Office of Economic Advisers³² and business economists³³ in analyses of how policies and investments can stimulate (or depress) additional economic growth.

Other researchers have also conducted similar economic analyses of the benefits of Medicaid expansion in increasing employment.^{34 35 36 37} Their conclusions are like those presented in this analysis; Medicaid expansions can fuel economic development and employment.

In this model, the key determinant of the economic stimulus is the injection of new federal revenue into North Carolina's economy because of the Medicaid expansion. Figure 3 illustrates how the additional federal revenue would flow and multiply through the state, boosting employment and economic growth.



- As the state expands Medicaid, additional federal funds flow to health care providers (hospitals, clinics, pharmacies, etc.) as the newly eligible individuals get medical care supported by Medicaid.
- Health care providers used these funds to increase staffing (the largest expense for most health providers) as well as to purchase goods from other vendors, such as paying to build out their facilities, pay rent, purchase supplies and other services.
- Increased employment lets the workers purchase consumer goods. Their salaries are used to pay their mortgages or rent, buy retail goods like food, clothing or furniture, and they also pay more taxes to their state and local governments.
- In turn, businesses such as medical good suppliers, grocery stores and real estate companies gain increased consumer activity, hire more staff and pay other vendors.
- As the funds flow through the local economies, the economic impact multiplies.

Some critics of economic impact studies argue that they are unrealistic because they fail to consider the effects of alternative uses of the resources.³⁸ That is, rather than spending, say \$20 million on Medicaid, North Carolina might spend \$20 million more on building roads or prisons and these too would yield economic benefits. Our methodology addresses this problem by being based *entirely* on the net federal funds that will flow into the state solely due to Medicaid expansion; we exclude the use of state funds which might be used for other purposes. The additional federal matching funds derive from external sources and would not flow into North Carolina if there was no Medicaid expansion. The new federal funds received will fuel additional benefits for North Carolinians. Federal taxes paid by North Carolinians will not change, aside from taxes paid because state residents and businesses have higher incomes.

North Carolina contributes about 2.4% of total federal tax collections.³⁹ However, since most states have already expanded Medicaid, North Carolinians have helped pay for expansions and economic gains in most of the country with their federal taxes, while they have not reaped the benefits so far.

When we compute the net federal revenue gained by North Carolina under a Medicaid expansion, we use a blend of estimates from the Office of State Budget and Management and the Urban Institute, assuming that the Medicaid expansion begins November 2019. We include additional federal revenue gained because the federal government will cover 90% of the cost the Medicaid expansion. We subtract the federal tax credits that would otherwise have been paid for individuals with incomes between 100% and 138% of poverty for premium tax credits in the health insurance marketplaces. To the extent that North Carolina uses in-state sources to fund the expansion, these funds are subtracted in computing the net federal funding created by expansion.

Using the approach described in our 2014 report, additional federal Medicaid revenue generates additional spending on hospital care, ambulatory care and pharmaceuticals (plus slight amounts for long-term care services); these are distributed across North Carolina's 100 counties, based on the expected growth in Medicaid spending in each county. These are used as inputs (i.e., new spending) in the REMI model, which then produce estimates of outputs, such as increased

employment, state or county gross state product and county revenue. For this brief report, we re-estimated the federal revenue inputs to the model, based on the more recent budget data, described in the paragraph above, and compare them to our prior estimates for Calendar Years 2020, 2021 and 2022. We apply the percentage difference in federal revenue inputs to the outputs from the 2014 report to generate our new estimates. This proportionate adjustment is a rough approximation but should be close to what would be found if the entire model was run again.

Key terms used in this report are:

- **Employment:** This is the number of jobs that would be added or lost in the county or state related to Medicaid expansion, full-time plus part-time. These include jobs in all sectors, including health-related jobs, construction, retail, professional jobs, state or local government, etc.
- **Business Activity (Output):** This is equivalent to the sum of all revenue (public and private) generated by the Medicaid expansion at the state or county levels. For example, if a retail firm buys a product from a wholesaler for \$1,000 and a customer pays \$1,500 to the retailer for that same product, the increase in business activity is the sum of both levels of purchase, or \$2,500.
- **Gross State (or County) Product:** Gross State Product (GSP) is a subset of output and refers to the “value added” by economic activity. GSP can be thought of as all net new economic activity or output minus the goods and services used as inputs to production. Effectively, it measures only the final stage of a transaction. In the example above, it would be the \$1,500 paid by the customer to the retailer.
- **State Tax Revenue:** This is the value of additional state government revenue related to the expansion, not including any health taxes that may change under the proposal.
- **County Tax Revenue:** This is the value of additional county/local government revenue related to the expansion, separate from state revenues.

What Would Be the Effects of Expanding Medicaid Beginning November 2019?

The results of our analysis, aggregated at the state level, are summarized in Table 1 below. All levels are compared to a baseline in which Medicaid does not expand. If Medicaid is expanded:

- Estimated additional federal revenue that North Carolina earns would rise from \$2.8 billion in calendar year 2020, to \$4.2 billion by 2021 and to \$4.7 billion in 2022, for a total of \$11.7 billion over the three years. After that, it would be relatively stable, growing due to inflation and population changes.
- The number of additional Medicaid enrollees would grow by 464,000 in 2020, increasing to 634,000 by 2022.
- In 2020, an additional 24,400 jobs would be added, rising to 34,500 in 2021 and to 37,200 in 2022.

Table 1. Estimated State-Level Changes in Federal Revenue, Medicaid Enrollees, Jobs, Business Activity, Gross State Product, State and County Tax Revenue If Medicaid Expands in Late 2019

Calendar Years	2020	2021	2022	2020-22
Federal Revenue (billions)	\$2.85	\$4.19	\$4.69	\$11.73
New Medicaid Enrollees*	464,000	582,000	634,000	N.A.
Total Jobs Added*	24,400	34,500	37,200	N.A.
Business Activity (billions)	\$2.94	\$4.19	\$4.54	\$11.67
Gross State Product (billions)	\$1.88	\$2.65	\$2.92	\$7.45
State Tax Revenue (millions)	\$124	\$181	\$200	\$506
County Tax Revenues (millions)	\$25	\$38	\$43	\$106

* Unlike dollars, the number of new enrollees and the number of new jobs do not sum over the years.

- Total business activity would increase from \$2.9 billion in 2020 to \$4.7 billion in 2022, or \$11.7 billion over three years.
- Gross State Product, the net increase in state economic activity, would be \$1.9 billion higher in 2020 and \$2.9 billion higher by 2022.
- The state of North Carolina would earn \$506 million more in tax revenue from 2020 to 2022 and North Carolina counties would earn \$106 million more due to the additional economic activity caused by the Medicaid expansion. These additional revenues would help the state and the counties address other budgetary needs in the future.

The growth in economic activity and employment would be varied. As seen in Table 2, there would be an increase of 20,600 jobs in the health care sector by 2022. But other sectors would gain almost 16,600 more jobs, such as construction, retail sales, administrative and professional services. As described earlier, though Medicaid funds would first flow to the health sector, economic benefits and employment gains ripple out to other sectors of the economy.

Table 2. Composition of Additional Jobs by Sector, 2022

Industrial Sector	2022
Ambulatory health care services	16,200
Hospitals	4,400
Construction	4,000
State & local	3,300
Retail & wholesale trade	1,900
Administrative and support services	1,400
Professional, scientific, and technical services	1,100
Food services & hospitality	1,100
All others	3,800
Total	37,200

The growth in employment would be shared across the state, flowing from increased Medicaid enrollment and revenue in both urban and rural areas. Table 3 estimates the number of additional jobs created in each of North Carolina's 100 counties. About 17,900 jobs would be created by 2022 would be in six large counties (Buncombe, Durham, Forsyth, Guilford, Mecklenburg and

Table 3. Estimated Number of New Jobs If Medicaid Expands, by County

County	2020	2021	2022
Alamance	516	731	787
Alexander	48	67	72
Alleghany	75	107	116
Anson	28	39	43
Ashe	55	78	84
Avery	38	54	58
Beaufort	86	122	132
Bertie	19	27	29
Bladen	40	57	62
Brunswick	142	202	218
Buncombe	845	1,199	1,293
Burke	297	421	456
Cabarrus	361	510	547
Caldwell	127	180	195
Camden	2	3	4
Carteret	91	130	141
Caswell	25	35	38
Catawba	342	484	523
Chatham	152	214	228
Cherokee	49	69	75
Chowan	17	25	27
Clay	10	14	15
Cleveland	251	357	386
Columbus	150	213	232
Craven	107	154	169
Cumberland	452	649	710
Currituck	6	8	8
Dare	34	48	51
Davidson	369	523	562
Davie	51	71	76
Duplin	87	124	135
Durham	2,875	4,044	4,351
Edgecombe	68	96	105
Forsyth	1,159	1,642	1,772
Franklin	163	231	248
Gaston	548	780	845
Gates	3	5	5
Graham	8	11	12
Granville	89	125	135
Greene	36	51	56
Guilford	1,779	2,514	2,706
Halifax	85	122	133
Harnett	220	316	344
Haywood	65	92	99
Henderson	214	303	326
Hertford	89	127	138
Hoke	51	72	78
Hyde	2	3	3
Iredell	375	529	568
Jackson	172	244	263

County	2020	2021	2022
Johnston	435	617	662
Jones	8	11	12
Lee	191	270	292
Lenoir	132	187	203
Lincoln	88	123	131
McDowell	62	88	95
Macon	41	58	62
Madison	31	44	48
Martin	48	69	75
Mecklenburg	2,514	3,517	3,751
Mitchell	31	44	47
Montgomery	44	62	67
Moore	277	395	428
Nash	182	258	278
New Hanover	577	815	876
Northampton	13	18	19
Onslow	101	146	161
Orange	409	581	629
Pamlico	22	31	34
Pasquotank	48	68	74
Pender	75	106	114
Perquimans	6	8	9
Person	78	111	120
Pitt	344	493	537
Polk	28	40	44
Randolph	335	474	508
Richmond	85	122	133
Robeson	397	567	616
Rockingham	176	250	270
Rowan	239	339	367
Rutherford	138	196	212
Sampson	62	89	97
Scotland	78	111	120
Stanly	133	190	205
Stokes	52	73	77
Surry	161	227	242
Swain	21	30	32
Transylvania	46	66	71
Tyrrell	1	2	2
Union	237	333	354
Vance	95	135	146
Wake	2,691	3,794	4,076
Warren	14	19	21
Washington	8	12	13
Watauga	183	259	279
Wayne	249	356	386
Wilkes	98	139	149
Wilson	177	250	268
Yadkin	36	51	54
Yancey	21	30	32

Wake Counties), while 19,200 new jobs are shared by the other 94 North Carolina counties. While the more populous counties gain more jobs, job growth will occur in all corners of the state.

Detailed, county-level estimates of changes in Medicaid caseloads, gross county product and county tax revenues increases are shown in Appendix Tables A-1 to A-3.

House Bill 655

The analysis above is for an unencumbered Medicaid expansion, as it has been implemented in most expansion states and proposed by the Governor. An alternative, House Bill 655, has been proposed in the legislature by Representative Donny Lambeth and his colleagues.⁴⁰ Because of the lack of detailed analyses of the bill, we are unable to provide comparable estimates of the economic impacts.

HB 655 would also increase health insurance eligibility for adults with incomes up to 138 percent of the poverty line. In addition, it would require that newly eligible adults pay monthly premiums and comply with new work requirements, unless they have a dependent child or are exempt due to conditions like pregnancy or medical frailty. Both changes could potentially reduce the number of people who would be newly covered. While HB 655 ought to expand Medicaid participation and lead to an increase in federal funding and economic and employment gains, it would result in much lower Medicaid enrollment gains. Although most Medicaid beneficiaries work, some have difficulties finding steady employment and also encounter problems with the paperwork needed to comply with work requirements. Because of that, the reduction in the number of uninsured and the economic and employment gains would be much smaller than the expansion proposed by the Governor.

The work requirements in HB 655 are modeled on those used in the Supplemental Nutrition Assistance Program (SNAP, formerly food stamps). A preliminary analysis indicates that SNAP work requirements reduces the participation of those targeted by more than one-third.⁴¹ This is comparable to the losses that occurred when Arkansas implemented work requirements in its Medicaid program.⁴² Other analyses have found that SNAP work requirements substantially lower participation by eligible people, while providing, at best, scant gains in employment.^{43 44} In addition, new administrative systems needed to manage the new requirements could be costly.⁴⁵

Research and experience also show that participation is depressed when low-income participants are charged premiums to enroll.^{46 47} This would further lower enrollment and federal revenue gained, while increasing the amount low-income North Carolinians must spend, thereby limiting economic growth opportunities.

Adopting these changes, particularly the work requirement, would require federal approval of a Medicaid Section 1115 demonstration waiver, since these depart from statutory rules for Medicaid. The federal Centers for Medicaid & Medicare Services (CMS) might approve such a waiver; it has approved waivers for several states already. But it is not clear if work requirements are lawful and consistent with the federal statute that governs Medicaid. Approval of these projects has been challenged in court and the first three federal court decisions found that CMS acted improperly and invalidated the waivers in Kentucky and Arkansas.⁴⁸ These rulings are being appealed.

Appendix Table A-1. Estimated Number of Additional Medicaid Enrollees If Medicaid Expands

	2020	2021	2022
Alamance	7,639	9,570	10,428
Alexander	1,734	2,172	2,367
Alleghany	747	936	1,020
Anson	1,224	1,534	1,671
Ashe	1,678	2,102	2,291
Avery	1,031	1,292	1,407
Beaufort	2,355	2,951	3,215
Bertie	893	1,119	1,219
Bladen	2,222	2,784	3,034
Brunswick	5,060	6,339	6,907
Buncombe	12,363	15,489	16,877
Burke	4,838	6,061	6,604
Cabarrus	7,528	9,432	10,277
Caldwell	3,833	4,803	5,233
Camden	325	407	443
Carteret	2,998	3,756	4,092
Caswell	1,003	1,257	1,369
Catawba	7,236	9,066	9,878
Chatham	2,690	3,371	3,673
Cherokee	1,358	1,701	1,853
Chowan	637	798	869
Clay	573	718	782
Cleveland	4,717	5,910	6,439
Columbus	2,944	3,688	4,019
Craven	4,190	5,250	5,720
Cumberland	13,516	16,934	18,451
Currituck	938	1,175	1,280
Dare	1,501	1,881	2,049
Davidson	7,236	9,066	9,878
Davie	1,610	2,018	2,198
Duplin	4,406	5,520	6,014
Durham	15,261	19,121	20,834
Edgecombe	2,789	3,495	3,808
Forsyth	18,665	23,385	25,480
Franklin	3,138	3,931	4,283
Gaston	9,943	12,457	13,573
Gates	463	580	632
Graham	448	561	612
Granville	2,437	3,053	3,327
Greene	1,168	1,464	1,595
Guilford	25,781	32,300	35,194
Halifax	2,547	3,192	3,478
Harnett	6,081	7,619	8,302
Haywood	2,505	3,139	3,420
Henderson	5,023	6,293	6,857
Hertford	1,205	1,509	1,645
Hoke	3,054	3,826	4,169
Hyde	319	399	435
Iredell	7,121	8,922	9,721
Jackson	2,417	3,028	3,299

	2020	2021	2022
Johnston	9,219	11,550	12,585
Jones	542	679	740
Lee	3,393	4,251	4,632
Lenoir	3,311	4,148	4,519
Lincoln	3,296	4,129	4,499
McDowell	2,102	2,633	2,869
Macon	969	1,213	1,322
Madison	1,254	1,571	1,711
Martin	2,267	2,841	3,095
Mecklenburg	47,088	58,996	64,281
Mitchell	645	808	880
Montgomery	1,767	2,214	2,412
Moore	3,471	4,348	4,738
Nash	4,598	5,761	6,277
New Hanover	9,660	12,103	13,188
Northampton	983	1,231	1,342
Onslow	7,095	8,889	9,686
Orange	5,314	6,658	7,254
Pamlico	496	622	677
Pasquotank	1,745	2,186	2,382
Pender	2,697	3,380	3,682
Perquimans	580	727	792
Person	1,776	2,225	2,424
Pitt	9,583	12,006	13,082
Polk	891	1,116	1,216
Randolph	7,937	9,944	10,834
Richmond	2,708	3,392	3,696
Robeson	10,070	12,617	13,747
Rockingham	4,282	5,365	5,846
Rowan	7,094	8,888	9,684
Rutherford	3,522	4,413	4,809
Sampson	4,023	5,040	5,492
Scotland	1,908	2,390	2,604
Stanly	2,489	3,119	3,398
Stokes	1,888	2,365	2,577
Surry	4,159	5,210	5,677
Swain	809	1,014	1,105
Transylvania	1,452	1,820	1,983
Tyrrell	238	298	324
Union	7,063	8,850	9,643
Vance	2,547	3,192	3,478
Wake	32,899	41,218	44,911
Warren	1,106	1,386	1,510
Washington	596	747	814
Watauga	3,222	4,036	4,398
Wayne	6,699	8,393	9,145
Wilkes	4,100	5,136	5,597
Wilson	4,673	5,854	6,379
Yadkin	1,859	2,329	2,538
Yancey	869	1,088	1,186

Appendix Table A-2. Estimated Changes in Gross County Products If Medicaid Expands (millions)

	2020	2021	2022	2020-22
Alamance	\$40	\$57	\$63	\$159
Alexander	\$2	\$3	\$3	\$7
Alleghany	\$2	\$3	\$3	\$8
Anson	\$2	\$3	\$3	\$7
Ashe	\$3	\$5	\$5	\$13
Avery	\$2	\$3	\$3	\$8
Beaufort	\$5	\$7	\$8	\$19
Bertie	\$1	\$2	\$2	\$5
Bladen	\$3	\$4	\$4	\$11
Brunswick	\$11	\$15	\$17	\$43
Buncombe	\$67	\$95	\$105	\$267
Burke	\$19	\$26	\$29	\$74
Cabarrus	\$25	\$35	\$39	\$99
Caldwell	\$9	\$12	\$14	\$34
Camden	\$0	\$0	\$0	\$1
Carteret	\$7	\$9	\$11	\$26
Caswell	\$1	\$2	\$2	\$5
Catawba	\$30	\$42	\$46	\$118
Chatham	\$7	\$10	\$11	\$28
Cherokee	\$3	\$4	\$4	\$11
Chowan	\$1	\$2	\$2	\$5
Clay	\$1	\$1	\$1	\$2
Cleveland	\$17	\$23	\$26	\$66
Columbus	\$8	\$11	\$12	\$31
Craven	\$9	\$13	\$14	\$35
Cumberland	\$35	\$50	\$56	\$141
Currituck	\$0	\$1	\$1	\$2
Dare	\$3	\$4	\$5	\$12
Davidson	\$19	\$26	\$29	\$74
Davie	\$3	\$5	\$5	\$13
Duplin	\$5	\$7	\$8	\$21
Durham	\$119	\$159	\$166	\$444
Edgecombe	\$5	\$7	\$8	\$20
Forsyth	\$106	\$151	\$167	\$424
Franklin	\$8	\$11	\$12	\$30
Gaston	\$41	\$58	\$65	\$164
Gates	\$0	\$0	\$0	\$1
Graham	\$1	\$1	\$1	\$2
Granville	\$7	\$10	\$11	\$27
Greene	\$2	\$3	\$3	\$8
Guilford	\$171	\$243	\$268	\$683
Halifax	\$6	\$8	\$9	\$24
Harnett	\$13	\$18	\$20	\$51
Haywood	\$5	\$7	\$8	\$20
Henderson	\$15	\$21	\$24	\$60
Hertford	\$4	\$5	\$6	\$15
Hoke	\$3	\$4	\$4	\$11
Hyde	\$0	\$0	\$0	\$1
Iredell	\$31	\$44	\$48	\$122
Jackson	\$9	\$13	\$15	\$37

	2020	2021	2022	2020-22
Johnston	\$27	\$38	\$42	\$107
Jones	\$1	\$1	\$1	\$3
Lee	\$15	\$21	\$23	\$59
Lenoir	\$10	\$15	\$16	\$42
Lincoln	\$7	\$9	\$10	\$26
McDowell	\$4	\$6	\$7	\$17
Macon	\$2	\$4	\$4	\$10
Madison	\$2	\$3	\$3	\$8
Martin	\$3	\$5	\$5	\$13
Mecklenburg	\$254	\$356	\$389	\$1,000
Mitchell	\$2	\$3	\$3	\$8
Montgomery	\$2	\$3	\$4	\$9
Moore	\$22	\$32	\$36	\$90
Nash	\$15	\$21	\$23	\$59
New Hanover	\$48	\$69	\$76	\$193
Northampton	\$1	\$1	\$1	\$3
Onslow	\$7	\$11	\$12	\$30
Orange	\$35	\$50	\$56	\$141
Pamlico	\$1	\$1	\$2	\$4
Pasquotank	\$4	\$5	\$6	\$14
Pender	\$5	\$8	\$8	\$21
Perquimans	\$0	\$0	\$0	\$1
Person	\$5	\$7	\$8	\$20
Pitt	\$28	\$41	\$46	\$115
Polk	\$1	\$2	\$2	\$6
Randolph	\$24	\$34	\$37	\$95
Richmond	\$6	\$9	\$10	\$24
Robeson	\$24	\$35	\$39	\$98
Rockingham	\$11	\$16	\$17	\$44
Rowan	\$19	\$26	\$29	\$74
Rutherford	\$9	\$12	\$14	\$35
Sampson	\$5	\$7	\$8	\$21
Scotland	\$5	\$8	\$9	\$22
Stanly	\$9	\$13	\$14	\$36
Stokes	\$3	\$4	\$4	\$11
Surry	\$12	\$17	\$19	\$49
Swain	\$1	\$1	\$2	\$4
Transylvania	\$3	\$4	\$5	\$12
Tyrrell	\$0	\$0	\$0	\$0
Union	\$18	\$25	\$27	\$70
Vance	\$7	\$10	\$11	\$29
Wake	\$276	\$392	\$433	\$1,101
Warren	\$1	\$1	\$1	\$4
Washington	\$0	\$1	\$1	\$2
Watauga	\$13	\$18	\$20	\$52
Wayne	\$19	\$28	\$31	\$78
Wilkes	\$7	\$10	\$11	\$28
Wilson	\$15	\$21	\$23	\$59
Yadkin	\$3	\$4	\$4	\$10
Yancey	\$1	\$2	\$2	\$5

Appendix Table A-3. Estimated Changes in County Tax Revenue If Medicaid Expands (1000s)

	2020	2021	2022	2020-22
Alamance	\$554	\$846	\$976	\$2,375
Alexander	\$46	\$69	\$78	\$194
Alleghany	\$27	\$42	\$49	\$118
Anson	\$19	\$29	\$33	\$82
Ashe	\$57	\$89	\$104	\$251
Avery	\$29	\$46	\$54	\$130
Beaufort	\$49	\$74	\$85	\$208
Bertie	\$22	\$33	\$38	\$93
Bladen	\$30	\$45	\$52	\$128
Brunswick	\$143	\$216	\$247	\$605
Buncombe	\$860	\$1,314	\$1,519	\$3,694
Burke	\$291	\$447	\$520	\$1,258
Cabarrus	\$477	\$726	\$833	\$2,035
Caldwell	\$125	\$190	\$219	\$534
Camden	\$5	\$7	\$8	\$20
Carteret	\$96	\$147	\$170	\$413
Caswell	\$51	\$77	\$87	\$216
Catawba	\$346	\$516	\$585	\$1,448
Chatham	\$322	\$483	\$548	\$1,353
Cherokee	\$32	\$51	\$60	\$143
Chowan	\$15	\$22	\$26	\$63
Clay	\$10	\$16	\$19	\$46
Cleveland	\$210	\$323	\$374	\$907
Columbus	\$94	\$145	\$168	\$406
Craven	\$91	\$139	\$160	\$390
Cumberland	\$304	\$470	\$548	\$1,322
Currituck	\$0	-\$1	-\$3	-\$5
Dare	\$30	\$46	\$54	\$129
Davidson	\$383	\$583	\$670	\$1,636
Davie	\$113	\$168	\$190	\$471
Duplin	\$77	\$119	\$138	\$334
Durham	\$496	\$606	\$557	\$1,659
Edgecombe	\$68	\$105	\$123	\$295
Forsyth	\$1,196	\$1,805	\$2,067	\$5,067
Franklin	\$195	\$308	\$364	\$868
Gaston	\$655	\$1,020	\$1,198	\$2,873
Gates	\$3	\$5	\$6	\$14
Graham	\$10	\$16	\$19	\$44
Granville	\$129	\$197	\$227	\$553
Greene	\$48	\$77	\$93	\$218
Guilford	\$1,802	\$2,731	\$3,135	\$7,668
Halifax	\$62	\$95	\$109	\$266
Harnett	\$322	\$512	\$612	\$1,446
Haywood	\$122	\$188	\$217	\$527
Henderson	\$250	\$378	\$433	\$1,061
Hertford	\$35	\$53	\$62	\$150
Hoke	\$120	\$184	\$214	\$519
Hyde	\$2	\$3	\$4	\$10
Iredell	\$408	\$620	\$713	\$1,740
Jackson	\$105	\$159	\$181	\$445

	2020	2021	2022	2020-22
Johnston	\$620	\$976	\$1,152	\$2,749
Jones	\$27	\$42	\$51	\$119
Lee	\$146	\$220	\$252	\$619
Lenoir	\$107	\$169	\$199	\$475
Lincoln	\$165	\$249	\$283	\$696
McDowell	\$50	\$75	\$85	\$209
Macon	\$39	\$60	\$71	\$170
Madison	\$32	\$49	\$57	\$138
Martin	\$36	\$55	\$63	\$154
Mecklenburg	\$2,802	\$4,141	\$4,646	\$11,589
Mitchell	\$20	\$30	\$34	\$83
Montgomery	\$39	\$58	\$66	\$164
Moore	\$295	\$449	\$518	\$1,262
Nash	\$174	\$264	\$303	\$740
New Hanover	\$630	\$952	\$1,089	\$2,671
Northampton	\$17	\$26	\$29	\$72
Onslow	\$46	\$74	\$91	\$210
Orange	\$888	\$1,329	\$1,508	\$3,724
Pamlico	\$18	\$27	\$31	\$75
Pasquotank	\$32	\$50	\$58	\$140
Pender	\$88	\$135	\$155	\$378
Perquimans	\$5	\$8	\$10	\$23
Person	\$100	\$155	\$180	\$436
Pitt	\$431	\$662	\$770	\$1,863
Polk	\$24	\$36	\$42	\$102
Randolph	\$415	\$635	\$733	\$1,783
Richmond	\$66	\$102	\$119	\$288
Robeson	\$316	\$497	\$588	\$1,401
Rockingham	\$165	\$249	\$285	\$699
Rowan	\$236	\$357	\$410	\$1,002
Rutherford	\$107	\$163	\$189	\$459
Sampson	\$88	\$135	\$156	\$379
Scotland	\$57	\$88	\$103	\$247
Stanly	\$142	\$219	\$255	\$615
Stokes	\$131	\$196	\$223	\$549
Surry	\$249	\$390	\$457	\$1,097
Swain	\$9	\$13	\$14	\$36
Transylvania	\$46	\$70	\$82	\$198
Tyrrell	\$2	\$3	\$3	\$7
Union	\$441	\$677	\$780	\$1,897
Vance	\$92	\$139	\$159	\$390
Wake	\$3,945	\$5,956	\$6,840	\$16,741
Warren	\$16	\$24	\$27	\$68
Washington	\$5	\$7	\$8	\$20
Watauga	\$153	\$231	\$264	\$648
Wayne	\$240	\$373	\$436	\$1,050
Wilkes	\$120	\$181	\$208	\$509
Wilson	\$161	\$248	\$286	\$695
Yadkin	\$70	\$107	\$124	\$302
Yancey	\$22	\$34	\$40	\$95

-
- ¹ Kaiser Family Foundation. Status of State Action on the Medicaid Expansion Decision. <https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>. Accessed May 15, 2019.
- ² Ku L, Bruen B, Steinmetz E, Bysshe T. The Economic and Employment Costs of Not Expanding Medicaid in North Carolina: A County-Level Analysis. Cone Health Foundation and Kate B. Reynolds Charitable Trust. Dec. 2014. www.ncmedicaidexpansion.com
- ³ Antonisse L, Garfield R, Rudowitz R, Artiga S. The Effects of Medicaid Expansion under the ACA: Updated Findings from a Literature Review. Kaiser Family Foundation. Mar. 2018. <https://www.kff.org/medicaid/issue-brief/the-effects-of-medicaid-expansion-under-the-aca-updated-findings-from-a-literature-review-march-2018/>
- ⁴ Sommers B, Gawande A, Baicker K. Health Insurance Coverage and Health — What the Recent Evidence Tells Us. *New England Journal of Medicine*. 2017 Aug 10; 377(6): 586-93.
- ⁵ Lindrooth R, et al. Understanding The Relationship Between Medicaid Expansions and Hospital Closures. *Health Affairs*. 2018; 37(1): 111-20.
- ⁶ WITN News. Washington County Hospital Reopening Next Week. April 23, 2019. <https://www.witn.com/content/news/BUTTERFIELD--Washington-County-Hospital-to-reopen-in-the-coming-days-508966391.html>
- ⁷ Rural Hospital Closure Data. University of North Carolina- Cecil Sheps Center for Health Services Research. <https://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/>. Accessed May 16, 2019.
- ⁸ Thomas S, et al. Geographic Variation in 2019 Risk of Financial Distress among Rural Hospitals. NC Rural Health Research Project, University of North Carolina. Apr. 2019. <https://www.shepscenter.unc.edu/product/geographic-variation-in-the-2019-risk-of-financial-distress-among-rural-hospitals/>
- ⁹ Ipenkava L. Orth Attends Governor’s Medicaid Roundtable. *Courier-Tribune*. Apr. 25, 2019. <https://www.courier-tribune.com/news/20190425/orth-part-of-governor8217s-rural-hospital-roundtable>
- ¹⁰ Han X, Luo Q, Ku L. Medicaid Expansions and Increases in Grant Funding Increased the Capacity of Community Health Centers, *Health Affairs*, 2017 Jan.; 36(1):49-56.
- ¹¹ Cher B, Morden E, Meara E. Medicaid Expansion and Prescription Trends: Opioids, Addiction Therapies, and Other Drugs. *Medical Care*. 2019 Mar; 57(3):208–212.
- ¹² Ku L, Seiler N. Medicaid Expansions Help States Cope with the Opioid Epidemic. GW Dept of Health Policy and Management. July 25, 2017. <https://publichealth.gwu.edu/sites/default/files/images/Medicaid%20Expansions%20Help%20States%20Cope%20with%20the%20Opioid%20Epidemic%207-25-17%20report.pdf>

-
- ¹³ Hayes S, Coleman A, Collins S, Nuzum R. The Fiscal Case for Medicaid Expansion. Commonwealth Fund. Feb. 15, 2019. <https://www.commonwealthfund.org/blog/2019/fiscal-case-medicaid-expansion>
- ¹⁴ Sommers B, Gruber J. Federal Funding Insulated State Budgets from Increased Spending Related to Medicaid Expansion. *Health Affairs*. 2017; 36(5): 938–944.
- ¹⁵ Cross-Call J. Medicaid Expansion Continues to Benefit State Budgets, Contrary to Critics' Claims. Center on Budget and Policy Priorities, Oct. 5, 2018. <https://www.cbpp.org/health/medicaid-expansion-continues-to-benefit-state-budgets-contrary-to-critics-claims>
- ¹⁶ Searing A. Actual State Budget Impacts in Five States that Expanded Medicaid. Georgetown Center for Children and Families. Nov 2, 2018. <https://ccf.georgetown.edu/2018/11/02/actual-state-budget-impacts-in-five-states-that-expanded-medicaid/>
- ¹⁷ Hall M. Do States Regret Expanding Medicaid? Brookings Institution, March 26, 2018, <https://www.brookings.edu/blog/usc-brookings-schaeffer-on-health-policy/2018/03/26/do-states-regret-expanding-medicaid/>.
- ¹⁸ Holahan J, McMorrow S. Slow Growth in Medicare and Medicaid Spending per Enrollee Has Implications for Policy Debates. Urban Institute and Robert Wood Johnson Foundation. Feb. 2019. <https://www.rwjf.org/en/library/research/2019/02/slow-growth-in-medicare-and-medicaid-spending-per-enrollee.html>
- ¹⁹ Coughlin T, Long S, Clemans-Cope L, Resnick D. What Difference Does Medicaid Make? Assessing Cost Effectiveness, Access, and Financial Protection under Medicaid for Low-Income Adults. Kaiser Family Foundation, May 2013. <http://kff.org/medicaid/issue-brief/what-difference-does-medicaid-make-assessing-cost-effectiveness-accessand-financial-protection-under-medicaid-for-low-income-adults/>
- ²⁰ Ku L, Broaddus M. Public and Private Health Insurance: Stacking Up the Costs, *Health Affairs*, 27(4):w318-327, June 2008.
- ²¹ Musumeci M, Chidambaram P, Watts M. Key Questions About Medicaid Home and Community-Based Services Waiver Waiting Lists. Kaiser Family Foundation. April 2019,. <https://www.kff.org/medicaid/issue-brief/key-questions-about-medicaid-home-and-community-based-services-waiver-waiting-lists/>
- ²² Kaiser Family Foundation, State Health Facts. Medicaid Income Eligibility Limits for Adults at Application, as of January 1, 2019. <https://www.kff.org/health-reform/state-indicator/medicaid-income-eligibility-limits-for-adults-as-a-percent-of-the-federal-poverty-level/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>
- ²³ North Carolina Medicaid, Division of Health Services. Annual Medicaid Report Tables, SFY 2018. <https://medicaid.ncdhs.gov/reports/annual-reports-and-tables>

-
- ²⁴ Buettgens M. The Implications of Medicaid Expansion in the Remaining States: 2018 Update. May 2018. The Urban Institute. <https://www.urban.org/research/publication/implications-medicaid-expansion-remaining-states-2018-update>
- ²⁵ Weissman J. Enrolling Americans in Medicaid Is Now Cheaper Than Subsidizing Their Obamacare Coverage. *Slate*. Aug. 10, 2018. <https://slate.com/business/2018/08/medicaid-expansion-is-now-more-cost-effective-than-obamacare-exchanges.html>
- ²⁶ North Carolina Office of State Budget and Management. 2019-2021 Governor's Recommended Budget. Mar. 2019. https://files.nc.gov/ncosbm/documents/files/BudgetBook_web_2019_rev.pdf
- ²⁷ Khachaturyan S. Financing Health Care for North Carolinians in the Coverage Gap. North Carolina Budget and Tax Center. March 2019. <https://www.ncjustice.org/wp-content/uploads/2019/03/BTC-REPORT-Medicaid-Expansion-Savings.pdf>
- ²⁸ Buettgens M. *Op cit*.
- ²⁹ Technical parameters of REMI's models are shown at <https://www.remi.com/topics-studies/technical/>
- ³⁰ Whalen C, Reichling F. The Fiscal Multiplier and Economic Policy Analysis in the United States. Congressional Budget Office Working Paper, Feb. 2015. https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/workingpaper/49925-FiscalMultiplier_1.pdf.
- ³¹ Coenen G, et al. Effects of Fiscal Stimulus in Structural Models. International Monetary Fund. March 2010. <https://www.imf.org/external/pubs/ft/wp/2010/wp1073.pdf>
- ³² White House Council of Economic Advisers. The Economic Benefits and Impacts of Expanded Infrastructure Investment. March 2018. <https://www.whitehouse.gov/wp-content/uploads/2018/03/The-Economic-Benefits-and-Impacts-of-Expanded-Infrastructure-Investment.pdf>
- ³³ Zandi, M. At Last, the U.S. Begins a Serious Fiscal Debate. Moody's Analytics. April 14, 2011. <https://www.economy.com/dismal/analysis/free/198972>
- ³⁴ Ayanian J, Ehrlich G, Grimes D, Levy H. Economic Effects of Medicaid Expansion in Michigan. *New England Journal of Medicine*. 2017; 376:407-410
- ³⁵ The Perryman Group. Texas Should Provide Insurance Coverage for the Expanded Medicaid Population Under the Affordable Care Act. May 2013. <https://www.perrymangroup.com/media/uploads/reports/perryman-only-one-rational-choice-02-2013.pdf>
- ³⁶ Bureau of Business and Economic Research, University of Montana. The Economic Impact of Medicaid Expansion in Montana. April 2018. https://mthcf.org/wp-content/uploads/2018/04/BBER-MT-Medicaid-Expansion-Report_4.11.18.pdf
- ³⁷ White House Council of Economic Advisers. Missed Opportunities: The Economic Consequences of State Decisions Not to Expand Medicaid. July 2014.

https://obamawhitehouse.archives.gov/sites/default/files/docs/missed_opportunities_medicaid_0.pdf

³⁸ For example, John Locke Foundation. Economic Impact Studies: The Missing Ingredient Is Economics. Sept. 2017. <https://www.johnlocke.org/research/economic-impact-studies-the-missing-ingredient-is-economics/>

³⁹ Internal Revenue Services. Internal Revenue Service Data Book. Fiscal Year 2017. <https://www.irs.gov/pub/irs-soi/17databk.pdf>

⁴⁰ House Bill 655, version dated April 10, 2019. <https://www.ncleg.gov/Sessions/2019/Bills/House/PDF/H655v1.pdf>

⁴¹ Ku L, Brantley E, Pillai D. The Effect of Work Requirements on SNAP Enrollment and Benefits. Manuscript submitted for publication.

⁴² McCausland P. Despite Rulings, Medicaid Work Requirement Leaves 16,000 Arkansans without Health Care. NBC News. Mar. 28 2019. <https://www.nbcnews.com/news/us-news/despite-rulings-medicaid-work-requirement-leaves-16-000-arkansans-without-n989211>

⁴³ Han J. The Impact of Snap Work Requirements on Labor Supply. Jan. 2019. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3296402&download=yes

⁴⁴ Harris R. Do SNAP Work Requirements Work? Upjohn Institute Working Paper 19-297. 2019 https://research.upjohn.org/up_workingpapers/297/

⁴⁵ Wagner J, Solomon J. States' Complex Medicaid Waivers Will Create Costly Bureaucracy and Harm Eligible Beneficiaries. Center on Budget and Policy Priorities. May 28, 2018. <https://www.cbpp.org/research/health/states-complex-medicaid-waivers-will-create-costly-bureaucracy-and-harm-eligible>

⁴⁶ Ku L, Coughlin T, Sliding Scale Premium Health Insurance Programs: Four States' Experience, *Inquiry*, 36(4):471-80, Winter 2000.

⁴⁷ Artiga S, Ubri P, Zur J. The Effects of Premiums and Cost Sharing on Low-Income Populations: Updated Review of Research Findings. Kaiser Family Foundation. June 1, 2017. <https://www.kff.org/medicaid/issue-brief/the-effects-of-premiums-and-cost-sharing-on-low-income-populations-updated-review-of-research-findings/>

⁴⁸ Rosenbaum S. Why the Court Once Again Struck Down Federal Approval of Medicaid Work Experiments. Mar. 29, 2019. <https://www.commonwealthfund.org/blog/2019/why-court-once-again-struck-down-federal-approval-medicaid-work-experiments>