

# Community Health Needs Assessment

2016



**Hancock County  
Hospital**

A Member of Wellmont Health System

# Community Health Needs Assessment: Table of Contents

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If you have questions regarding the assessment, please visit [wellmont.org/ContactUs](http://wellmont.org/ContactUs).



# Introduction: Wellmont Health System

## 6

Wellmont Health System hospitals

## Background

Wellmont Health System is a leading health care provider in the Tri-Cities region of Northeast Tennessee and Southwest Virginia. Wellmont is a not-for-profit health system guided by the mission to deliver superior health care with compassion and a vision to deliver the best health care anywhere.

Formed in 1996 with the merger of Holston Valley Medical Center in Kingsport, Tennessee, and Bristol Regional Medical Center in Bristol, Tennessee, Wellmont has grown steadily since its inception, developing a regional network of hospitals and health care facilities. Today, thousands of caregivers and hundreds of physicians focus on improving our communities, and healing patients.

As part of its mission, Wellmont regularly surveys the communities it serves to assess their health care needs.



750 beds across six hospitals, two skilled nursing facilities and Wellmont Medical Associates

### The goals of this community health needs assessment are:

- Complete a thorough review of our communities' health status and unmet needs
- Collect valuable information to help target community benefit, outreach and wellness programs
- Develop action plans, strategies and partnerships that support regional efforts to address any unmet health needs
- Create or strengthen partnerships among community organizations with shared accountability for the population's health

### Wellmont's hospitals include:

- Holston Valley Medical Center, Kingsport, Tennessee
- Bristol Regional Medical Center, Bristol, Tennessee
- Mountain View Regional Medical Center, Norton, Virginia
- Lonesome Pine Hospital, Big Stone Gap, Virginia
- Hawkins County Memorial Hospital, Rogersville, Tennessee
- Hancock County Hospital, Sneedville, Tennessee



270 physicians and other providers

Wellmont is licensed to operate more than 750 beds across a network of six hospitals as well as two skilled nursing facilities. Wellmont Medical Associates offers an integrated network of 270 physicians and other providers. The Wellmont CVA Heart Institute delivers nationally recognized cardiovascular care, and the Wellmont Cancer Institute provides a broad spectrum of care throughout the region.

# Introduction: Wellmont Health System

## Scope of Services



Access to a continuum of services

Wellmont provides a continuum of services ranging from community-based acute care to highly specialized tertiary services, including the nationally recognized Wellmont CVA Heart Institute and comprehensive oncology care from the Wellmont Cancer Institute. Wellmont also offers the region's most robust robotics program with the CyberKnife Robotic Radiosurgery System and da Vinci Surgical System. Other technology that strengthens Wellmont's delivery of care are the Trilogy linear accelerator and TrueBeam STx with Brainlab.

Additionally, Wellmont is ready to care for our region's most critically injured patients with Level I and Level II trauma centers, as well as serve the smallest and sickest babies at its Level III neonatal intensive care unit. And with mobile services such as WellmontOne Air Transport and the Wellmont Health Coach, we're constantly enhancing access to lifesaving measures.

## Integrated Physicians



Physician leadership team and board of directors

Wellmont's integrated physician groups include Wellmont Medical Associates and the Wellmont CVA Heart Institute, which is the region's largest cardiovascular practice.

Wellmont Medical Associates was formed in 2012 as a fundamental restructuring of Wellmont's physician practice operations. Believing physicians are best suited to determine the care plans for patients, the organization has a four-member physician leadership team and a board of directors with 15 physicians. Wellmont Medical Associates' services include not only providing expert treatment for illness, but also educating people and proactively managing patients' care to prevent illness. This philosophy advances the health system's goal to employ effective medical home models and to serve as a high-performing network of physicians and hospitals in value-based care delivery models.

The heart institute provides top-quality cardiovascular services in its 11 community offices and in Wellmont hospitals. The heart institute delivers high-quality, cost-effective heart and vascular care with compassion and improves the cardiovascular health of the region. The institute's providers diagnose, treat and manage all aspects of adult cardiovascular disease, with services ranging from general cardiology, preventive cardiology and cardiothoracic surgery, to electrophysiology, interventional cardiology, vascular medicine, structural heart disease, heart failure management and advanced cardiovascular imaging. The institute is also a national leader in clinical research and is an international teaching institution.

## Introduction: Wellmont Health System



National leader  
in clinical research

When it comes to oncology care, the Wellmont Cancer Institute's innovative approach brings together multiple board-certified physician specialists and other experts – such as a registered dietitian and clinical trial coordinator – to design a customized plan for each patient. Besides this team-driven model of care, we offer the region's most advanced technologies, clinical trials and diagnostics. We have a robust cancer program that extends throughout the region that includes leading-edge technology such as TrueBeam STx with Brainlab, CyberKnife Robotic Radiosurgery System and Trilogy linear accelerator.

The cancer institute provides services at Holston Valley Medical Center and Bristol Regional Medical Center, as well as outpatient facilities in Johnson City and Kingsport, Tennessee, and Bristol and Norton, Virginia. In early 2015, the cancer institute introduced its lung nodule program, a comprehensive, multidisciplinary approach that enables physicians and other caregivers to detect lung cancer at its earliest stages.

# Introduction: Wellmont Health System

## Service Area

With services strategically placed throughout the region, Wellmont is positioned to be the region's high-quality, low-cost health care provider.

Wellmont's service area encompasses the northeastern counties of Tennessee and the southwestern counties of Virginia in the heart of central Appalachia, with our tertiary care hospitals based in Kingsport and Bristol Tennessee.



# Introduction: Hancock County Hospital

## Primary Service Area

Tennessee

- Hancock County

## Facility Description

Hancock County Hospital, a 10-bed critical-access facility located in Sneedville, Tennessee, was built in 2005 and provides care to patients of Hancock County.

The hospital offers a 24-hour emergency department and access to WellmontOne Air Transport. With nearly 40 physicians, nurses, technicians and support staff members, Hancock County Hospital is ready to provide inpatient care, laboratory tests and respiratory therapy, as well as diagnostic imaging services that include X-ray, ultrasound and a 16-slice CT scanner.

Additionally, Hancock County Hospital has 24-availability to ground medical transportation if patients require the services of a tertiary medical center.

## Key Services

- Emergency care
- Inpatient care
- Laboratory
- Imaging
- Physical therapy



# Methodology: Hancock County Hospital

## Methodology

Information for this report was gathered from a variety of sources, including:

- Physician needs assessment
- Community health facility assessment
- Mental health needs assessment
- Publicly available population and demographic information
- Publicly available population health information, including America's Health Rankings and the County Health Rankings
- State and regional health department data
- The Southwest Virginia Health Authority's Blueprint for Health Enabled Prosperity
- The ETSU, Wellmont, Mountain States Community Work Group Project
- Other studies



Work groups dedicated to key health topics met regularly and provided input to create the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

## Community Work Group Project

In April 2015, Wellmont Health System and Mountain States Health Alliance announced they have agreed to exclusively explore the creation of a new, integrated and locally governed health system designed to address the serious health issues affecting our area.

As part of the proposed merger, the two systems, in conjunction with East Tennessee State University and its College of Public Health, launched an initiative to focus on four key areas for health improvement in our region. Work groups dedicated to these topics provided input to ETSU, which then created the report, "Identifying priorities and solutions for improving health in Northeast Tennessee and Southwest Virginia."

That report, along with the other reference sources listed above, enabled Wellmont to collate and assess information to determine the greatest unmet health needs facing our region. Strategies to address these needs are being developed, utilizing internal resources and partnerships with other health care organizations and physicians.

# Key Findings: Hancock County Hospital



Meeting the acute care needs of the populations we serve

## Key Findings

The health needs assessment of Hancock County's service area revealed we are generally meeting the acute care needs of the populations we serve. Our region still suffers by comparison, though, when its health status is measured against other parts of the country.

The below findings are also echoed wholeheartedly by people in the regions we serve; specifically, by interviews with key community leaders and participants with the ETSU work groups.

Many of the findings are interrelated and ultimately stem from similar root causes. As a result, no single finding is prioritized over another, and many of our implementation plans address several of those findings simultaneously.

## The counties we serve rank among the lowest in our states in several categories related to health and wellness.

(See Appendix: Population Health Factors and Outcomes)

4<sup>th</sup>

Tennessee ranks fourth highest in the country in prevalence of type 2 diabetes

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Tennessee and Virginia in several categories, notably in the prevalence of chronic disease management, obesity, tobacco use, diet and exercise.

These deficits can be attributed to any number of issues plaguing our region. Indeed, many of these rankings are undoubtedly tied to those counties' equally low rankings in several socioeconomic categories such as education, employment and income. Moreover, poor health literacy rates are immensely detrimental to local residents' abilities to stay abreast of their condition.

For example, the percentage of people in the United States who have adult type 2 diabetes is 9.3 percent, and Tennessee ranks fourth highest in the country in the prevalence of type 2 diabetes at 11.3 percent, with Sullivan County as the fifth highest county in the state at 13.9 percent.

Plus, the current shortages in primary care and family medicine physicians in certain parts of the region limit the population's ability to access the preventive care and disease management needed to curtail these health concerns. The work groups identified a strong need for leadership from the health system and regional partners, as well as from community leaders.

The services provided by Wellmont consistently rank very high, as validated by third-party ratings agencies and publicly reported data. However, the ability to reverse poor health trends and the behaviors that lead to them has been limited.

# Key Findings: Hancock County Hospital



Despite charity care provisions, uninsured and underinsured populations often seek emergent care rather than effectively managing their health, often resulting in high-cost care and poor health outcomes.

## The uninsured and underinsured are vulnerable populations.

As is the case throughout the country, the uninsured and underinsured populations we serve are at an increased health risk. While the passage of the Affordable Care Act has helped many in our region obtain insurance, the decision by Tennessee and Virginia not to expand their state Medicaid programs has left quite a few low-income individuals and families still unable to afford premiums. Additionally, many insured people face high deductibles, which still leaves them reluctant to seek care on a regular basis.

The reticence of these populations to establish relationships with primary care providers and follow screening and preventive care schedules creates a large risk for burgeoning health problems.

In turn, these populations can become over-utilizers of high-cost services such as the emergency department, or when their health problems require extensive treatment.

## There is a need in our region for expanded and enhanced mental health services.

This finding also mirrors a national gap and conversation about the availability of mental health care. Locally, data suggests a need for increased recruitment of psychiatric caregivers and access to services, especially intensive outpatient services.

Mental health, for Hancock County's service area, applies to any range of emotional well-being and mental illness, ranging from anxiety, depression and substance abuse to post-traumatic stress disorder and debilitating psychoses.

Though some of these perceived gaps might stem from a lack of awareness about these services and how they can be accessed, irrefutable evidence highlights the need for more work in this area.

These services should also include an intense focus on addiction and drugs, as both the ETSU work groups and several community leaders have identified substance abuse as a major problem plaguing our region. While this has been an issue for many years in Northeast Tennessee and Southwest Virginia, the abuse of prescription medication has skyrocketed in recent years.



Need for increased recruitment of psychiatric caregivers and access to services

## Key Findings: Hancock County Hospital

As local health organizations step together to confront the problem, community feedback suggests three areas for improvement:

- Early signs of substance abuse and mental health problems identified in the population
- Effective prevention, early intervention and a full continuum of treatment services available for all
- Integration within the community throughout the early identification, treatment and recovery processes

### **If our communities are to thrive, we must focus on encouraging healthy children and families.**



Generational issues affect families and children.

An echoing theme throughout our research and reporting is that the socioeconomic makeup of Northeast Tennessee and Southwest Virginia – the same factors that have contributed to the other health needs identified in this assessment – is a generational issue that affects families and children.

Plainly stated, poor health tends to start in childhood and continue through adulthood. This is particularly evident in the data highlighting early tobacco use among children, as well as the unsettling national trends surrounding childhood obesity. There is more than ample evidence to demonstrate these habits and issues become major health concerns later in life, as shown with our region's high rates of diabetes, COPD, lung cancer and hypertension.

The low quality of health for families not only creates generations of unhealthy people in southern Appalachia but is unhealthy for the economic health of our region. As our counties fight to stay competitive and attractive for new businesses and residents, a poor quality of health reflects badly on the overall quality of life in our area.

# Implementation Plans: Hancock County Hospital

## Implementation Plans

While we constantly strive to enhance the quality of care offered at Wellmont facilities, we know we need to extend our influence outside our buildings and into the communities we serve. So, as we move forward, we set our primary courses of action to:

- Improve access to health care services
- Advance wellness and preventive health services
- Advance population health management strategies
- Ensure the needs of our most vulnerable populations are being met



Desire to increase  
access to care leads to  
new initiatives

### Focus on access

A better quality of health begins with a better focus on preventive care and prompt, low-cost medical treatment. As such, Wellmont Medical Associates has been committed to recruiting and retaining primary care and family medicine providers, especially in rural areas.

For people who do not have primary care or who are unable to access it immediately, Wellmont Urgent Care is a low-cost, high-quality option for prompt treatment of minor illnesses and injuries. To best serve our populations, we continue to open new locations, and in Tennessee, offer Wellmont Urgent Care facilities in Bristol, Johnson City, Kingsport and Rogersville. Our Virginia offerings are in Abingdon, Bristol, Norton and Lebanon.

We've also increased accessibility for specialty care, with a new Wellmont Cancer Institute infusion office in Bristol, Virginia, as well as new clinics for Wellmont Medical Associates and the Wellmont Cancer Institute.

To reach even more rural and remote locations, we offer the Wellmont Health Coach, a mobile screening unit that provides digital mammography, baseline biometrics and heart and vascular screenings. In the last two years, the health coach has visited more than 40 locations, completing more than 600 mammograms and nearly 400 heart and vascular screenings.

Finally, with the implementation of MyWellmont, as part of our electronic health record, patients can access their medical records through a computer or smart phone. This software gives patients an interface to send questions to their providers, conduct E-Visits, schedule appointments and track their health progress – connecting them to their health like never before.

# Implementation Plans: Hancock County Hospital

## Focus on preventive health and wellness

A healthier region starts with healthier individuals. That's why Wellmont LiveWell, a community health transformation initiative, leverages Wellmont's medical strengths and expertise to champion, lead and sustain a new tradition of wellness in our region. LiveWell provides individuals with a free risk assessment to help identify key areas of improvement and provides regular follow-ups to encourage participants to stay committed to their healthier lives.

The LiveWell philosophy has been shared with several of our community partners. To further our mission and goals, Wellmont has partnered with like-minded organizations such as Healthy Kingsport and Live Sugarfreed, as well as several leading businesses. Through these programs, we're helping more people than ever reach health milestones and sustain their new, healthy lifestyles.

Another important aspect of wellness is ensuring a complete partnership between our patients and their primary care providers. This enables physicians to have a clear understanding of patients' circumstances and preferences, while patients have a clear understanding of what they can do to live better, healthier lives. That's also the philosophy behind Wellmont Medical Associates' Patient Centered Medical Home. Wellmont Medical Associates has earned Level 3 status from the National Committee for Quality Assurance, which is the highest achievable recognition.

Wellmont Diabetes Treatment Centers is also making a special effort to test adolescents to determine whether they have pre-diabetes or type 2 diabetes. Because the number of adolescents with these conditions is growing, Wellmont is partnering with the YMCA and a company called GBC locally to offer finger sticks so youths who score 140 or higher are then administered an A1C test, which gives their average blood-glucose level during a three-month period. Adolescents who score in the ranges for pre-diabetes or diabetes on this test are provided an opportunity to participate in a comprehensive program that consists of diabetes awareness, nutrition counseling, behavior modification and fitness.

Additionally, since people with diabetes are prone to have a diabetes emergency at any time, including when they are driving a vehicle, Wellmont has developed the Diabetes Alert sticker. This decal is placed on the driver's side of the rear windshield and informs an officer to check whether a driver is having difficulty with his or her diabetes.



Wellmont LiveWell encourages participants to stay committed to healthier lives.

# Implementation Plans: Hancock County Hospital

## Focus on population health management

Building on our efforts to improve individual health and wellness, Wellmont will also strive to empower our communities to make healthier choices. To that end, we will continue partnering with businesses, churches and other community organizations to create a foundation and momentum for change in our region.

We will continue to engage business leaders and their thousands of employees through Wellmont Business Health Solutions, a comprehensive program that provides employers an array of health plans, wellness programs, illness prevention tools and occupational medicine services. These help keep co-workers healthy – an especially important strategy given the region’s high concentration of physically taxing manufacturing and manual labor jobs.



Wellmont Medical Associates has consistently earned Level 3 status from the National Committee for Quality Assurance.

Wellmont will also continue to develop its chronic disease management programs to proactively care for conditions such as diabetes, heart disease, lung cancer and hypertension. We’ve made tremendous strides in the early detection and treatment of lung disease through our LungSTRONG program, which provides quick access to a team of Wellmont Medical Associates and Wellmont Cancer Institute specialists who catch, treat and monitor potential problem spots as early as possible.

Additionally, Wellmont Medical Associates will continue to be a leader with the American Medical Group Foundation and its Measure Up, Pressure Down program for hypertension management. Wellmont Medical Associates is also developing quality improvement efforts for the treatment of diabetes, based on the foundation’s Best Practices Learning Collaborative.

And in 2016, the Wellmont CVA Heart Institute will bolster its leadership in cardiac rehabilitation with its new Bill Gatton Center for Advanced Cardiac Rehab using the Pritikin Intensive Cardiac Rehab program. This comprehensive lifestyle education program offers the opportunity to improve outcomes and make cardiac rehab more sustainable. The ultimate goal for the Pritikin program is for our cardiac patients to gain an in-depth understanding about the relationship between lifestyle and cardiovascular health.

# Implementation Plans: Hancock County Hospital

## Focus on vulnerable populations

Wellmont will continue to pursue a variety of strategies to ensure our uninsured and underinsured populations have access to needed care. One such approach is through support and collaboration with key community partners, such as local clinics which serve the uninsured and underinsured, departments of health, and federally qualified health centers. Through these efforts, we seek to provide a continuum of care resources to vulnerable populations so individuals can benefit from prevention programs as well as emergency care and acute care.



Wellmont will ensure vulnerable populations have access to needed care.

Wellmont is also a key partner in the annual Tri-Cities Remote Area Medical – or RAM – clinics. Held annually at Bristol Motor Speedway, RAM provides nearly 2,000 people in need with free medical, dental and vision care. The health system also collaborates with the speedway every year to provide free head and neck cancer screenings for race-goers. Plus, the Southwest Virginia Cancer Center partners with the health department annually to provide a series of health screenings.

We will also help close the coverage gap. Through a grant from the Tennessee Hospital Association and Centers for Medicaid and Medicare Services, Wellmont has hired four certified health insurance navigators, who help uninsured populations sign up for insurance through HealthCare.gov. They also aid people who might qualify for Medicaid and the Children’s Health Insurance Program.

Finally, we will continue to evaluate our charity care policies and those of partner organizations to ensure we are providing the most efficient and appropriate care to our vulnerable populations. One way we will monitor the effectiveness of these policies is through tracking the percentage and amounts of charity care we deliver. We will also continue our advocacy efforts to expand our charity care efforts through increased state and federal funding.

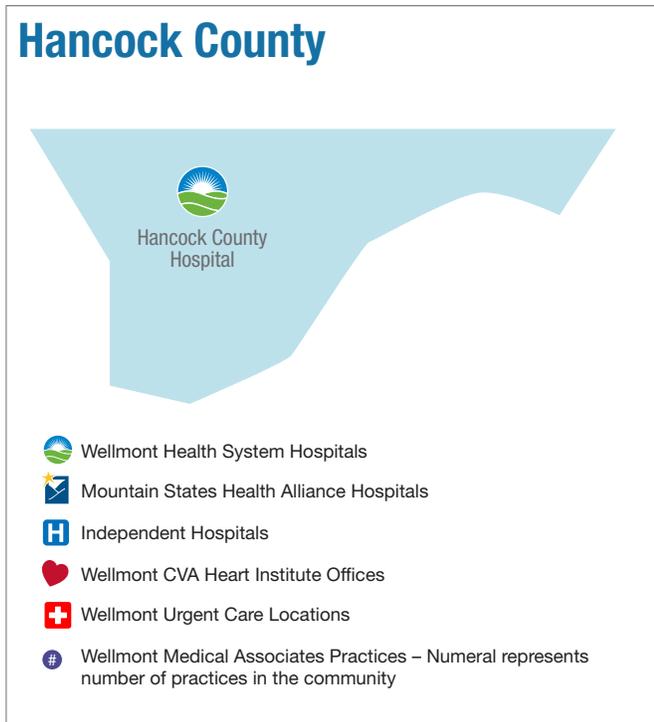
# Market Overview: Hancock County Hospital

## Primary Service Area

- Tennessee
  - Hancock County



# Market Overview: Hancock County, Tennessee



## Strengths

(BETTER than national and Tennessee state):

- Sexually transmitted infections is substantially lower than national and Tennessee
- Limited access to health foods is at less than 1%, well below the nation and Tennessee
- Diabetes monitoring stayed consistent and is slightly higher than national

## Challenges

(WORSE than national and Tennessee state):

- Premature death (years of potential life lost) increased from 2013 and remains well above benchmarks
- Those reporting poor or fair health
- Adult smoking is at 40%, with the nation and Tennessee in the 20% range
- Physical inactivity increased by 3% and stayed above benchmarks
- Alcohol-impaired driving deaths is at 56% with the nation at 31% and Tennessee at 28%
- Teen birth rate dropped; however, stayed above benchmarks
- Preventable hospital days increased and stayed well above benchmarks
- Mammogram screening increased; however, stayed well below benchmarks
- Children in poverty shows 45%; with national at only 22%
- Only 4% report having access to exercise opportunities

Health Outcomes

Rank  
**93**

## Hancock County Rankings

Hancock County health rankings showed no improvement.

	2013	2015
Health Outcomes	93	93
Health Factors	94	95
Health Behaviors	57	93
Clinical Care	91	93
Social & Economic Factors	94	95
Physical Environment	40	63

Denotes improvement

## Highlights

- Median household income increased nearly 30% from 2013-2015; however, number of children in poverty is nearly twice that of national benchmarks

# Market Overview: **Hancock County, Tennessee**

## **Community Health Facilities**

### **Mental health facilities and resources**

- Hancock County Mental Health Clinic
- New Start Peer Support Center

### **County health departments**

- Hancock County Health Department, Sneedville
- Hancock County School-Based Health Departments, Sneedville

### **Federally qualified health centers**

- Sneedville Medical Center – Rural Health Consortium, Sneedville

## Appendix: Population Profile

State	County	Total Population			Median Household Income		
		2013	2015	% Change	2013	2015	% Change
<b>Tennessee</b>			6,495,978				
	Hancock	6,084	6,679	9.8%	\$20,070	\$26,000	29.5%
<b>Grand Total</b>		<b>6,084</b>	<b>6,679</b>	<b>9.8%</b>	<b>\$20,070</b>	<b>\$26,000</b>	<b>29.5%</b>

## Population 2011–2016 by county

### Source:

2013 numbers via MedStat – 2011 Census Estimates

2015 numbers via RWJ County Health Rankings – 2013 Census Estimates

State	County	Age 0–17			Age 65+		
		2013	2015	% of Population	2013	2015	% of Population
<b>Tennessee</b>			1,491,577	23.0%		952,376	14.7%
	Hancock	1,277	1,367	20.5%	993	1,215	18.2%
<b>Grand Total</b>		<b>1,277</b>	<b>1,367</b>	<b>20.5%</b>	<b>993</b>	<b>1,215</b>	<b>18.2%</b>

# Appendix: Physician Needs Assessment

## Current Market Surplus/Deficit

The market surplus/(deficit) includes 100% of supply and demand for physicians within the Total Service Area, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

Specialty	Current FTEs			
	Supply	Demand	Surplus / (Deficit)	% Unmet Need
<b>Primary Care</b>				
Family Medicine	213.3	270.2	(56.9)	(21%)
Internal Medicine	110.1	189.7	(79.7)	(42%)
General Primary Care	323.4	460.0	(136.6)	(30%)
Obstetrics & Gynecology	75.9	63.8	12.1	19%
Pediatrics	77.7	78.6	(0.9)	(1%)
<b>Total Primary Care</b>	<b>477.0</b>	<b>602.4</b>	<b>(125.4)</b>	<b>(21%)</b>
<b>Medical Sub-Specialties</b>				
Allergy & Immunology	9.9	12.9	(3.0)	(23%)
Cardiology - Medical	35.9	35.9	0.1	0%
Cardiology - Electrophysiology	4.6	5.3	(0.7)	(13%)
Cardiology - Interventional	9.4	16.3	(7.0)	(43%)
Cardiology - Total	49.9	57.5	(7.6)	(13%)
Dermatology	20.6	28.7	(8.1)	(28%)
Endocrinology	5.7	11.9	(6.2)	(52%)
Gastroenterology	27.9	39.4	(11.5)	(29%)
Hematology/Oncology	24.3	30.2	(5.9)	(20%)
Infectious Disease	5.7	9.4	(3.7)	(40%)
Nephrology	15.3	19.7	(4.4)	(22%)
Neurology	16.9	31.8	(14.9)	(47%)
Pain Management	9.4	11.0	(1.6)	(15%)
Physical Medicine & Rehab	6.0	20.8	(14.8)	(71%)
Psychiatry	42.5	29.6	12.9	44%
Pulmonary	20.3	23.5	(3.2)	(13%)
Reproductive Endocrinology	1.5	1.0	0.5	54%
Rheumatology	8.0	11.0	(3.0)	(28%)
Sleep Medicine	2.1	2.6	(0.6)	(21%)
Sports Medicine	3.5	4.9	(1.4)	(29%)
<b>Total Medical Sub-Specialties</b>	<b>269.4</b>	<b>346.1</b>	<b>(76.7)</b>	<b>(22%)</b>

Specialty	Current FTEs			
	Supply	Demand	Surplus / (Deficit)	% Unmet Need
<b>Surgical Sub-Specialties</b>				
Cardiac Surgery	3.8	7.4	(3.6)	(49%)
Thoracic Surgery	5.2	7.3	(2.1)	(29%)
Cardio/Thoracic Surgery	9.0	14.7	(5.7)	(39%)
Gynecology Oncology	2.0	2.4	(0.4)	(15%)
Maternal Fetal Medicine	1.3	6.8	(5.5)	(80%)
Neurosurgery - Cranial	2.7	3.0	(0.3)	(10%)
Neurosurgery - Spine	5.3	5.7	(0.4)	(7%)
Neurosurgery - Total	8.0	8.7	(0.7)	(8%)
Ophthalmology	31.1	47.1	(16.0)	(34%)
Orthopedic Surgery - General	43.2	53.1	(9.9)	(19%)
Orthopedic Surgery - Hand	1.7	2.0	(0.3)	(16%)
Orthopedic Surgery - Spine	2.8	3.6	(0.8)	(21%)
Orthopedic Surgery - Total	47.7	58.7	(11.0)	(19%)
Otolaryngology	18.8	28.3	(9.5)	(33%)
Plastic Surgery	9.5	5.3	4.2	80%
Podiatry	17.3	26.1	(8.8)	(34%)
Urology	18.6	28.0	(9.4)	(34%)
Bariatric Surgery	1.3	3.7	(2.4)	(65%)
Breast Surgery	1.5	5.4	(3.9)	(72%)
Colon & Rectal Surgery	2.0	5.9	(3.9)	(66%)
General Surgery	47.0	32.0	14.9	47%
Oncology Surgery	1.7	3.5	(1.8)	(52%)
Transplant Surgery	-	0.5	(0.5)	(100%)
Vascular Surgery	8.2	16.4	(8.3)	(50%)
General Surgery - Total	61.6	67.5	(5.9)	(9%)
<b>Total Surgical Sub-Specialties</b>	<b>224.9</b>	<b>293.5</b>	<b>(68.6)</b>	<b>(23%)</b>
<b>Total All Specialties</b>	<b>971.3</b>	<b>1,242.0</b>	<b>(270.7)</b>	<b>(22%)</b>

Source: 3d Health, Inc.

## Appendix: Physician Needs Assessment

### Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

Specialty	Current FTE Surplus/(Deficit)			
	Bristol Regional	Hawkins / Hancock	Holston Valley	Lonesome Pine / Mountain View
<b>Primary Care</b>				
Family Medicine	(19.0)	(16.6)	(26.4)	(11.1)
Internal Medicine	(44.0)	(14.1)	(42.8)	(3.3)
General Primary Care	(63.0)	(30.7)	(69.2)	(14.4)
Obstetrics & Gynecology	15.0	(4.9)	8.8	(1.1)
Pediatrics	0.3	(5.9)	7.7	(1.4)
<b>Total Primary Care</b>	<b>(47.6)</b>	<b>(41.5)</b>	<b>(52.6)</b>	<b>(16.9)</b>
<b>Medical Sub-Specialties</b>				
Allergy & Immunology	(0.3)	(1.1)	(1.4)	(1.3)
Cardiology - Medical	7.3	(3.1)	(1.8)	(0.9)
Cardiology - Electrophysiology	0.7	(0.5)	1.3	(0.5)
Cardiology - Interventional	(3.0)	(1.4)	(3.4)	(1.5)
Cardiology - Total	5.0	(4.9)	(3.9)	(2.8)
Dermatology	(0.9)	(2.4)	(1.7)	(1.7)
Endocrinology	(3.7)	1.0	(2.8)	(1.1)
Gastroenterology	(0.0)	(2.9)	(6.8)	(3.7)
Hematology/Oncology	2.4	(2.6)	(3.1)	(2.7)
Infectious Disease	(3.6)	(0.8)	(1.2)	(0.9)
Nephrology	(0.2)	(1.7)	(1.4)	(1.8)
Neurology	(4.3)	(2.7)	(10.2)	(3.0)
Pain Management	0.6	(0.9)	(0.7)	(1.0)
Physical Medicine & Rehab	(6.3)	(1.7)	(8.3)	(2.0)
Psychiatry	3.5	(1.9)	11.1	(1.9)
Pulmonary	1.0	(1.0)	(2.7)	(1.2)
Reproductive Endocrinology	0.1	(0.1)	0.4	(0.1)
Rheumatology	(1.4)	(0.9)	0.1	(1.0)
Sleep Medicine	(0.6)	(0.2)	0.3	(0.2)
Sports Medicine	(1.8)	(0.4)	(0.1)	(0.5)
<b>Total Medical Sub-Specialties</b>	<b>(10.5)</b>	<b>(25.3)</b>	<b>(32.5)</b>	<b>(26.9)</b>

Source: 3d Health, Inc.

## Appendix: Physician Needs Assessment

### Current Market Surplus/Deficit by Region

The market surplus/(deficit) includes 100% of supply and demand for physicians within each region, regardless of institutional alignment. Numbers surrounded by parentheses represent a deficit of physicians.

Specialty	Current FTE Surplus/(Deficit)			
	Bristol Regional	Hawkins / Hancock	Holston Valley	Lonesome Pine / Mountain View
<b>Surgical Sub-Specialties</b>				
Cardiac Surgery	(0.8)	(0.6)	(1.8)	(0.7)
Thoracic Surgery	(0.4)	(0.6)	(0.4)	(0.7)
Cardio/Thoracic Surgery	(1.2)	(1.3)	(2.2)	(1.3)
Gynecology Oncology	(0.1)	(0.2)	0.5	(0.2)
Maternal Fetal Medicine	(3.1)	(0.6)	(3.1)	(0.7)
Neurosurgery - Cranial	0.2	(0.3)	(0.2)	(0.3)
Neurosurgery - Spine	0.7	(0.5)	(0.3)	(0.5)
Neurosurgery - Total	0.9	(0.7)	(0.4)	(0.8)
Ophthalmology	(6.5)	(4.0)	(8.9)	(3.2)
Orthopedic Surgery - General	0.5	(4.5)	(5.4)	(2.9)
Orthopedic Surgery - Hand	(0.3)	(0.2)	0.2	(0.2)
Orthopedic Surgery - Spine	(0.6)	(0.3)	(0.3)	(0.4)
Orthopedic Surgery - Total	(0.4)	(5.0)	(5.4)	(3.4)
Otolaryngology	(1.3)	(2.4)	(7.2)	(1.3)
Plastic Surgery	3.7	(0.4)	4.0	(0.5)
Podiatry	(1.5)	(2.0)	(8.2)	(1.4)
Urology	(0.2)	(2.4)	(5.7)	(1.6)
Bariatric Surgery	(0.9)	(0.3)	(1.0)	(0.4)
Breast Surgery	(2.2)	(0.5)	(1.9)	(0.5)
Colon & Rectal Surgery	(2.9)	(0.5)	(1.7)	(0.5)
General Surgery	17.0	(1.7)	1.2	(0.0)
Oncology Surgery	(0.7)	(0.3)	(0.5)	(0.3)
Transplant Surgery	(0.2)	(0.0)	(0.3)	(0.1)
Vascular Surgery	(4.4)	(1.4)	(3.2)	(1.5)
General Surgery - Total	5.7	(4.7)	(7.5)	(3.3)
<b>Total Surgical Sub-Specialties</b>	<b>(4.0)</b>	<b>(23.7)</b>	<b>(44.2)</b>	<b>(17.8)</b>
<b>Total All Specialties</b>	<b>(62.1)</b>	<b>(90.5)</b>	<b>(129.3)</b>	<b>(61.5)</b>

Source: 3d Health, Inc.

# Appendix: Population Health Considerations

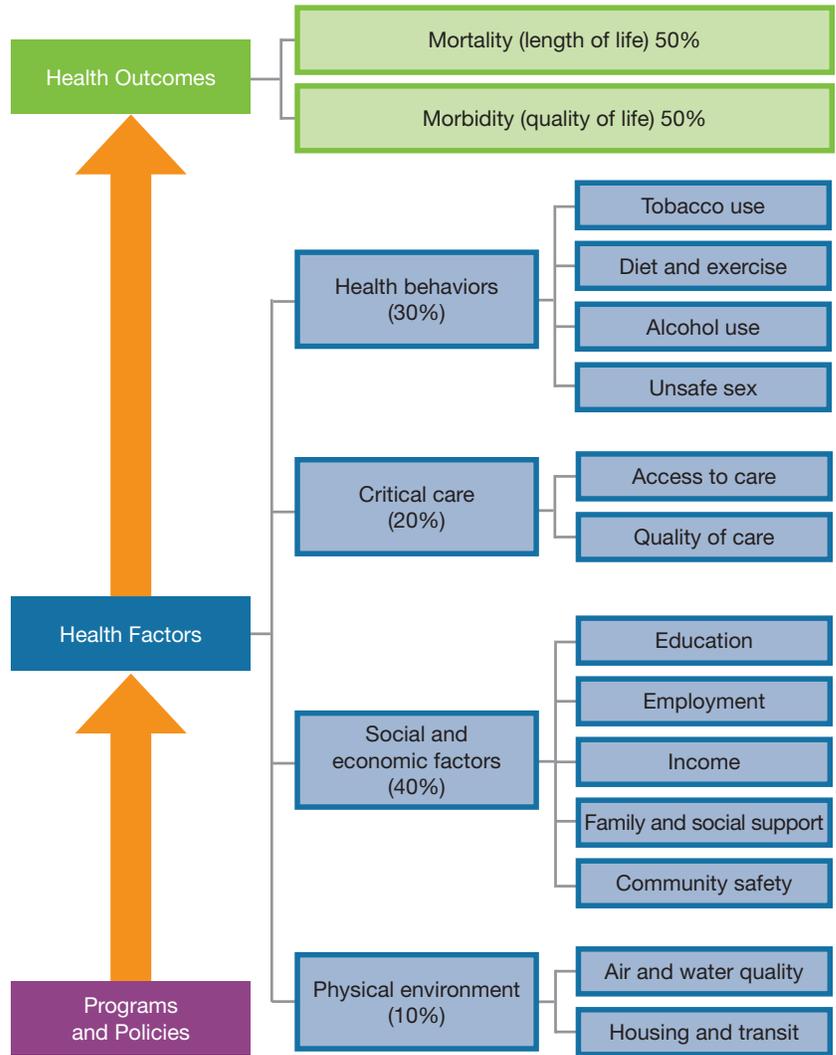
## Factors of Health

The RWJ model focuses on morbidity and mortality as the primary measures of health outcomes. Fifty percent of the input variables fall directly within the mission of Wellmont Health System – specifically, access and quality of care, as well as improved community health in controllable factors such as tobacco use, diet and exercise.

### Five primary factors are assessed:

- Percent of population under age 65 without health insurance
- Ratio of primary care physicians to population
- Hospitalization rate for ambulatory sensitive care conditions per 1,000 of the Medicare population
- Percent of diabetic Medicare enrollees who receive HbA1c screenings
- Percent of female Medicare enrollees who receive mammography screenings

## Healthiest County Ranking Methodology



County Health Rankings model © 2014 UWPHI

# Appendix: Population Health Factors and Outcomes

Category	Tennessee	
	2013	2015
Health Outcomes	93	93
Health Factors	94	95
Health Behaviors	57	93
Clinical Care	91	93
Social & Economic Factors	94	95
Physical Environment	40	63

 Denotes negative ranking movement

Category	Description	Measure	National Benchmark 2015	Tennessee	
				Tenn. State 2015	Hancock County 2015
Health Outcomes	Premature death (Years of Potential Life Lost)	YPLL Rate	6,622	8,696	13,805
	Poor or fair health	% Fair/Poor	16.0%	19.0%	29.0%
	Poor physical health days	Physically Unhealthy Days	3.7	4.3	8.2
	Poor mental health days	Mentally Unhealthy Days	3.4	3.4	
	Low birthweight	% LBW	8.0%	9.2%	9.0%
Health Behaviors	Adult smoking	% Smokers	20.0%	23.0%	40.0%
	Adult obesity	% Obese	27.0%	32.0%	30.0%
	Physical inactivity	Physical Inactivity	23.0%	30.0%	39.0%
	Excessive drinking	% Excessive Drinking	15.0%	9.0%	
	Alcohol-impaired driving deaths	% Deaths from MV accident	31%	28%	56%
	Sexually transmitted infections	Rates per 100,000	453.3	504	238
	Teen birth rate	Teen Birth Rate	36.6	47	50
	Access to exercise opportunities	% With access	85%	70.0%	4.0%
Clinical Care	Uninsured	% Uninsured	17%	16.0%	17.0%
	Primary care physicians	PCP Ratio	1342:1	1388:1	6720:1
	Mental health providers	MH Provider Ratio	529.1	786:1	
	Preventable hospital stays	ACSC Rate	59.3	73.0	181.0
	Diabetic monitoring	% HbA1c	85%	86.0%	86.0%
	Mammography screening	Mammography Rate	71%	61.8%	37.3%
Social and Economic Environment	High school graduation	AFGR	80%	87.0%	78.0%
	Some college (post-secondary education)	PSED	63%	57.7%	36.8%
	Unemployment	% Unemployed	7%	8.2%	12.3%
	Children in poverty	% Children in Poverty	22%	27.0%	45.0%
	Children in single-parent households	% Single-Parent Households	33%	36.0%	36.0%
	Violent crime rate (per 100,000)	Violent Crime Rate	392.0	621.0	429.0
Physical Environment	Could not see doctor due to cost	% Couldn't afford tx	22.8%	17.0%	
	Air pollution-ozone days	Ozone Days	11.1	13.8	13.1
	Severe housing problems	% with severe problems	19%	15.0%	17.0%
	Limited access to healthy foods	% Limited Access	16.9%	8.0%	0.7%

**Source:**  
RWJ University of Wisconsin  
Population Health Institute /  
Overall Rankings

RWJ University of Wisconsin  
Population Health Institute /  
Ranking Details

**Note:**  
Tennessee's rank is out of  
95 counties

## Appendix: Mortality and Top Causes of Death

### Total causes of death for 2010–2014

National	Tenn.	% of Total Deaths in Tenn.	Va.	% of Total Deaths in Va.
12,750,583	310,142	2.43%	307,714	2.41%

**12,750,583**

Total U.S. deaths from  
2010–2014

### The 15 leading grouped causes of death nationally for 2010–2014 were:

Diseases of heart .....	3,019,430
Malignant neoplasms .....	2,910,637
Chronic lower respiratory diseases .....	720,818
Cerebrovascular diseases.....	649,035
Accidents (unintentional injuries) .....	641,699
Alzheimer’s disease.....	430,413
Diabetes mellitus.....	368,900
Influenza and pneumonia.....	266,765
Nephritis, nephrotic syndrome and nephrosis .....	236,947
Intentional self-harm (suicide) .....	202,404
Septicemia .....	183,498
Chronic liver disease and cirrhosis.....	175,121
Essential hypertension and hypertensive renal disease .....	144,593
Parkinson’s disease .....	120,307
Pneumonitis due to solids and liquids .....	90,474



Age-adjusted death rate  
for black population was  
1.2 times that for the  
white population in 2013

**17.8%**

higher risk of death for  
black population than  
for white population

#### Source:

CDC Mortality By Cause of Death

## Appendix: Mortality and Top Causes of Death

### Death rate by county 2010–2014

Cause of Death	National	Tennessee			
		Tenn.	% of Cause Within Nation	Hancock County	% of Cause Within State
Acute myocardial infarction, unspecified	589,906	19,431	3.3%	54	0.3%
Alzheimer's disease, unspecified	417,726	12,228	2.9%	21	0.2%
Atherosclerotic cardiovascular disease, so described	295,078	9,720	3.3%		
Breast, unspecified - malignant neoplasms	207,325	4,551	2.2%		
Chronic obstructive pulmonary disease, unspecified	517,895	13,024	2.5%	32	0.2%
Colon, unspecified - malignant neoplasms	200,497	4,694	2.3%		
Congestive heart failure	276,761	3,811	1.4%		
Intentional self-harm (suicide)	202,044	4,848	2.4%	16	0.3%
Malignant neoplasm of prostate	139,802	2,857	2.0%		
Malignant neoplasm without specification of site	128,856	3,017	2.3%		
Other ill-defined and unspecified causes of mortality	56,847	3,100	5.5%		
Pancreas, unspecified - malignant neoplasms	191,330	4,108	2.1%	13	0.3%
Stroke, not specified as hemorrhage or infarction	333,124	8,825	2.6%	21	0.2%
Unspecified diabetes mellitus, without complications	165,994	3,386	2.0%		
Urinary tract infection, site not specified	56,201	1,787	3.2%		

**Source:**  
CDC Mortality By Cause of Death

## Appendix: Cancer Incidence and Mortality

### All Cancer Sites, 2008–2012

Cancer Type	National	Tennessee	
		Tenn.	Hancock County
All Cancers	453.8	468.3	483.5
Cervix	7.7	8.7	
Colon & Rectum	41.9	43.3	39.8
Kidney & Renal Pelvis	16.0	17.2	
Prostate	131.7	135.5	140.5
Childhood <20	17.4	17.7	
Lung & Bronchus	63.7	77.5	82.4
Skin	19.9	20.8	
African American	465.8	475.3	

#### Source:

The data comes from different sources. Due to different years of data availability, most of the trends are AAPCs based on APCs but some are APCs calculated in SEER\*Stat. Please refer to the source for each graph for additional information.

#### Note:

Incidence rates (cases per 100,000 population per year) are age-adjusted to the 2000 US standard population. Rates are for invasive cancer only (except for bladder cancer, which is invasive and in situ) or unless otherwise specified. Rates calculated using SEER\*Stat. Population counts for denominators are based on census populations as modified by NCI. The 1969-2013 US Population Data File is used for SEER and NPCR incidence rates.

The total count for the US may differ from the summation of the individual states reported in this table. The total uses data from the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) January 2015 data submission for the following states: California, Kentucky, Louisiana and New Jersey, but data for those states when shown individually are sourced from the SEER November 2014 submission.

# Appendix: Cancer Prevalence

## Cancer Prevalence Statistics

Metric	National	Tenn.	Va.
Cancer Prevalence	7%	7%	8%
Average Cost	\$19,601	\$17,390	\$17,303

7%

National rate of cancer prevalence

7%

Tennessee rate of cancer prevalence

8%

Virginia rate of cancer prevalence

Metric	Tennessee
	Hancock County
All Prevalence	
All Average Cost	

No value = No case or too low to report

 Denotes higher than national average  
 Denotes lower than national average

### Source:

Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

### Note:

Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

# Appendix: Diabetes Prevalence

## Diabetes Prevalence Statistics

Metric	National	Tenn.	Va.
Diabetes Prevalence	27%	28%	27%
Average Cost	\$14,707	\$12,856	\$12,400

**27%**  
National rate of diabetes prevalence

Metric	Tennessee
	Hancock County
All Prevalence	
All Average Cost	

**28%** ↑  
Tennessee rate of diabetes prevalence

No value = No case or too low to report

**27%**  
Virginia rate of diabetes prevalence

↑ Denotes higher than national average  
↓ Denotes lower than national average

### Source:

Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

### Note:

Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

# Appendix: Depression Prevalence

## Depression Prevalence Statistics

Metric	National	Tenn.	Va.
Depression Prevalence	15%	16%	13%
Average Cost	\$19,759	\$17,225	\$17,187

15%

National rate of depression prevalence

16% ↑

Tennessee rate of depression prevalence

13% ↓

Virginia rate of depression prevalence

Metric	Tennessee
	Hancock County
All Prevalence	
All Average Cost	

No value = No case or too low to report

↑ Denotes higher than national average  
 ↓ Denotes lower than national average

### Source:

Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

### Note:

Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

# Appendix: Hypertension Prevalence

## Hypertension Prevalence Statistics

Metric	National	Tenn.	Va.
Hypertension Prevalence	53%	59%	57%
Average Cost	\$13,528	\$11,344	\$11,121

**53%**  
National rate of hypertension prevalence

Metric	Tennessee
	Hancock County
All Prevalence	
All Average Cost	

**59%** ↑  
Tennessee rate of hypertension prevalence

No value = No case or too low to report

**57%** ↑  
Virginia rate of hypertension prevalence

↑ Denotes higher than national average  
↓ Denotes lower than national average

### Source:

Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

### Note:

Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

# Appendix: COPD Prevalence

## COPD Prevalence Statistics

Metric	National	Tenn.	Va.
COPD Prevalence	11%	13%	10%
Average Cost	\$24,128	\$20,082	\$21,097

**11%**

National rate of COPD prevalence

**13%** ↑

Tennessee rate of COPD prevalence

**10%** ↓

Virginia rate of COPD prevalence

Metric	Tennessee
	Hancock County
All Prevalence	
All Average Cost	

No value = No case or too low to report

↑ Denotes higher than national average  
 ↓ Denotes lower than national average

**Source:**

Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool

**Note:**

Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. A beneficiary is considered to have a condition if the CMS administrative data has a claim indicating the beneficiary is diagnosed for a specific condition over the reference time period (one, two, or three years, depending on the condition chosen) or, in the case of ESRD and disability, if the reason for entitlement (original or current) is listed as disabled or ESRD in the MBSF. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions). The principal costs for beneficiaries with a condition are annual averages of all costs across all types of claims with a primary diagnosis associated with that particular condition (regardless of having or not having other conditions). The hospitalization rate is the share of the sub-population that is hospitalized for a specific disease in a given year, presented per 1,000 beneficiaries.

## Appendix: Sources of Information

Metric	Source	Data Description	Profile Years
Population	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute <a href="http://www.countyhealthrankings.org/#app/">http://www.countyhealthrankings.org/#app/</a>	Population by county by age cohort	2013 Census Estimates
Physician Supply & Demand	3d Health, Inc. Overall Provider Database: WHS Provider Rosters, Competitor Online Rosters, Healthgrades, State License Databases, AMA Masterfile, Payer	Database of various sources built. Confirmation of data obtained via phone calls to 80% of providers.	2016
Population Health Overall & Sub-Rankings	Robert Wood Johnson Foundation, University of Wisconsin Population Health Institute <a href="http://www.countyhealthrankings.org/#app/">http://www.countyhealthrankings.org/#app/</a>	Rankings compiled using county-level measures from national and state data sources	Range 2010 – 2015
Sub-Ranking Individual Measures	2016 Measures & Data Sources See additional information on next page for specific source, description and applicable year		
Mortality Cause of Death	CDC Mortality By Cause of Death <a href="http://wonder.cdc.gov/wonder/help">http://wonder.cdc.gov/wonder/help</a>	Data based on death certificates for US residents	Range 1999 – 2014
Cancer Rates	CDC State Cancer Profiles <a href="http://statecancerprofiles.cancer.gov">http://statecancerprofiles.cancer.gov</a>	Collaboration of the National Cancer Institute and the CDC from public health surveillance systems reports or public use files.	5 Year Rates 2008 – 2012
CMS Prevalence and Disparity Stats: Cancer Diabetes Obesity Depression Hypertension COPD	Centers for Medicare & Medicaid Services / Interactive Mapping Medicare Disparities Tool <a href="https://www.cms.gov/">https://www.cms.gov/</a>	The Mapping Medicare Disparities Tool identifies disparities in health outcomes, utilization and spending by race and ethnicity and geographic location.  Prevalence rates are calculated by searching for certain diagnosis codes in Medicare beneficiaries' claims. The prevalence rate of a condition for a specific sub-population (e.g., all beneficiaries in a county) is the proportion of beneficiaries who are found to have the condition. The total costs (i.e., Medicare spending) are annual averages of all costs across all types of claims for beneficiaries with a particular condition (regardless of having or not having other conditions).	2014
COPD Charts	TN & VA COPD Fact Sheets	21 states, the District of Columbia and Puerto Rico administered an optional module as part of the annual BRFSS survey. The questions in the optional module asked about COPD-related health care behaviors and health-related quality of life and were asked of respondents who reported having COPD.	2011

# Appendix: Sources of Information

## Ranked Measures & Data Sources

Health Outcome	Measure	Data Source	Years of Data
<b>Health Outcomes</b>			
Length of Life	Premature death	National Center for Health Statistics – Mortality files	2011-2013
Quality of Life	Poor or fair health	Behavioral Risk Factor Surveillance System	2014
	Poor physical health days	Behavioral Risk Factor Surveillance System	2014
	Poor mental health days	Behavioral Risk Factor Surveillance System	2014
	Low birthweight	National Center for Health Statistics - Natality files	2007-2013
<b>Health Behaviors</b>			
Tobacco Use	Adult smoking	Behavioral Risk Factor Surveillance System	2014
Diet and Exercise	Adult obesity	CDC Diabetes Interactive Atlas	2012
	Physical inactivity	CDC Diabetes Interactive Atlas	2012
	Access to exercise opportunities	Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files	2010 & 2014
Alcohol and Drug Use	Excessive drinking	Behavioral Risk Factor Surveillance System	2014
	Alcohol-impaired driving deaths	Fatality Analysis Reporting System	2010-2014
Sexual Activity	Sexually transmitted infections	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention	2013
	Teen births	National Center for Health Statistics - Natality files	2007-2013
<b>Clinical Care</b>			
Access to Care	Uninsured	Small Area Health Insurance Estimates	2013
	Primary care physicians	Area Health Resource File/American Medical Association	2013
	Mental health providers	CMS, National Provider Identification file	2015
Quality of Care	Preventable hospital stays	Dartmouth Atlas of Health Care	2013
	Diabetic monitoring	Dartmouth Atlas of Health Care	2013
	Mammography screening	Dartmouth Atlas of Health Care	2013
<b>Social and Economic Factors</b>			
Education	High school graduation	U.S. Department of Education (EDFacts)	2012-2013
	Some college	American Community Survey	2010-2014
Employment	Unemployment	Bureau of Labor Statistics	2014
Income	Children in poverty	Small Area Income and Poverty Estimates	2014
	Income inequality	American Community Survey	2010-2014
Family and Social Support	Children in single-parent households	American Community Survey	2010-2014
Community Safety	Violent crime	Uniform Crime Reporting – FBI	2010-2012
<b>Physical Environment</b>			
Housing and Transit	Severe housing problems	Comprehensive Housing Affordability Strategy (CHAS) data	2008-2012