

# County Health Rankings & Roadmaps

A Healthier Nation, County by County

2012

## Forsyth County North Carolina

*\*With additional comments from the  
Forsyth County Department of Public Health*

## Introduction

Where we live matters to our health. The health of a community depends on many different factors, including the environment, education and jobs, access to and quality of healthcare, and individual behaviors. We can improve a community's health by implementing effective policies and programs. For example, people who live in communities with smoke-free laws are less likely to smoke or to be exposed to second-hand smoke, which reduces lung cancer risk. In addition, people who live in communities with safe and accessible park and recreation space are more likely to exercise, which reduces heart disease risk.

However, health varies greatly across communities, with some places being much healthier than others. And, until now, there has been no standard method to illustrate what we know about what makes people sick or healthy or a central resource to identify what we can do to create healthier places to live, learn, work and play.

We know that much of what influences our health happens outside of the doctor's office – in our schools, workplaces and neighborhoods. The *County Health Rankings & Roadmaps* program provides information on the overall health of your community and provides the tools necessary to create community-based, evidence-informed solutions. Ranking the health of nearly every county across the nation, the County Health Rankings illustrate **what we know** when it comes to what is making communities sick or healthy. The *County Health Roadmaps* show **what we can do** to create healthier places to live, learn, work and play. The Robert Wood Johnson Foundation collaborates with the University of Wisconsin Population Health Institute to bring this groundbreaking program to counties and states across the nation.

---

### Guide to Our Web Site

To compile the *Rankings*, we selected measures that reflect important aspects of population health that can be improved and are available at the county level across the nation. Visit [www.countyhealthrankings.org](http://www.countyhealthrankings.org) to learn more.

To get started and see data, enter your county or state name in the search box. Click on the name of a county or measure to see more details. You can: Compare Counties; Download data for your state; Print one or more county

The *County Health Rankings & Roadmaps* program includes the *County Health Rankings* project, launched in 2010, and the newer Roadmaps project that mobilizes local communities, national partners and leaders across all sectors to improve health. The program is based on this model of population health improvement:



In this model, health outcomes are measures that describe the current health status of a county. These health outcomes are influenced by a set of health factors. Counties can improve health outcomes by addressing all health factors with effective, evidence-informed policies and programs.

Everyone has a stake in community health. We all need to work together to find solutions. The *County Health Rankings & Roadmaps* serve as both a call to action and a needed tool in this effort.

---

snapshots; or Share information with others via Facebook, Twitter, or Google+. To understand our methods, click on Learn about the Data and Methods. To learn about steps that you can take to improve health in your community, click on the *Roadmaps* tab. The *Roadmaps to Health* Action Center provides tools and resources to help groups working together to create healthier places. The Opportunities section provides information on funding, recognition, and partnership opportunities. The Connections section helps you learn what others are doing.

## County Health Roadmaps

The *Rankings* illustrate **what we know** when it comes to making people sick or healthy. The *County Health Rankings* confirm the critical role that factors such as education, jobs, income and the environment play in how healthy people are and how long we live.

This report introduces the *County Health Roadmaps*, a new partnership that mobilizes local communities, national partners and leaders across all sectors to improve health. The *County Health Roadmaps* show **what we can do** to create healthier places to live, learn, work and play. The Robert Wood Johnson Foundation collaborates with the University of Wisconsin Population Health Institute to bring this groundbreaking project to cities, counties and states across the nation.

The *Roadmaps* project includes grants to local coalitions and partnerships among policymakers, business, education, public health, health care, and community organizations; grants to national organizations working to improve health; recognition of communities whose promising efforts have led to better health; and customized technical assistance on strategies to improve health.

### Roadmaps to Health Community Grants

The *Roadmaps to Health* Community Grants provide funding for 2 years to state and local efforts among policymakers, business, education, healthcare, public health and community organizations working to create positive policy or systems changes that address the social and economic factors that influence the health of people in their community.

### Roadmaps to Health Partner Grants

The Robert Wood Johnson Foundation is awarding *Roadmaps to Health* Partner Grants to national organizations that are experienced at engaging local partners and leaders and are able to deliver high-quality training and technical assistance, and committed to making communities healthier places to live, learn, work and play. Partner grantees increase awareness about the *County Health Rankings & Roadmaps* to their members, affiliates and allies. The first Partner Grant was awarded to United Way Worldwide (UWW) in July 2011.

### Roadmaps to Health Prize

The Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute will award *Roadmaps to Health* Prizes of \$25,000 to up to six communities that are working to become healthier places to live, learn, work and play. The *Roadmaps to Health* Prize is intended not only to honor successful efforts, but also to inspire and stimulate similar activities in other U.S. communities.



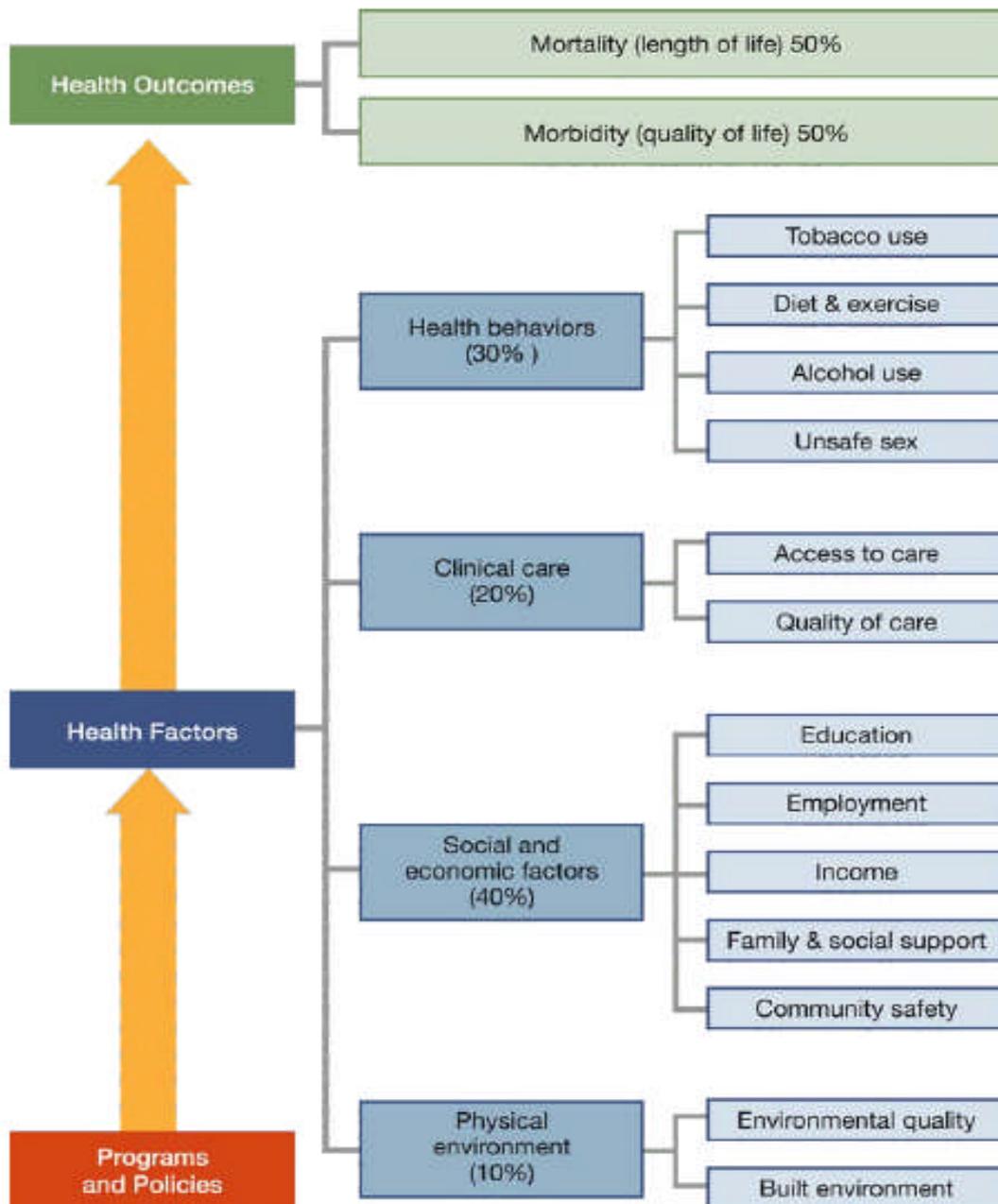
### Roadmaps to Health Action Center

The *Roadmaps to Health* Action Center, based at the University of Wisconsin Population Health Institute, provides tools and resources to help groups working to make their communities healthier places. The new Action Center will provide guidance on developing strategies and advocacy efforts to advance pro-health policies, offer opportunities for ongoing learning, and in the summer of 2012, host a searchable database of evidence-informed policies and programs focused on health improvement. Experts provide customized consultation to local communities who have demonstrated the willingness and capacity to address factors that we know influence how healthy a person is, such as education, income and family connectedness.

## County Health Rankings

The 2012 *County Health Rankings* report ranks North Carolina counties according to their summary measures of **health outcomes** and **health factors**. Counties also receive a rank for mortality, morbidity, health behaviors, clinical care, social and economic factors, and the physical environment. The figure below depicts the structure of the *Rankings* model; those having high ranks (e.g., 1 or 2) are estimated to be the “healthiest.”

Our summary **health outcomes** rankings are based on an equal weighting of mortality and morbidity measures. The summary **health factors** rankings are based on weighted scores of four types of factors: behavioral, clinical, social and economic, and environmental. The weights for the factors (shown in parentheses in the figure) are based upon a review of the literature and expert input, but represent just one way of combining these factors.



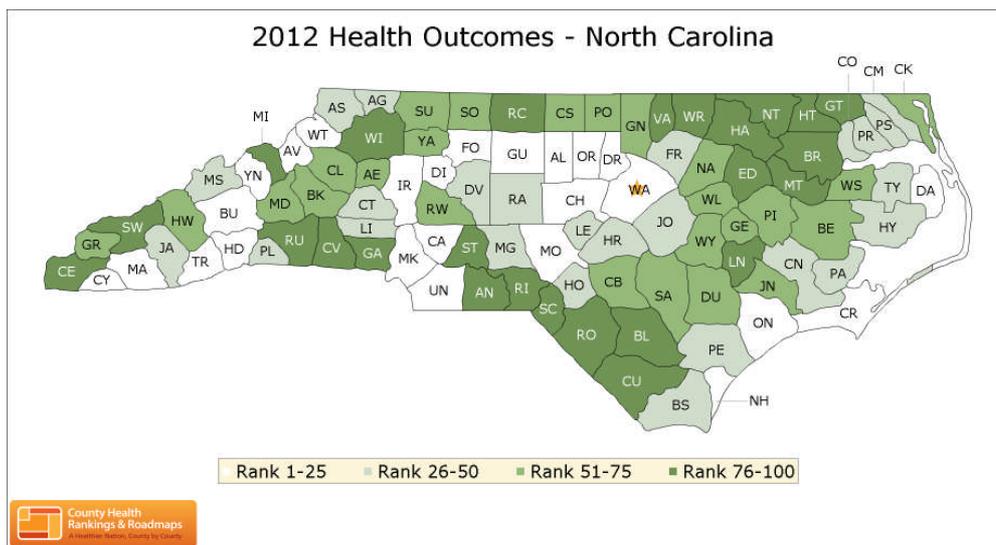
County Health Rankings model ©2010 UWPHI

The maps on this page and the next display North Carolina's counties divided into groups by health rank. Maps help locate the healthiest and least healthy counties in the state. The lighter colors indicate better performance in the respective. summary rankings. The green map shows the distribution of summary health outcomes. The blue displays the distribution of the

summary rank for health factors

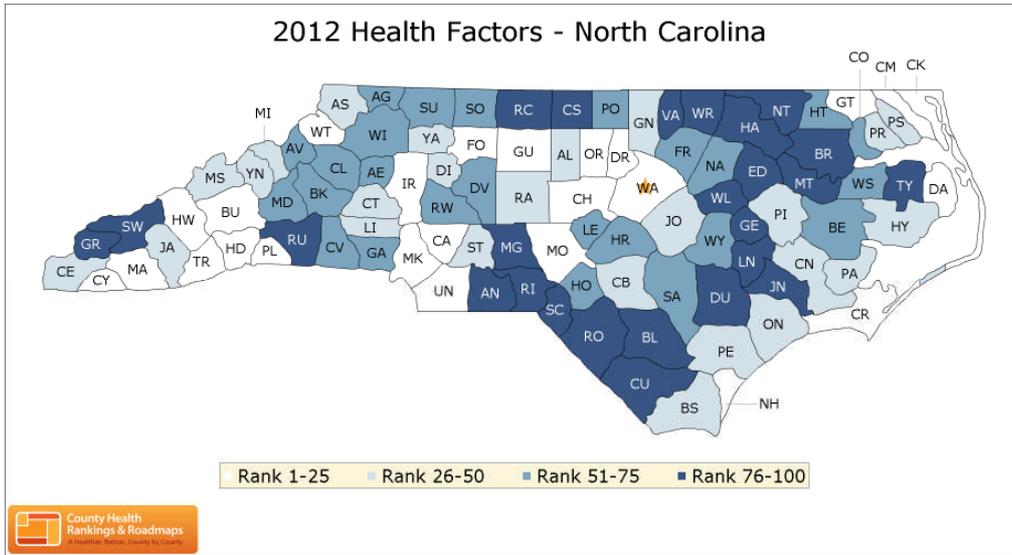
**Forsyth County** (abbreviated as FO on the state maps below), **ranked among the 25 best counties in North Carolina** with regard to health outcomes and health factors.

## HEALTH OUTCOMES



County	Rank	County	Rank	County	Rank	County	Rank
Alamance	23	Cumberland	63	Johnston	27	Randolph	35
Alexander	67	Currituck	51	Jones	71	Richmond	90
Alleghany	41	Dare	5	Lee	38	Robeson	99
Anson	89	Davidson	50	Lenoir	88	Rockingham	78
Ashe	37	Davie	22	Lincoln	34	Rowan	54
Avery	15	Duplin	55	Macon	13	Rutherford	84
Beaufort	56	Durham	8	Madison	30	Sampson	74
Bertie	94	Edgecombe	96	Martin	86	Scotland	91
Bladen	97	Forsyth	25	McDowell	62	Stanly	79
Brunswick	47	Franklin	46	Mecklenburg	4	Stokes	75
Buncombe	14	Gaston	76	Mitchell	82	Surry	61
Burke	68	Gates	83	Montgomery	36	Swain	95
Cabarrus	7	Graham	69	Moore	12	Transylvania	24
Caldwell	58	Granville	73	Nash	65	Tyrrell	43
Camden	39	Greene	66	New Hanover	10	Union	3
Carteret	11	Guilford	9	Northampton	92	Vance	93
Caswell	72	Halifax	98	Onslow	20	Wake	1
Catawba	29	Harnett	44	Orange	2	Warren	87
Chatham	21	Haywood	64	Pamlico	42	Washington	60
Cherokee	81	Henderson	17	Pasquotank	40	Watauga	6
Chowan	49	Hertford	85	Pender	28	Wayne	59
Clay	19	Hoke	48	Perquimans	45	Wilkes	77
Cleveland	80	Hyde	31	Person	57	Wilson	70
Columbus	100	Iredell	18	Pitt	52	Yadkin	53
Craven	32	Jackson	26	Polk	33	Yancey	16

## HEALTH FACTORS

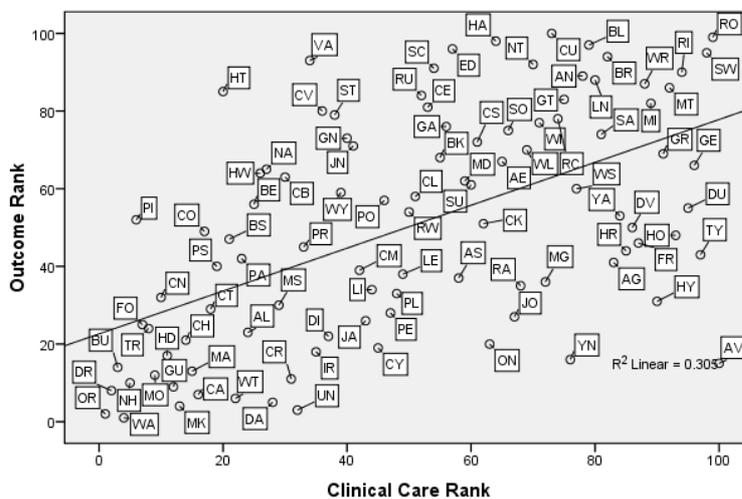


County	Rank	County	Rank	County	Rank	County	Rank
Alamance	47	Cumberland	49	Johnston	43	Randolph	42
Alexander	63	Currituck	17	Jones	77	Richmond	98
Alleghany	56	Dare	14	Lee	54	Robeson	100
Anson	93	Davidson	62	Lenoir	86	Rockingham	90
Ashe	39	Davie	31	Lincoln	29	Rowan	75
Avery	59	Duplin	81	Macon	16	Rutherford	83
Beaufort	53	Durham	8	Madison	28	Sampson	69
Bertie	85	Edgecombe	99	Martin	84	Scotland	96
Bladen	89	Forsyth	21	McDowell	61	Stanly	38
Brunswick	33	Franklin	68	Mecklenburg	19	Stokes	60
Buncombe	6	Gaston	65	Mitchell	45	Surry	55
Burke	52	Gates	18	Montgomery	79	Swain	94
Cabarrus	13	Graham	80	Moore	15	Transylvania	11
Caldwell	67	Granville	48	Nash	72	Tyrrell	92
Camden	4	Greene	76	New Hanover	10	Union	7
Carteret	20	Guilford	24	Northampton	87	Vance	95
Caswell	82	Halifax	97	Onslow	36	Wake	2
Catawba	30	Harnett	70	Orange	1	Warren	88
Chatham	9	Haywood	25	Pamlico	26	Washington	71
Cherokee	46	Henderson	5	Pasquotank	50	Watauga	3
Chowan	51	Hertford	66	Pender	44	Wayne	58
Clay	22	Hoke	74	Perquimans	32	Wilkes	64
Cleveland	73	Hyde	41	Person	57	Wilson	78
<b>Columbus</b>	<b>91</b>	<b>Iredell</b>	<b>23</b>	<b>Pitt</b>	<b>34</b>	<b>Yadkin</b>	<b>37</b>
Craven	27	Jackson	40	Polk	12	Yancey	35

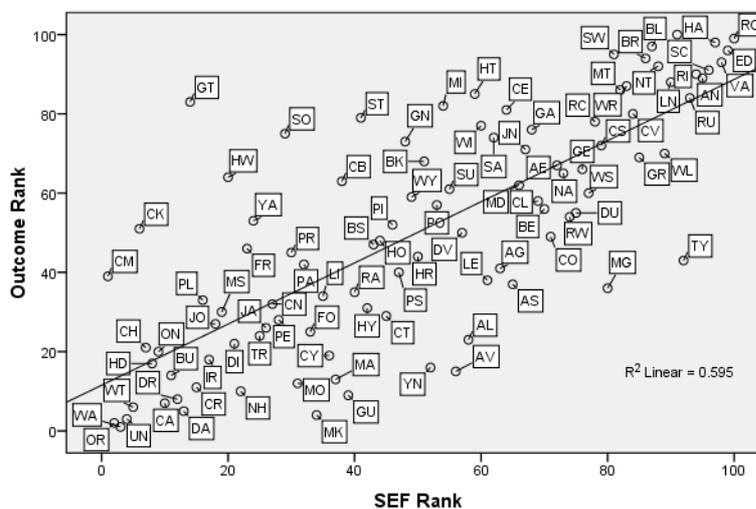
## Associations between Rankings

Below are two scatter-plots of the 100 North Carolina counties examining the relationship between health outcome ranks and social & economic factors (SEF) ranks and health outcome ranks and clinical care ranks. Each county is represented by a two letter code. There was a strong correlation between the outcomes and SEF ranks ( $R^2$ -squared value=0.595). As the value of the SEF rank increased (meaning as the rank became worse), the value of the outcome rank increased also (meaning that the outcome rank became worse). There was a slight correlation between the outcomes and clinical care ranks ( $R^2$ -squared value=0.305); which indicates that the presence of quality care services in the community does not necessarily result in better health for the whole community. However, the strongest predictors of better or poorer health status are better or poorer socioeconomic conditions respectively. Socioeconomic factors included in this study were education, unemployment rate, children in poverty, inadequate social support, homicide rate etc.

NC County Health Outcomes vs Clinical Care Rankings



NC County Health Outcomes vs Social & Economic Factors Rankings



## Snapshot 2012: Forsyth County Health Rankings

Counties receive two summary ranks: Health Outcomes and Health Factors. Each of these ranks represents a weighted summary of a number of measures.

**Health outcomes** represent how healthy a county is. The summary health outcomes ranking is based on measures of mortality and morbidity. The **mortality rank**, representing length of life, is based on a measure of premature death: the years of potential life lost prior to age 75. The **morbidity rank** is based on measures that represent health-related quality of life and birth outcomes. We combine four morbidity measures: self-reported fair or poor health, poor physical health days, poor mental health days, and the percent of births with low birthweight.

**Health factors** are what influences the health of the county. The summary health factors ranking is based on four factors: health behaviors, clinical care, social and economic, and physical environment factors. In turn,

each of these factors is based on several measures.

**Health behaviors** include measures of smoking, diet and exercise, alcohol use, and risky sex behavior. **Clinical care** includes measures of access to care and quality of care.

**Social and economic factors** include measures of education, employment, income, family and social support, and community safety. The **physical environment** includes measures of environmental quality and the built environment.

Below is a summary of findings comparing Forsyth County and the state of North Carolina to calculated target value for each factor. Fourteen (14) measures were better than state; Seven (7) measures were worse than state (*Sexually transmitted Infections; Air pollution ozone days; Low birth weight; high school graduation; Violent crime rates; access to recreational facilities*)

For more details on these measures, please visit <http://www.countyhealthrankings.org>.

	Forsyth County	Error Margin	Target Value*	NC Value	FC Rank (of100)
<b>Health Outcomes</b>					<b>25</b>
<b>Mortality</b>					<b>30</b>
<b>Premature Deaths</b> Age-adjusted years of potential life lost before age 75 per 100,000 pop.	7,938	7,596-8,281	5,466	7,961	
<b>Morbidity</b>					<b>28</b>
<b>Poor or Fair Health</b> Age-adjusted percentage of adults reporting poor or fair health	14%	12-15%	10%	18%	
<b>Poor Physical Health Days</b> Age-adjusted average number of physically unhealthy days reported in last 30 days	3.1	2.8-3.4	2.6	3.6	
<b>Poor Mental Health Days</b> Age-adjusted average number of mentally unhealthy days reported in last 30 days)	3.2	2.8-3.6	2.3	3.4	
<b>Low Birthweight</b> Percentage of live births with of infants weighing < 2500g	10.2%	9.9-10.5%	6.0%	9.1%	
<b>Health Factors</b>					<b>21</b>
<b>Health Behaviors</b>					<b>22</b>
<b>Adult Smoking</b> Percentage of adults that report smoking at least 100 cigarettes and that they currently smoke	21%	19-23%	14%	22%	
<b>Adult Obesity</b> Percentage of adults that report a BMI > or = 30	26%	23-28%	25%	29%	
<b>Physical Inactivity</b> Percent of adults 20 and over reporting no leisure time physical activity	21%	19-24%	21%	25%	
<b>Excessive Drinking</b> Percentage of adults that report excessive drinking	13%	11-15%	8%	13%	
<b>Motor Vehicle Death Crash Rate</b> Motor vehicle crash deaths per 100,000 pop.	13	12-15	12	19	
<b>Sexually Transmitted Infection</b> Chlamydia rate per 100,000 pop.	884		84	445	
<b>Teen Birth Rate</b> Teen birthrate per 1,000 pop. among females ages 15-19	50	48-51	22	50	

<b>Clinical Care</b>					<b>7</b>
<b>Uninsured Adults</b> (%of pop. under age 65 without health insurance)	17%	16-18%	11%	18%	
<b>Primary Care Provider</b> (Number of Primary care providers (PCP) in patient care.)	500:1		631:1	859:1	
<b>Preventable Hospital Stays</b> (Hospitalization rate for ambulatory- care sensitive conditions per 1,000 Medicare enrollees)	61	58-64	49	64	
<b>Diabetic Screening</b> (% of diabetic Medicare enrollees that receive HbA1c screenings)	88%	84-91%	89%	87%	
<b>Mammography screening</b> (Percent of female Medicare enrollees having at least 1 mammogram in 2yrs (age 67-69))	67%	63-71%	74%	70%	
<b>Social &amp; Economic Factors</b>					<b>33</b>
<b>High School Graduation</b> Percent of 9th grade cohort that graduates in 4 years	82%			78%	
<b>Some College</b> Percent of adults age25-44 with some post secondary education	62%	60-64%	68%	61%	
<b>Unemployment</b> Percent of pop. age 16+ unemployed but seeking work	9.9%		5.4%	10.6%	
<b>Children in Poverty</b> Percent of children under age 18 in poverty	24%	21-28%	13%	25%	
<b>Inadequate Social Support</b> % of adults without social/emotional support	18%	16-20%	14%	21%	
<b>Single-Parent Households</b> (% of all households that are single-parent households)	37%	35-39%	20%	34%	
<b>Violent Crime Rate</b> Violent crime rate per 100,000 pop.	661		73	448	
<b>Physical Environment</b>					<b>75</b>
<b>Air Pollution - Particulate Matter Days</b> Annual number of unhealthy air quality days due to fine particulate matter	1		0	1	
<b>Air Pollution - Ozone Days</b> Annual number of unhealthy air quality days due to ozone	10		0	6	
<b>Access to Recreational Facilities</b> Rate of recreational facilities per 100,000 pop.	15		16	11	
<b>Limited access to Healthy Foods</b> Percent of population who are low-income and do not live close to a grocery stores	11%		0%	10%	
<b>Fast Food Restaurants</b> Percent of all restaurants that are fast-food establishments	47%		25%	49%	

Note: \* 90<sup>th</sup> percentile, i.e., only 10% are better; Blank values reflect unreliable or missing data

Darker shade indicates worse than state values

Lighter shade indicates better than state values.

## Forsyth County Rankings among Top Five (5) & Ten (10) NC Counties

NC County Rankings: Health Outcomes			
Top 5 Largest Counties		Top 10 Largest Counties	
Wake	1 <sup>st</sup>	Wake	1 <sup>st</sup>
		Union	3 <sup>rd</sup>
Mecklenburg	4 <sup>th</sup>	Mecklenburg	4 <sup>th</sup>
		Durham	8 <sup>th</sup>
Guilford	9 <sup>th</sup>	Guilford	9 <sup>th</sup>
		New Hanover	10 <sup>th</sup>
<b>Forsyth</b>	<b>25<sup>th</sup></b>	Buncombe	14 <sup>th</sup>
		<b>Forsyth</b>	<b>25<sup>th</sup></b>
Cumberland	63 <sup>rd</sup>	Cumberland	63 <sup>rd</sup>
		Gaston	76 <sup>th</sup>

NC County Rankings: Health Factors			
Top 5 Largest Counties		Top 10 Largest Counties	
Wake	2 <sup>nd</sup>	Wake	2 <sup>nd</sup>
		Buncombe	6 <sup>th</sup>
Mecklenburg	19 <sup>th</sup>	Union	7 <sup>th</sup>
		Durham	8 <sup>th</sup>
<b>Forsyth</b>	<b>21<sup>st</sup></b>	New Hanover	10 <sup>th</sup>
		Mecklenburg	19 <sup>th</sup>
Guilford	24 <sup>th</sup>	<b>Forsyth</b>	<b>21<sup>st</sup></b>
		Guilford	24 <sup>th</sup>
Cumberland	49 <sup>th</sup>	Cumberland	49 <sup>th</sup>
		Gaston	65 <sup>th</sup>

NC County Rankings: Health Behaviors			
Top 5 Largest Counties		Top 10 Largest Counties	
Wake	2 <sup>nd</sup>	Wake	2 <sup>nd</sup>
		Mecklenburg	4 <sup>th</sup>
Mecklenburg	4 <sup>th</sup>	Buncombe	7 <sup>th</sup>
		Union	10 <sup>th</sup>
Guilford	16 <sup>th</sup>	Durham	11 <sup>th</sup>
		New Hanover	12 <sup>th</sup>
<b>Forsyth</b>	<b>22<sup>nd</sup></b>	Guilford	16 <sup>th</sup>
		<b>Forsyth</b>	<b>22<sup>nd</sup></b>
Cumberland	81 <sup>st</sup>	Gaston	45 <sup>th</sup>
		Cumberland	81 <sup>st</sup>

NC County Rankings: Clinical Care			
Top 5 Largest Counties		Top 10 Largest Counties	
Wake	4 <sup>th</sup>	Durham	2 <sup>nd</sup>
		Buncombe	3 <sup>rd</sup>
<b>Forsyth</b>	<b>7<sup>th</sup></b>	Wake	4 <sup>th</sup>
		New Hanover	5 <sup>th</sup>
Guilford	12 <sup>th</sup>	<b>Forsyth</b>	<b>7<sup>th</sup></b>
		Guilford	12 <sup>th</sup>
Mecklenburg	13 <sup>th</sup>	Mecklenburg	13 <sup>th</sup>
		Cumberland	30 <sup>th</sup>
Cumberland	30 <sup>th</sup>	Union	32 <sup>nd</sup>
		Gaston	56 <sup>th</sup>

NC County Rankings: Social & Economic Factors			
Top 5 Largest Counties		Top 10 Largest Counties	
Wake	3 <sup>rd</sup>	Wake	3 <sup>rd</sup>
		Union	4 <sup>th</sup>
<b>Forsyth</b>	<b>33<sup>rd</sup></b>	Buncombe	11 <sup>th</sup>
		Durham	12 <sup>th</sup>
Mecklenburg	34 <sup>th</sup>	Mecklenburg	34 <sup>th</sup>
		New Hanover	22 <sup>nd</sup>
Cumberland	38 <sup>th</sup>	<b>Forsyth</b>	<b>33<sup>rd</sup></b>
		Cumberland	38 <sup>th</sup>
Guilford	39 <sup>th</sup>	Guilford	39 <sup>th</sup>
		Gaston	68 <sup>th</sup>

NC County Rankings: Physical Environment			
Top 5 Largest Counties		Top 10 Largest Counties	
<b>Forsyth</b>	<b>75<sup>th</sup></b>	New Hanover	30 <sup>th</sup>
		Buncombe	59 <sup>th</sup>
Cumberland	87 <sup>th</sup>	Durham	62 <sup>nd</sup>
		<b>Forsyth</b>	<b>75<sup>th</sup></b>
Guilford	90 <sup>th</sup>	Gaston	83 <sup>rd</sup>
		Cumberland	87 <sup>th</sup>
Wake	93 <sup>rd</sup>	Union	88 <sup>th</sup>
		Guilford	90 <sup>th</sup>
Mecklenburg	96 <sup>th</sup>	Wake	93 <sup>rd</sup>
		Mecklenburg	96 <sup>th</sup>

**Note:** Counties without Military bases: Durham, Forsyth, Guilford, Mecklenburg & Wake

## Summary Health Outcomes & Factors Rankings: North Carolina

The following pages show the health outcomes and health factor ranks for all 100 counties in North Carolina and show each county's rank for individual measures. Forsyth County is shown in **red**.

Each of these ranks represents a weighted summary of a number of measures. Health outcomes represent how healthy a county is while health factors are what influences the health of the county.

Rank	Health Outcomes	Rank	Health Factors	Rank	Health Outcomes	Rank	Health Factors
1	Wake	1	Orange	51	Currituck	51	Chowan
2	Orange	2	Wake	52	Pitt	52	Burke
3	Union	3	Watauga	53	Yadkin	53	Beaufort
4	Mecklenburg	4	Camden	54	Rowan	54	Lee
5	Dare	5	Henderson	55	Duplin	55	Surry
6	Watauga	6	Buncombe	56	Beaufort	56	Alleghany
7	Cabarrus	7	Union	57	Person	57	Person
8	Durham	8	Durham	58	Caldwell	58	Wayne
9	Guilford	9	Chatham	59	Wayne	59	Avery
10	New Hanover	10	New Hanover	60	Washington	60	Stokes
11	Carteret	11	Transylvania	61	Surry	61	McDowell
12	Moore	12	Polk	62	McDowell	62	Davidson
13	Macon	13	Cabarrus	63	Cumberland	63	Alexander
14	Buncombe	14	Dare	64	Haywood	64	Wilkes
15	Avery	15	Moore	65	Nash	65	Gaston
16	Yancey	16	Macon	66	Greene	66	Hertford
17	Henderson	17	Currituck	67	Alexander	67	Caldwell
18	Iredell	18	Gates	68	Burke	68	Franklin
19	Clay	19	Mecklenburg	69	Graham	69	Sampson
20	Onslow	20	Carteret	70	Wilson	70	Harnett
21	Chatham	21	<b>Forsyth</b>	71	Jones	71	Washington
22	Davie	22	Clay	72	Caswell	72	Nash
23	Alamance	23	Iredell	73	Granville	73	Cleveland
24	Transylvania	24	Guilford	74	Sampson	74	Hoke
25	<b>Forsyth</b>	25	Haywood	75	Stokes	75	Rowan
26	Jackson	26	Pamlico	76	Gaston	76	Greene
27	Johnston	27	Craven	77	Wilkes	77	Jones
28	Pender	28	Madison	78	Rockingham	78	Wilson
29	Catawba	29	Lincoln	79	Stanly	79	Montgomery
30	Madison	30	Catawba	80	Cleveland	80	Graham
31	Hyde	31	Davie	81	Cherokee	81	Duplin
32	Craven	32	Perquimans	82	Mitchell	82	Caswell
33	Polk	33	Brunswick	83	Gates	83	Rutherford
34	Lincoln	34	Pitt	84	Rutherford	84	Martin
35	Randolph	35	Yancey	85	Hertford	85	Bertie
36	Montgomery	36	Onslow	86	Martin	86	Lenoir
37	Ashe	37	Yadkin	87	Warren	87	Northampton
38	Lee	38	Stanly	88	Lenoir	88	Warren
39	Camden	39	Ashe	89	Anson	89	Bladen
40	Pasquotank	40	Jackson	90	Richmond	90	Rockingham
41	Alleghany	41	Hyde	91	Scotland	91	Columbus
42	Pamlico	42	Randolph	92	Northampton	92	Tyrrell
43	Tyrrell	43	Johnston	93	Vance	93	Anson
44	Harnett	44	Pender	94	Bertie	94	Swain
45	Perquimans	45	Mitchell	95	Swain	95	Vance
46	Franklin	46	Cherokee	96	Edgecombe	96	Scotland
47	Brunswick	47	Alamance	97	Bladen	97	Halifax
48	Hoke	48	Granville	98	Halifax	98	Richmond
49	Chowan	49	Cumberland	99	Robeson	99	Edgecombe
50	Davidson	50	Pasquotank	100	Columbus	100	Robeson

## Health Outcomes Rankings: North Carolina

Rank	Mortality	Morbidity	Rank	Mortality	Morbidity
1	Wake	Wake	51	Pender	Montgomery
2	Orange	Orange	52	Chowan	Hoke
3	Dare	Macon	53	Haywood	Rockingham
4	Union	Union	54	Pitt	Chowan
5	Mecklenburg	Clay	55	McDowell	Pitt
6	Alleghany	Transylvania	56	Caswell	Ashe
7	Watauga	Mecklenburg	57	Cumberland	Surry
8	Cabarrus	Pamlico	58	Alexander	Greene
9	New Hanover	Pender	59	Washington	Davidson
10	Durham	Moore	60	Burke	Perquimans
11	Yancey	Guilford	61	Jones	Wilson
12	Tyrrell	Jackson	62	Currituck	Swain
13	Chatham	Craven	63	Beaufort	Granville
14	Buncombe	Polk	64	Brunswick	Yadkin
15	Carteret	Watauga	65	Stokes	Washington
16	Guilford	Person	66	Surry	Cumberland
17	Davie	Avery	67	Pamlico	McDowell
18	Alamance	Durham	68	Wilkes	Rowan
19	Johnston	Cabarrus	69	Greene	Gaston
20	Ashe	Henderson	70	Gates	Caldwell
21	Iredell	Carteret	71	Duplin	Haywood
22	Henderson	Dare	72	Wayne	Burke
23	Onslow	New Hanover	73	Cleveland	Anson
24	Moore	Onslow	74	Gaston	Alexander
25	Hyde	Iredell	75	Wilson	Rutherford
26	Avery	Brunswick	76	Mitchell	Jones
27	Montgomery	Graham	77	Granville	Cleveland
28	Pasquotank	<b>Forsyth</b>	78	Warren	Wilkes
29	Catawba	Lincoln	79	Nash	Cherokee
30	<b>Forsyth</b>	Lee	80	Cherokee	Stokes
31	Madison	Madison	81	Rockingham	Tyrrell
32	Perquimans	Buncombe	82	Lenoir	Caswell
33	Randolph	Nash	83	Sampson	Scotland
34	Macon	Randolph	84	Person	Alleghany
35	Clay	Catawba	85	Northampton	Bertie
36	Camden	Duplin	86	Hertford	Martin
37	Lincoln	Camden	87	Rutherford	Mitchell
38	Stanly	Harnett	88	Graham	Hertford
39	Franklin	Davie	89	Martin	Robeson
40	Lee	Yancey	90	Richmond	Richmond
41	Harnett	Alamance	91	Halifax	Vance
42	Rowan	Hyde	92	Vance	Gates
43	Jackson	Currituck	93	Scotland	Edgecombe
44	Transylvania	Wayne	94	Anson	Stanly
45	Caldwell	Johnston	95	Edgecombe	Lenoir
46	Davidson	Chatham	96	Bladen	Bladen
47	Craven	Sampson	97	Bertie	Warren
48	Polk	Beaufort	98	Columbus	Columbus
49	Yadkin	Franklin	99	Robeson	Northampton
50	Hoke	Pasquotank	100	Swain	Halifax

## Health Factors Rankings: North Carolina

Rank	Health Behaviors	Clinical Care	Social & Economic Factors	Physical Environment
1	Orange	Orange	Camden	Hyde
2	Wake	Durham	Orange	Carteret
3	Henderson	Buncombe	Wake	Watauga
4	Mecklenburg	Wake	Union	Dare
5	Watauga	New Hanover	Watauga	Alleghany
6	Polk	Pitt	Currituck	Clay
7	Buncombe	<b>Forsyth</b>	Chatham	Northampton
8	Macon	Transylvania	Henderson	Polk
9	Transylvania	Moore	Onslow	Transylvania
10	Union	Craven	Cabarrus	Beaufort
11	Durham	Henderson	Buncombe	Swain
12	New Hanover	Guilford	Durham	Perquimans
13	Yancey	Mecklenburg	Dare	Pasquotank
14	Clay	Chatham	Gates	Tyrrell
15	Chatham	Macon	Carteret	Gates
16	Guilford	Cabarrus	Polk	Moore
17	Lincoln	Chowan	Iredell	Macon
18	Avery	Catawba	Johnston	Lee
19	Moore	Pasquotank	Madison	Ashe
20	Gates	Hertford	Haywood	Lenoir
21	Greene	Brunswick	Davie	Surry
22	<b>Forsyth</b>	Watauga	New Hanover	Mitchell
23	Ashe	Pamlico	Franklin	Avery
24	Camden	Alamance	Yadkin	Wilkes
25	Mitchell	Beaufort	Transylvania	Craven
26	Catawba	Haywood	Jackson	Stanly
27	Dare	Nash	Craven	Yadkin
28	Cabarrus	Dare	Pender	Rutherford
29	Haywood	Madison	Stokes	Cherokee
30	Pamlico	Cumberland	Perquimans	New Hanover
31	Cherokee	Carteret	Moore	Iredell
32	Iredell	Union	Pamlico	Hertford
33	Graham	Perquimans	<b>Forsyth</b>	Robeson
34	Wilson	Vance	Mecklenburg	Pamlico
35	Madison	Iredell	Lincoln	Sampson
36	Currituck	Cleveland	Clay	Chatham
37	Alleghany	Davie	Macon	Orange
38	Davie	Stanly	Cumberland	Caswell
39	Washington	Wayne	Guilford	Vance
40	Randolph	Granville	Randolph	Duplin
41	Alexander	Jones	Stanly	Davidson
42	McDowell	Camden	Hyde	Cleveland
43	Yadkin	Jackson	Brunswick	Chowan
44	Carteret	Lincoln	Hoke	Yancey
45	Gaston	Clay	Catawba	Washington
46	Brunswick	Person	Pitt	Person
47	Hyde	Pender	Pasquotank	Henderson
48	Martin	Polk	Granville	Halifax
49	Lee	Lee	Wayne	Alamance
50	Pitt	Rowan	Harnett	Brunswick

## Health Factors Rankings: North Carolina

Rank	Health Behaviors	Clinical Care	Social & Economic Factors	Physical Environment
51	Caldwell	Caldwell	Burke	Bertie
52	Davidson	Rutherford	Yancey	Currituck
53	Craven	Cherokee	Person	Warren
54	Burke	Scotland	Mitchell	Randolph
55	Alamance	Burke	Surry	Stokes
56	Chowan	Gaston	Avery	Columbus
57	Stanly	Edgecombe	Davidson	Granville
58	Surry	Ashe	Alamance	Alexander
59	Rutherford	McDowell	Hertford	Buncombe
60	Granville	Surry	Wilkes	Richmond
61	Duplin	Caswell	Lee	Wilson
62	Anson	Currituck	Sampson	Durham
63	Perquimans	Onslow	Alleghany	Pender
64	Sampson	Halifax	Cherokee	Jackson
65	Cleveland	Alexander	Ashe	Montgomery
66	Lenoir	Stokes	McDowell	Harnett
67	Beaufort	Johnston	Jones	Scotland
68	Rowan	Randolph	Gaston	Camden
69	Jackson	Wilson	Caldwell	Jones
70	Montgomery	Northampton	Beaufort	Lincoln
71	Person	Wilkes	Chowan	Burke
72	Nash	Montgomery	Alexander	McDowell
73	Wilkes	Columbus	Nash	Cabarrus
74	Tyrrell	Rockingham	Rowan	Martin
75	Bertie	Gates	Duplin	<b>Forsyth</b>
76	Hoke	Yancey	Greene	Madison
77	Johnston	Washington	Washington	Bladen
78	Pender	Anson	Rockingham	Wayne
79	Wayne	Bladen	Caswell	Haywood
80	Harnett	Lenoir	Montgomery	Graham
81	Cumberland	Sampson	Swain	Onslow
82	Onslow	Bertie	Martin	Rockingham
83	Caswell	Alleghany	Warren	Gaston
84	Warren	Yadkin	Cleveland	Johnston
85	Columbus	Harnett	Graham	Catawba
86	Bladen	Davidson	Bertie	Pitt
87	Scotland	Franklin	Bladen	Cumberland
88	Franklin	Warren	Northampton	Union
89	Halifax	Mitchell	Wilson	Caldwell
90	Pasquotank	Hyde	Lenoir	Guilford
91	Richmond	Graham	Columbus	Davie
92	Northampton	Martin	Tyrrell	Franklin
93	Stokes	Hoke	Rutherford	Wake
94	Hertford	Richmond	Richmond	Nash
95	Jones	Duplin	Anson	Anson
96	Vance	Greene	Scotland	Mecklenburg
97	Swain	Tyrrell	Halifax	Rowan
98	Rockingham	Swain	Vance	Greene
99	Edgecombe	Robeson	Edgecombe	Hoke
100	Robeson	Avery	Robeson	Edgecombe

## 2012 County Health Rankings: Measures, Data Sources, and Years of Data

	Measure	Data Source	Years of Data
<b>HEALTH OUTCOMES</b>			
<b>Mortality</b>	Premature death	National Center for Health Statistics	2006-2008
<b>Morbidity</b>	Poor or fair health	Behavioral Risk Factor Surveillance System	2004-2010
	Poor physical health days	Behavioral Risk Factor Surveillance System	2004-2010
	Poor mental health days	Behavioral Risk Factor Surveillance System	2004-2010
	Low birthweight	National Center for Health Statistics	2002-2008
<b>HEALTH FACTORS</b>			
<b>HEALTH BEHAVIORS</b>			
<b>Tobacco Use</b>	Adult smoking	Behavioral Risk Factor Surveillance System	2004-2010
<b>Diet and Exercise</b>	Adult obesity	National Center for Chronic Disease Prevention and Health Promotion	2009
	Physical Inactivity		
<b>Alcohol Use</b>	Excessive drinking	Behavioral Risk Factor Surveillance System	2004-2010
	Motor vehicle crash death rate	National Center for Health Statistics	2002-2008
<b>High Risk Sexual Behavior</b>	Sexually transmitted infections	National Center for Health Statistics	2009
	Teen birth rate	National Center for Health Statistics	2002-2008
<b>CLINICAL CARE</b>			
<b>Access to Care</b>	Uninsured adults	Small Area Health Insurance Estimates, U.S. Census	2009
	Primary care provider rate	Health Resources & Services Administration	2009
<b>Quality of Care</b>	Preventable hospital stays	Medicare/Dartmouth Institute	2009
	Diabetic screening	Medicare/Dartmouth Institute	2009
	Mammography screening	Medicare/Dartmouth Institute	2009
<b>SOCIOECONOMIC FACTORS</b>			
<b>Education</b>	High school graduation	State Sources and the National	Varies by state
	Some College	American Community Survey	2006-2010
<b>Employment</b>	Unemployment	Bureau of Labor Statistics	2010
<b>Income</b>	Children in poverty	Small Area Income and Poverty Estimates, U.S. Census	2010
<b>Family and Social Support</b>	Inadequate social support	Behavioral Risk Factor Surveillance System	2004-2010
	Single-parent households	American Community Survey	2006-2010
<b>Community Safety</b>	Violent crime <sup>2</sup>	Uniform Crime Reporting, Federal Bureau of Investigation	2007-2009
<b>PHYSICAL ENVIRONMENT</b>			
<b>Air Quality<sup>4</sup></b>	Air pollution-particulate matter days	U.S. Environmental Protection Agency / Centers for Disease Control and Prevention	2007
	Air pollution-ozone days	U.S. Environmental Protection Agency / Centers for Disease Control and Prevention	2007
<b>Built Environment</b>	Access to healthy foods	Census Zip Code Business Patterns	2009
	Access to recreational facilities	Census County Business Patterns	2009
	Fast Food restaurants	Census County Business Patterns	2009

<sup>1</sup> NCES used for AK, AL, AR, CA, CT, FL, HI, ID, KY, MT, ND, NJ, OK, SD and TN

<sup>2</sup> State data source for IL.

<sup>3</sup> Not available for AK and HI.

<sup>4</sup> Access to Healthy Foods (2009) from Census Zip Code Business Patterns for AK and HI.

## CREDITS

### **Report Authors**

University of Wisconsin-Madison  
School of Medicine and Public Health  
Department of Population Health Sciences  
Population Health Institute

Bridget Booske Catlin, PhD, MHSA  
Amanda Jovaag, MS  
Patrick Remington, MD, MPH

This publication would not have been possible without the following contributions:

### **Technical Advisors**

Amy Bernstein, ScD, Centers for Disease Control and Prevention

### **Research Assistance**

Jennifer Buechner  
Hyojun Park, MA  
Jennifer Robinson  
Matthew Rodock, MPH  
Anne Roubal

### **Communications and Outreach**

Burness Communications  
Anna Grilley  
Anna Graupner, MPH  
Kate Konkle, MPH  
Angela Russell  
Julie Willems Van Dijk, PhD, RN

### **Design**

Forum One, Alexandria, VA  
Media Solutions, UW School of Medicine and Public Health

### **Robert Wood Johnson Foundation**

Brenda L. Henry, PhD, MPH – Senior Program Officer  
Abbey Cofsky, MPH – Program Officer  
Michelle Larkin, JD, MS, RN – Assistant Vice-President and Deputy Director, Health Group  
James S. Marks, MD, MPH – Senior Vice President and Group Director, Health Group  
Joe Marx – Senior Communications Officer

Suggested citation: University of Wisconsin Population Health Institute. *County Health Rankings 2011*.



## County Health Rankings & Roadmaps

A Healthier Nation, County by County



**University of Wisconsin Population Health Institute**  
610 Walnut St, #524, Madison, WI 53726  
(608) 265-6370 / [info@countyhealthrankings.org](mailto:info@countyhealthrankings.org)