Community Health Needs Assessment

Ballad Health - Russell County Medical Center

June 29, 2018

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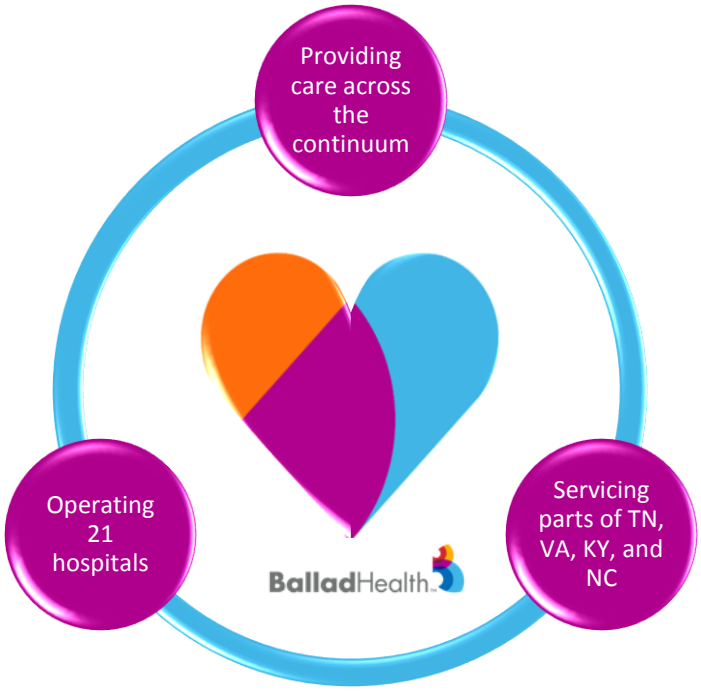
1 Introduction

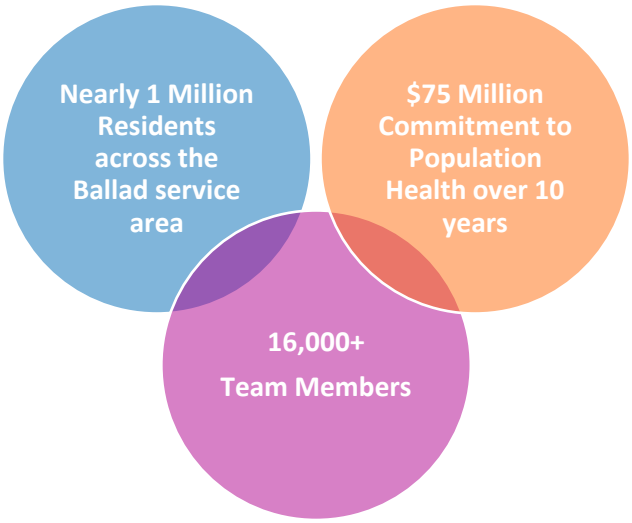
Russell County Medical Center, a hospital in rural Russell County, Virginia is one of the hospitals within the Ballad Health system. Ballad Health is an integrated healthcare system serving 29 counties of Northeast Tennessee, Southwest Virginia, Northwest North Carolina and Southeast Kentucky. Ballad was created upon the merger of two large regional health systems, Mountain States Health Alliance and Wellmont Health System, on February 1, 2018. Through rigorous state oversight, these two competitors have been granted the ability to merge into an integrated healthcare delivery system with a simple and concise mission: to improve the health of the people we serve.

Ballad Health operates a family of 21 hospitals, including three tertiary care facilities, a dedicated children's hospital, community hospitals, three critical access hospitals, a behavioral health hospital, an addiction treatment facility, long-term care facilities, home care and hospice services, retail pharmacies, outpatient services and a comprehensive medical management corporation.



Ballad's hospitals include:

- Bristol Regional Medical Center
- Dickenson Community Hospital
- Franklin Woods Community Hospital
- Hancock County Hospital
- Hawkins County Memorial Hospital
- Holston Valley Medical Center
- Indian Path Medical Center
- Johnson City Medical Center
- Johnson County Community Hospital
- Johnston Memorial Hospital
- Laughlin Memorial Hospital
- Lonesome Pine Hospital
- Mountain View Regional Medical Center
- Niswonger Children's Hospital
- Norton Community Hospital
- Russell County Medical Center
- Smyth County Community Hospital
- Sycamore Shoals Hospital
- Takoma Regional Hospital
- Unicoi County Memorial Hospital
- Woodridge Hospital



Ballad Health Mission:

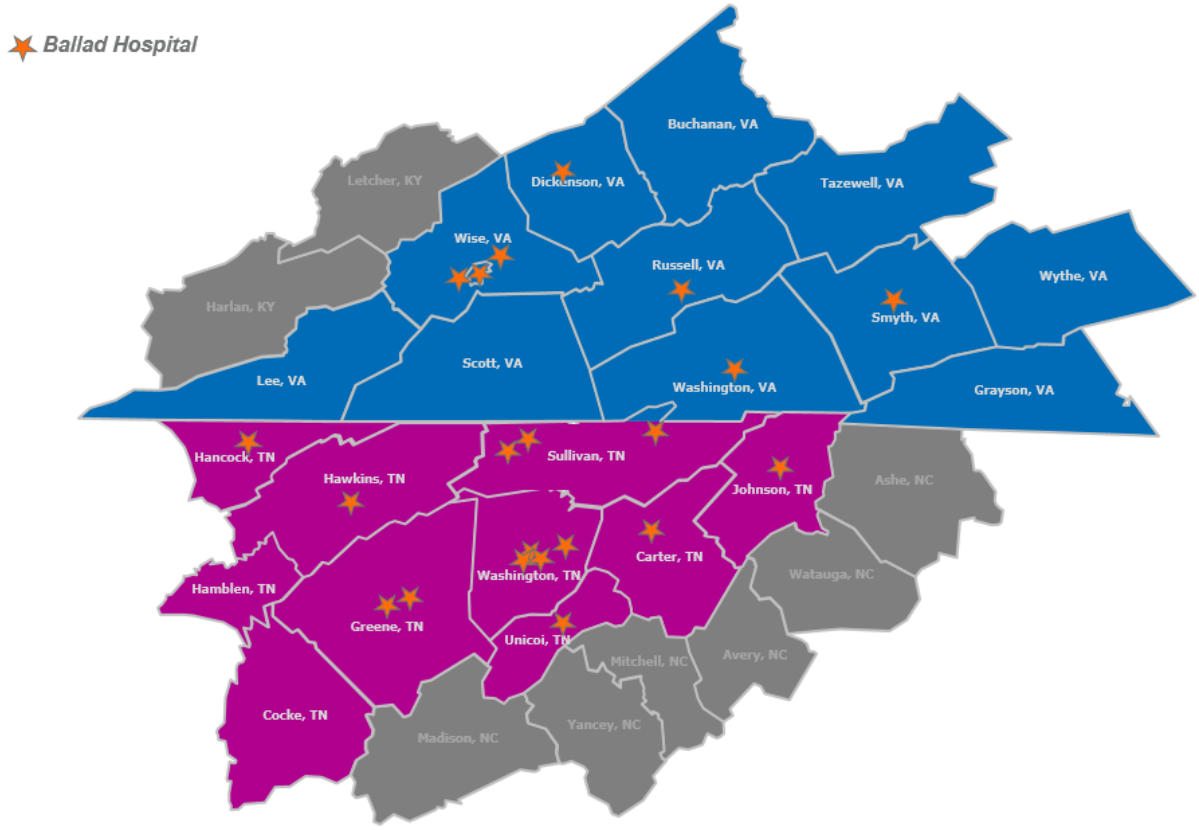
Ballad Health is committed to honoring those we serve by delivering the best possible care.

Ballad Health Vision:

To build a legacy of superior health by listening to and caring for those we serve.

The tagline of Ballad Health - "It's your story. We're listening." - is more than a marketing tool. Through the comprehensive state oversight and merger processes, the newly formed Ballad Health system was created to meet and address local health needs. Realizing that people want to receive care from someone who really listens to them, the organization's name and its tagline speak to the fact that good health is about more than healthcare – it's the story of people's lives. Located in the heart of Appalachia, Ballad pays homage to the traditions and stories that have shaped people's lives; yet, the organization also looks for new ways to partner with individuals and communities to make the region a healthier place to live and work.

With hospitals and services strategically placed throughout the region, Ballad Health is positioned to be the region's largest health care provider. The system's primary service area is comprised of 21 counties across Northeast Tennessee and Southwest Virginia, with a secondary service area encompassing an additional six counties in Western North Carolina and two counties in Southeastern Kentucky.



2 Executive Summary

Ballad Health is heavily invested in the health and well-being of its communities. In addition to its enhanced focus on population health management through the merger of the two legacy health systems, Ballad is also the largest employer in the region and the fourth largest employer in the State of Tennessee. Being such a prominent member of the regional economic community, Ballad has a strong desire to improve the health of the region, as well as its employees and their families. Realizing that health is tied to more than just genetics, Ballad is working towards a deeper understanding of the socioeconomic issues that face the population's ability to improve their overall health status. Social determinants of health related to topics such as access and ability to understand complex health conditions oftentimes go hand in hand with people's capacity to make optimal health decisions. Nevertheless, Ballad views the current health disparities of the Appalachian region as the opportunity to go beyond the walls of the hospital and work hand-in-hand with communities to make sustainable change happens for generations to come.

As part of the state oversight process, Ballad and its hospitals and entities have committed to improving the health status of its service area counties by agreeing to focus on an index of 25 active population health index measures (plus an additional 31 measures for monitoring). The population health index creates a platform for Ballad to further engage the efforts of its hospitals in partnership with the surrounding communities in order to drive change in a region that has a number of health disparities and access challenges. Leveraging the community health needs assessment process has helped Ballad to further educate on the health disparities that appear across the individual communities within its service area and has also helped the organization prioritize those issues that are most important in each hospital's community.

The population health index itself is based on the focus areas outlined in the previous community health needs assessments of both legacy systems (Mountain States and Wellmont), as well as the state health plans of both Tennessee and Virginia. Additionally, the Ballad population health index aligns with national health improvement efforts, such as Healthy People 2020. Although quite comprehensive, the index actually allows Ballad to be proactive with more-defined health improvement focus areas. Also, by encompassing the on-going work of local community and civic organizations, all vested groups can begin to work more so in unison, rather than in silos.

In order for Ballad to serve its region most effectively, it is essential to understand each community's individual needs. As such, Ballad conducted community health needs assessments to profile the health of the residents within its service areas. Activities associated with the development of this assessment have taken place from fall of 2017 through the spring of 2018. Primary data was obtained through individual surveys and focus groups with participants from the local communities, while secondary data was collated from national, state, regional, and county-specific sources.

Throughout this community health needs assessment process, high priority was given to determining the health disparities and available resources within each community. Community members from each county met with Ballad representatives to discuss current health priorities and identify potential solutions. The information gathered from a local perspective, paired with county, state, and national data, helps to communicate the region's health situation in order to begin formulating solutions for improvement.

According to America's Health Rankings, in 2018 Tennessee ranked 45th and Virginia ranked 19th out of 50 states for overall health outcomes. Both states had high rates of obesity, heart disease, addiction, and mental health concerns. Though Virginia's overall ranking is significantly higher than that of Tennessee's ranking, the health outcomes in Southwest Virginia counties, where Ballad facilities are located, resembles those of Tennessee. After compiling the various sources of information and using population health index as a starting point for discussion, the top health priorities were identified for the communities that each of the hospitals serve. This effort has led to the determination of the top health priorities for Russell County to include **obesity, smoking, substance abuse, and early intervention (i.e. screenings)**. There are certainly a number of other health challenges in this community, but these rise to the top based on the assessment.

For reference, a complete list of the Ballad population health index measures can be found in the accompanying table. A more comprehensive view, with actual county versus state-level data, can also be found in the Appendix section of this report.

Ballad Health Population Health Index: Measure List
Smoking Rates
Smoking Rates During Pregnancy
Youth Tobacco Use Rates
Physically Active Adults Rates
Physically Active Youth Rates
Adult Obesity Rates
Obesity Levels in Public School Students
Average mPINC Score (CDC Hospital-based survey on child/maternal health)
Breastfeeding Initiation Rates
Infants Breastfed at 6 months Rates
Neonatal Abstinence Syndrome (NAS) Births per 1,000 live births
Drug Deaths per 100,000
Adults using Prescription Drugs for non-medical reasons
Children – On-time Vaccination Rates
Vaccination Rates – HPV Females
Vaccination Rates – HPV Males
Vaccination Rates – Flu Vaccine, Older Adults
Teen Pregnancy Rates
Third Grade Reading Levels
Dental Sealants (ages 6-9; 13-15)
Frequent Mental Distress Rates
Infant Mortality Rates (per 1,000 live births)
Low Birthweight Rates
People with Pre-diabetes referred to a prevention program
Premature Death Rates (per 100,000)
*Cancer Screenings (breast, cervical, colorectal)**
*Diabetes Screenings**
*Hypertension Screenings**

**The screening measures in the above table are not included in the official population health index, but are included as access measures to which Ballad will be held also accountable. Because of their relatability to the population health measures, they were also considered in the community focus group discussion.*

3 Russell County Medical Center

i. Facility Description

Russell County Medical Center in Lebanon, Virginia, is a not-for-profit, 78-bed hospital dedicated to bringing quality healthcare to Southwest Virginia. RCMC has been serving the community for more than 70 years.

As a community hospital Russell County Medical Center offers a full array of primary care and some specialty services, including behavioral health. The Clearview Psychiatric Center opened its doors in August 1987 and has been providing behavioral health services to residents of Russell County and surrounding areas ever since. Russell County Medical Center is certified as one of the American Heart Association's Get with the Guidelines™ facilities.

ii. Scope of Services

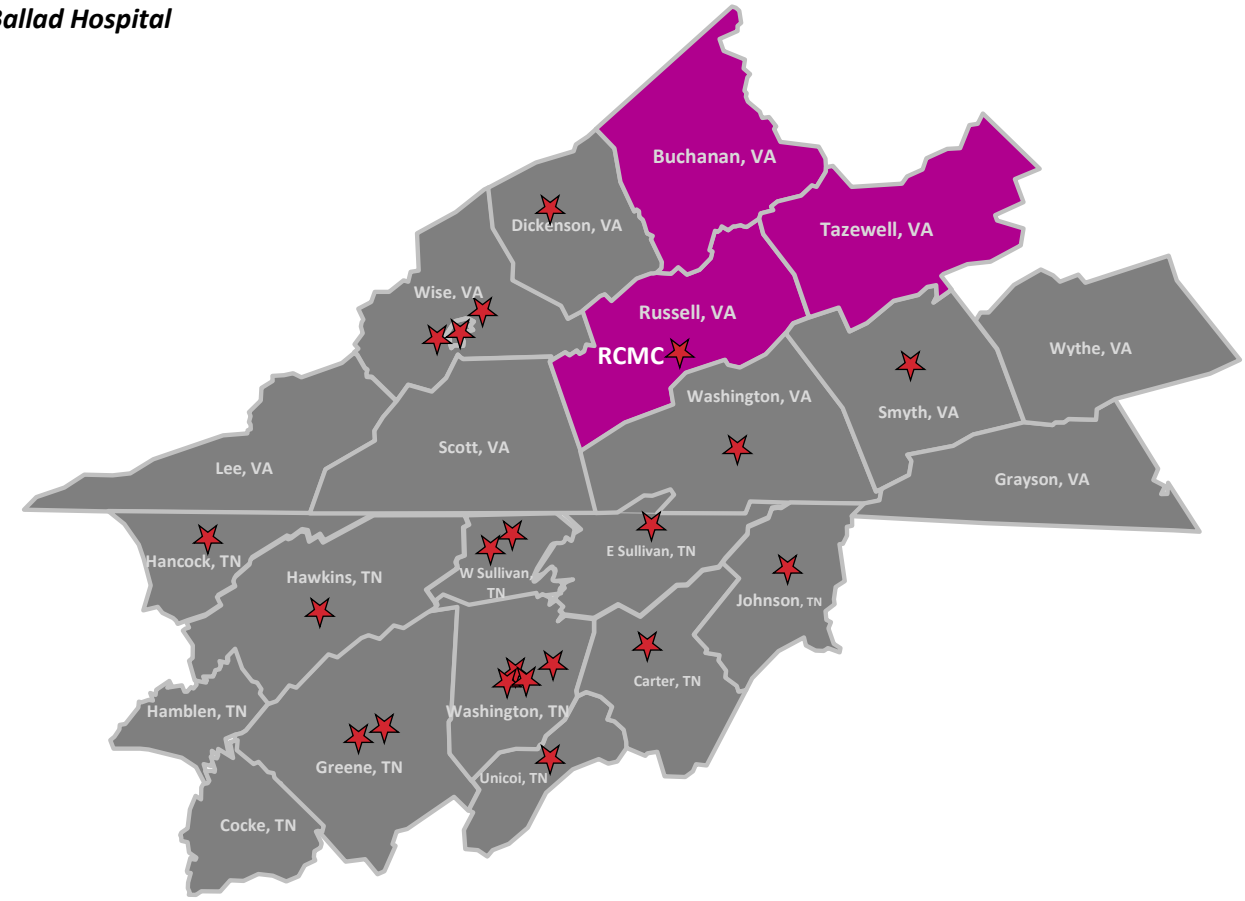
Russell County Medical Center offers a variety of services to the community, which includes:

- Acute medical services
- Surgical services
- Cancer care
- 24-hour emergency department
- Behavioral health (inpatient and outpatient)
- Primary care
- Direct access laboratory testing

iii. Primary Service Area

Russell County Medical Center serves the populations of Russell, Buchanan, and Tazewell Counties in Virginia. The map below highlights these three counties.

★ ***Ballad Hospital***



4 Community Assessment Summary

i. Market Overview

Russell County Medical Center has a defined primary service area of Russell, Buchanan, and Tazewell Counties in Southwestern Virginia. Russell County, Virginia has a population of 26,838 people. At 20% of the total population, Russell County has a large aging population. This population is expected to grow 10% over the next 5 years. Russell County is made up mostly of white non-Hispanic at 96.4%.

The majority of people living in Russell County have a household income of $25-50K. Primary care is the gatekeeper for the health status of a community. Russell County Virginia has 5 primary care offices and 9 Primary care providers. In the more rural areas of Virginia access to specialty services is a challenge. Education plays a large role into healthcare and many of the populations served do not have education past high school. For Russell County, 37.6% of residents have a high school education with only 10.4% obtaining a bachelor's degree or higher.

According to the 2018 County Health Rankings, Russell County, where RCMC is located, is ranked 113th in Virginia for health outcomes and 116th for health factors out of 133 counties/cities. Russell County also ranked 87th in health behaviors. When compared to other Virginia counties, Russell County has high rates of physical inactivity and high overweight/obesity rates. As for social and economic factors, Russell County ranks 108th due to high rates unemployment and children in poverty. A graphical representation of the 2018 County Health Rankings for Russell County components can be found in the appendix.

ii. Methodology

a. Community Interview Summary

As part of the community health needs assessment process, Ballad Health conducted localized community focus groups with organization representatives such as those from local health departments, school systems, health clinics, emergency services, businesses, and philanthropic boards. The individuals in each community were selected for participation by the hospital's CEO. These members were selected due to their involvement in the health of the community and their direct relationship to the population served.

Focus Groups – Representatives:
Virginia Cooperative Extension
Russell County Health Coalition
Cumberland Mountain Community Services
Russell County Health Department – Cumberland Plateau
Russell County Medical Center Foundation Board
United Way of Southwest Virginia
Appalachian Agency Senior Citizens
Russell County Medical Center Community Board

b. Collecting Community Input

Along with an introduction to the relationship between socio-economic conditions and overall health status at a national and state level, focus group participants were shown Russell County-specific health indicators as compared to the overall State of Virginia rates. As part of the commitment to population health under the merger, participants were made aware of the 25 measures that make up the Ballad population health index and the 3 additional measures related to access to screenings that complemented the community health discussion.

Members of the Ballad Health Strategic Planning Department then asked the community members to complete a 5-question survey relative to what health priorities should be a focus area for their specific community over the next three years. After the survey was completed, the group as a whole discussed their thoughts related to each question to further enhance the level at which the priorities were identified. The same information and process were later presented to the hospital's philanthropic foundation board members to further build awareness of the Ballad commitments made to population health and gain additional insight into community prioritization of specific health conditions/disparities.

After the survey was completed, the group as a whole discussed their thoughts related to each question to further enhance the level at which the priorities were identified. The same information and process was later presented to the hospital's philanthropic foundation board members to further build awareness of the Ballad commitments made to population health and gain additional insight into community prioritization of specific health conditions/disparities.

	Survey Questions
1	Which of the health priorities mentioned can this community work to improve in the short term (3 years)?
2	What existing resources, such as organized groups or public health initiatives, have been developed and are in place to address these health priorities?
3	How could resources at this hospital best support your identified priorities?
4	What pre-existing barriers are in place that may prevent improvement on these identified priorities?
5	Who else from the community should be involved in these initiatives?

iii. Key Priorities Identified

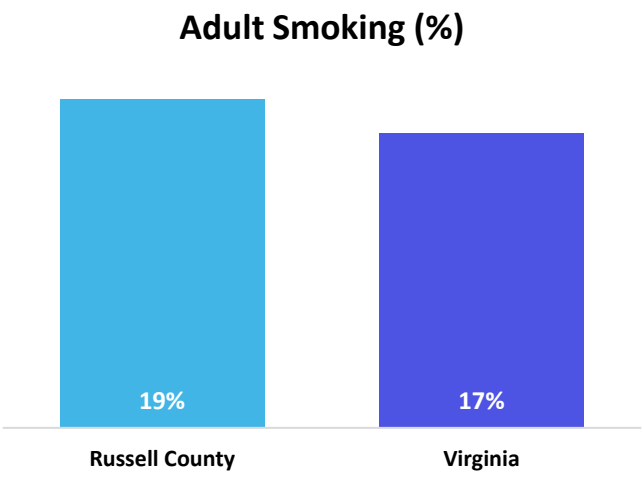
Priority Focus Area	Sub-Measure
Tobacco Use	• *Smoking Rates* • *Smoking During Pregnancy Rates*
Physical Activity/ Obesity	• *Youth Physical Activity* • *Adult Physical Activity*
Screenings	• *Diabetes Screenings* • *Cancer Screenings*
Substance Abuse	• *Drug Overdose Deaths* • *NAS births*

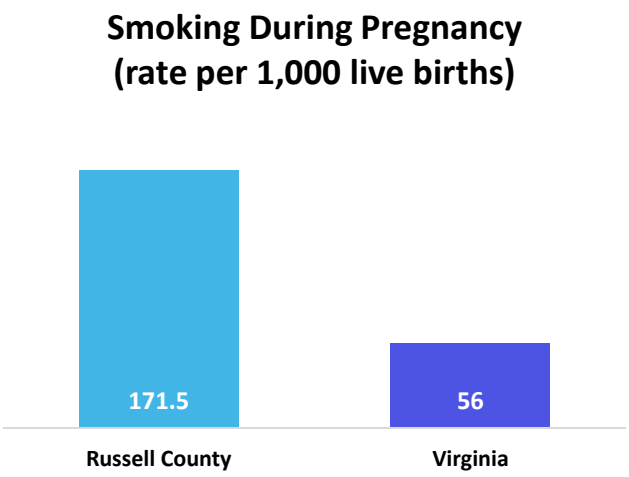
As evidenced by the county-level vs. state-level data represented for each of the priority measure selected by Russell County focus group participants, opportunity for improvement exists to better the results across all priority measures within the local community. Although not all metrics compare unfavorably to the overall state data, opportunity still exists as the Virginia data is not intended as a benchmark, but merely as a comparison.

By identifying these priority areas, Russell County Medical Center, in conjunction with Ballad Health and other local community organizations, can begin to implement targeted programs and efforts to improve the overall health and well-being of citizens of Russell County. Foundational to any population health improvement effort is the identification of actionable priorities and now that has been accomplished, the hospital can begin to formulate targeted implementation plans to help address the disparities plaguing parts of its population.

Priority Area Measures with County vs. State Comparisons *(where available):*

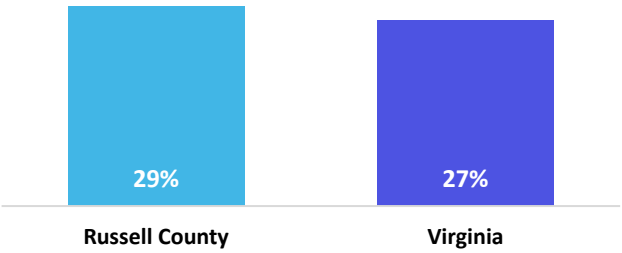
Smoking



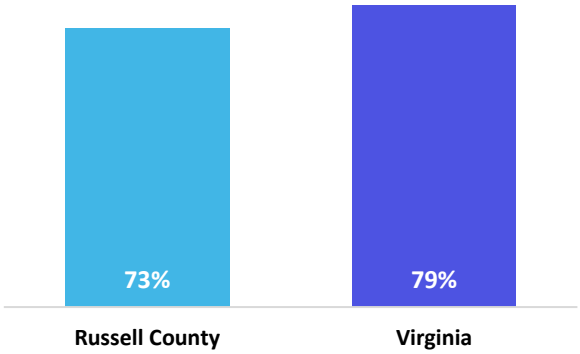


Physical Activity/Obesity

Adult Obesity (%)

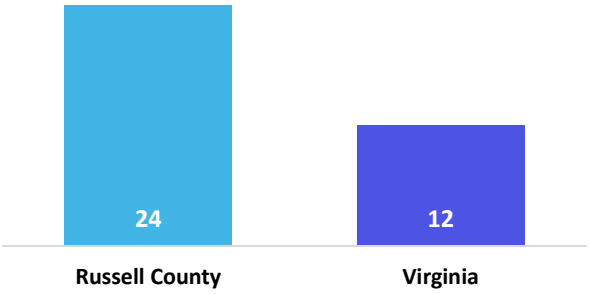


Physically Active Adults (%)

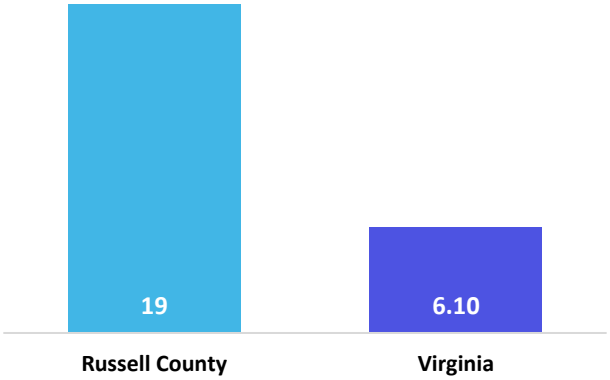


Substance Abuse

Drug Overdose Deaths (rate per 1,000)



NAS Rate (Rate per 1,000)



iv. Barriers and Gaps

Because health is more than just a result of behaviors or individual pre-disposition to disease, Ballad realizes that it must also evaluate social determinants such as the environment and community in which people live, the access to care they have, and the policy issues that exist/are absent in order to be able to make effective strides in improvement.

Behaviors include the everyday activities that affect personal health. They include habits and practices we develop as individuals and families that have an effect on personal health and utilization of health resources. Behaviors are modifiable with effort by the individual supported by community, policy, and clinical interventions.

However, equally important to health behaviors are community and environment factors, health policy, and access to clinical care. Community and environment reflects the reality and daily conditions in which people live. Health policies are indicative of the availability of resources to encourage and maintain health and the extent to which public health programs reach into the general population. Access to clinical care reflects the accessibility, quality, appropriateness, and cost of care received at doctors' offices, clinics, and hospitals. All four areas of health determinants are intertwined and must work together to be optimally effective in improving health status.

To help understand social determinants of health for the community, participants in the Russell County Medical Center focus groups also identified barriers and gaps that may impact progress in improving the key priority measures. The identified barriers and gaps for Russell County include:

- Generational patterns/cycles of poor health behaviors
- Socioeconomics as a barrier to seek and afford care
- Financial resources to be able to afford basics such as food, housing, utilities
- Lack of motivation to change within the community; apathy
- Cultural norms; resistance to change
- Access to healthy food

- Lack of communication and funding between preexisting resources already within the community
- Lack of transportation to medical offices/facilities

v. Community and Hospital Resources

To help improve the identified health priorities for Russell County, focus group participants were also asked to help identify current programs/organizations/ individuals from the local community that may be of assistance with the population health efforts in their county. Because multiple resources working together for the same cause can help to drive change faster, having the inventory of local resources with whom Ballad can partner with is key. There are many resources currently in existence in Russell County through the both the hospital and local organizations. The resources identified in the focus groups are as follow:

- School system education about health topics
- Health Department Programs (i.e. WIC, Babycare)
- Russell County Health Coalition
- Breastfeeding coordinator/Nutritionist/Registered Dietician at Virginia Cooperative Extension
- Quit line – Virginia Department of Health
- Russell County Prevention Coalition
- Fitness Center – Russell County
- Cumberland Mountain Community Services
- Recovery @ Lebanon
- Faith based – Mountain Movers Group
- Appalachian Agency for Senior Citizens (AASC) - Chronic Disease Self-Management
- Weight Watchers
- United Way of Southwest Virginia

In addition to preexisting resources in the community, the focus group participants also discussed possibilities for how the hospital can continue or enhance programs/services to provide local resources to support the identified priorities. These resources include:

- Diabetes prevention programs
- Chronic disease self-management courses
- Community Health Screenings
- Working with schools to improve/install curriculum that focuses on educating students about health issues

- Providing health data to other agencies
- Assist in developing additional recreation/sport activities in the county
- Physician education regarding need for counseling and education targeted to specific topics for patients
- Provide a resource database for community programs/initiatives
- Increase access to primary care/internal medicine providers

To further address health priorities within the community related to social determinants of health, programmatic opportunities were also discussed to assist with areas such as built environment (i.e. playgrounds, creation of safe sidewalks, bike sharing/bike paths, etc…), improved literacy rates and understanding of overall health, and healthy food availability (i.e. community gardens, farmers markets, etc…).

vi. Conclusion

As hospitals and health systems continue to work to make the communities they serve healthier, the identification of prioritized population health issues has become an area of strategic importance. Because Russell County Medical Center is located in a region with many chronic disease challenges, that prioritization becomes even more important so that focused actions can be developed and implemented with strategic purpose. The allocation of hospital resources to the prioritized issues, coupled with partnerships with other community organizations, will continue to build momentum toward the building of a healthier Russell County.

5 Appendix

i. Population Profile

The table below highlights key demographics for Russell County, Virginia.

Sg2 MARKET SNAPSHOT

health care intelligence

Mountain State Health Alliance/Ballad Health

Russell VA

Population and Gender	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Female Population	13,435	51.2%	13,179	51.2%	(1.9)%	50.8%
Male Population	12,814	48.8%	12,580	48.8%	(1.8)%	49.2%
Total	26,249	100.0%	25,759	100.0%	(1.9)%	100.0%

Age Groups	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
00-17	5,090	19.4%	4,879	18.9%	(4.2)%	22.6%
18-44	7,944	30.3%	7,591	29.5%	(4.4)%	35.8%
45-64	7,756	29.6%	7,293	28.3%	(6.0)%	25.8%
65-UP	5,459	20.8%	5,996	23.3%	9.8%	15.9%
Total	26,249	100.0%	25,759	100.0%	(1.9)%	100.0%

Ethnicity/Race	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Asian & Pacific Is. Non-Hispanic	59	0.2%	63	0.2%	6.8%	5.8%
Black Non-Hispanic	313	1.2%	380	1.5%	21.4%	12.4%
Hispanic	380	1.5%	458	1.8%	20.5%	18.3%
White Non-Hispanic	25,227	96.1%	24,540	95.3%	(2.7)%	60.4%
All Others	270	1.0%	318	1.2%	17.8%	3.2%
Total	26,249	100.0%	25,759	100.0%	(1.9)%	100.0%

Language*	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Only English at Home	24,458	98.2%	24,037	98.2%	(1.7)%	78.6%
Other Asian-Pacific Lang at Home	35	0.1%	33	0.1%	(5.7)%	0.9%
Other Indo-European Lang at Home	66	0.3%	65	0.3%	(1.5)%	1.8%
Slavic Lang at Home	25	0.1%	25	0.1%	0.0%	0.7%
Spanish at Home	288	1.2%	278	1.1%	(3.5)%	13.3%
All Others	29	0.1%	29	0.1%	0.0%	4.7%
Total	24,901	100.0%	24,467	100.0%	(1.7)%	100.0%

Household Income	Market 2018 Households	Market 2018 % of Total	Market 2023 Households	Market 2023 % of Total	Market Households % Change	National 2018 % of Total
<$15K	2,190	19.9%	2,025	18.6%	(7.5)%	10.2%
$15-25K	1,514	13.8%	1,471	13.5%	(2.8)%	9.3%
$25-50K	2,916	26.5%	2,906	26.7%	(0.3)%	23.5%
$50-75K	1,804	16.4%	1,689	15.5%	(6.4)%	16.5%
$75-100K	1,134	10.3%	1,137	10.5%	0.3%	10.5%
$100K-200K	1,274	11.6%	1,416	13.0%	11.2%	19.3%
>$200K	181	1.6%	222	2.0%	22.7%	10.7%
Total	11,013	100.0%	10,866	100.0%	(1.3)%	100.0%

Education Level**	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Less than High School	2,591	13.5%	2,558	13.5%	(1.3)%	5.6%
Some High School	1,876	9.8%	1,852	9.8%	(1.3)%	7.4%
High School Degree	7,096	37.0%	6,997	37.0%	(1.4)%	27.6%
Some College/Assoc. Degree	5,340	27.9%	5,257	27.8%	(1.6)%	31.0%
Bachelor's Degree or Greater	2,261	11.8%	2,230	11.8%	(1.4)%	28.4%
Total	19,164	100.0%	18,894	100.0%	(1.4)%	100.0%

*Excludes population age <5, **Excludes population age <25

Mountain State Health Alliance/ Ballad Health

Tazewell, VA

Population and Gender	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Female Population	20,983	50.2%	20,519	50.1%	(2.2)%	50.8%
Male Population	20,843	49.8%	20,407	49.9%	(2.1)%	49.2%
Total	41,826	100.0%	40,926	100.0%	(2.2)%	100.0%

Age Groups	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
00-17	7,873	18.8%	7,411	18.1%	(5.9)%	22.6%
18-44	13,224	31.6%	12,715	31.1%	(3.9)%	35.8%
45-64	11,854	28.3%	11,136	27.2%	(6.1)%	25.8%
65-UP	8,875	21.2%	9,664	23.6%	8.9%	15.9%
Total	41,826	100.0%	40,926	100.0%	(2.2)%	100.0%

Ethnicity/Race	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Asian & Pacific Is. Non-Hispanic	309	0.7%	344	0.8%	11.3%	5.8%
Black Non-Hispanic	1,527	3.7%	1,668	4.1%	9.2%	12.4%
Hispanic	418	1.0%	502	1.2%	20.1%	18.3%
White Non-Hispanic	39,022	93.3%	37,798	92.4%	(3.1)%	60.4%
All Others	550	1.3%	614	1.5%	11.6%	3.2%
Total	41,826	100.0%	40,926	100.0%	(2.2)%	100.0%

Language*	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Germanic Lang at Home	57	0.1%	59	0.2%	3.5%	0.5%
Only English at Home	39,135	98.3%	38,333	98.4%	(2.1)%	78.6%
Other Indo-European Lang at Home	72	0.2%	72	0.2%	0.0%	1.8%
Other Lang at Home	151	0.4%	146	0.4%	(3.3)%	1.0%
Spanish at Home	299	0.8%	286	0.7%	(4.4)%	13.3%
All Others	85	0.2%	77	0.2%	(9.4)%	4.8%
Total	39,799	100.0%	38,973	100.0%	(2.1)%	100.0%

Household Income	Market 2018 Households	Market 2018 % of Total	Market 2023 Households	Market 2023 % of Total	Market Households % Change	National 2018 % of Total
<$15K	2,804	16.3%	2,614	15.5%	(6.8)%	10.2%
$15-25K	2,674	15.5%	2,532	15.0%	(5.3)%	9.3%
$25-50K	4,840	28.1%	4,644	27.4%	(4.1)%	23.5%
$50-75K	2,533	14.7%	2,553	15.1%	0.8%	16.5%
$75-100K	1,722	10.0%	1,695	10.0%	(1.6)%	10.5%
$100K-200K	2,041	11.8%	2,211	13.1%	8.3%	19.3%
>$200K	625	3.6%	674	4.0%	7.8%	10.7%
Total	17,239	100.0%	16,923	100.0%	(1.8)%	100.0%

Education Level**	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Less than High School	2,696	8.8%	2,672	8.9%	(0.9)%	5.6%
Some High School	3,419	11.2%	3,377	11.2%	(1.2)%	7.4%
High School Degree	11,046	36.2%	10,931	36.3%	(1.0)%	27.6%
Some College/Assoc. Degree	9,523	31.2%	9,379	31.2%	(1.5)%	31.0%
Bachelor's Degree or Greater	3,834	12.6%	3,737	12.4%	(2.5)%	28.4%
Total	30,518	100.0%	30,096	100.0%	(1.4)%	100.0%

Sg2 MARKET SNAPSHOT

Mountain State Health Alliance/Ballad Health

Buchanan VA

Population and Gender	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Female Population	10,770	49.0%	10,380	49.0%	(3.6)%	50.8%
Male Population	11,195	51.0%	10,806	51.0%	(3.5)%	49.2%
Total	21,965	100.0%	21,186	100.0%	(3.6)%	100.0%

Age Groups	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
00-17	3,890	17.7%	3,601	17.0%	(7.4)%	22.6%
18-44	6,853	31.2%	6,443	30.4%	(6.0)%	35.8%
45-64	6,602	30.1%	6,121	28.9%	(7.3)%	25.8%
65-UP	4,620	21.0%	5,021	23.7%	8.7%	15.9%
Total	21,965	100.0%	21,186	100.0%	(3.6)%	100.0%

Ethnicity/Race	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Asian & Pacific Is. Non-Hispanic	166	0.8%	217	1.0%	30.7%	5.8%
Black Non-Hispanic	675	3.1%	728	3.4%	7.9%	12.4%
Hispanic	155	0.7%	190	0.9%	22.6%	18.3%
White Non-Hispanic	20,781	94.6%	19,826	93.6%	(4.6)%	60.4%
All Others	188	0.9%	225	1.1%	19.7%	3.2%
Total	21,965	100.0%	21,186	100.0%	(3.6)%	100.0%

Language*	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Chinese at Home	27	0.1%	27	0.1%	0.0%	1.1%
Only English at Home	20,721	98.7%	20,001	98.7%	(3.5)%	78.6%
Other Indo-European Lang at Home	44	0.2%	45	0.2%	2.3%	1.8%
Other Lang at Home	65	0.3%	60	0.3%	(7.7)%	1.0%
Spanish at Home	88	0.4%	81	0.4%	(8.0)%	13.3%
All Others	58	0.3%	58	0.3%	0.0%	4.2%
Total	21,003	100.0%	20,272	100.0%	(3.5)%	100.0%

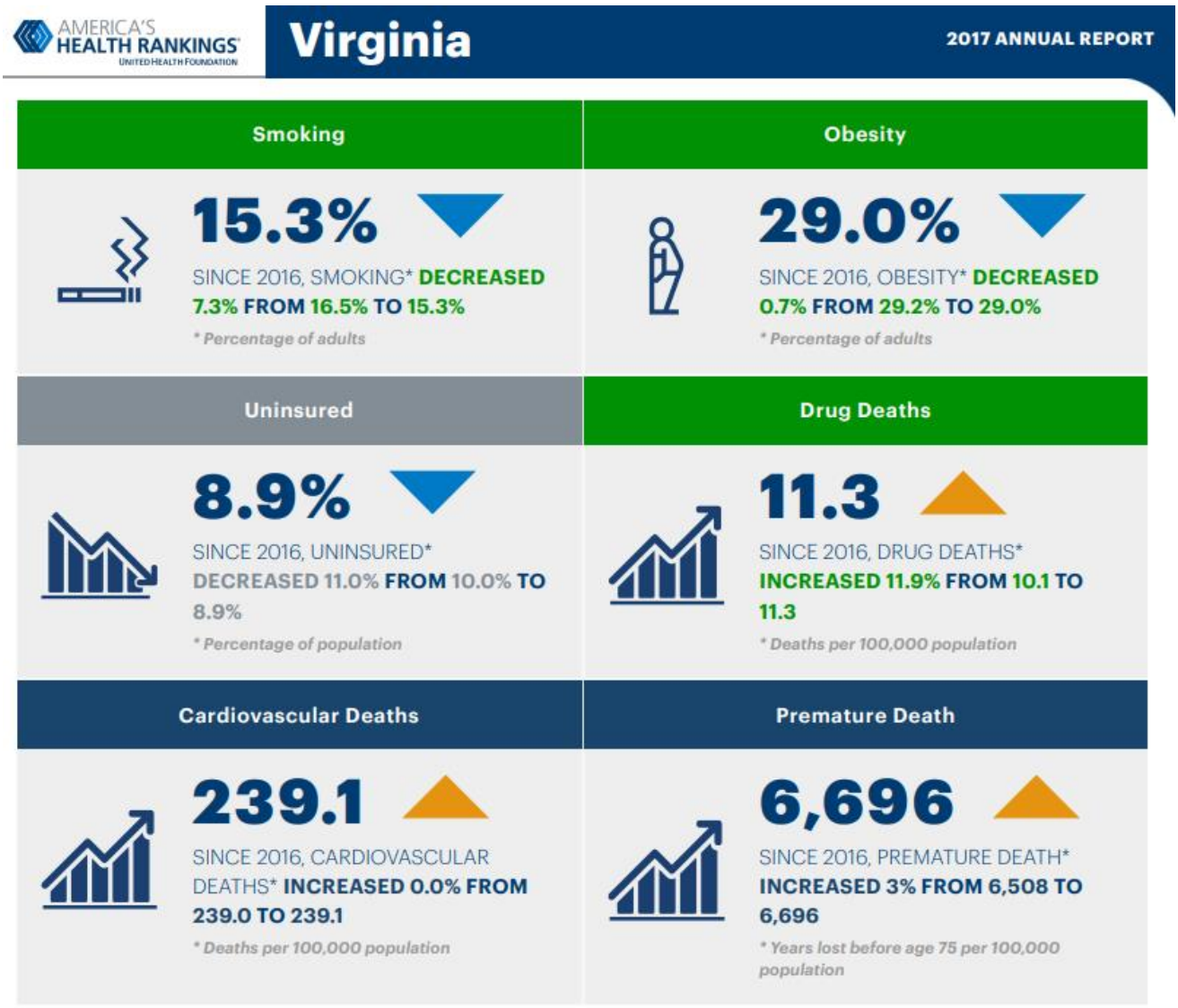
Household Income	Market 2018 Households	Market 2018 % of Total	Market 2023 Households	Market 2023 % of Total	Market Households % Change	National 2018 % of Total
<$15K	2,259	24.5%	2,238	25.0%	(0.9)%	10.2%
$15-25K	1,702	18.5%	1,656	18.5%	(2.7)%	9.3%
$25-50K	2,328	25.3%	2,312	25.8%	(0.7)%	23.5%
$50-75K	1,235	13.4%	1,161	13.0%	(6.0)%	16.5%
$75-100K	879	9.5%	814	9.1%	(7.4)%	10.5%
$100K-200K	678	7.4%	632	7.1%	(6.8)%	19.3%
>$200K	131	1.4%	135	1.5%	3.1%	10.7%
Total	9,212	100.0%	8,948	100.0%	(2.9)%	100.0%

Education Level**	Market 2018 Population	Market 2018 % of Total	Market 2023 Population	Market 2023 % of Total	Market Population % Change	National 2018 % of Total
Less than High School	2,667	16.2%	2,603	16.3%	(2.4)%	5.6%
Some High School	2,195	13.3%	2,149	13.4%	(2.1)%	7.4%
High School Degree	5,615	34.1%	5,466	34.2%	(2.7)%	27.6%
Some College/Assoc. Degree	4,394	26.7%	4,252	26.6%	(3.2)%	31.0%
Bachelor's Degree or Greater	1,582	9.6%	1,527	9.6%	(3.5)%	28.4%
Total	16,453	100.0%	15,997	100.0%	(2.8)%	100.0%

***Excludes population age <5, **Excludes population age <25**

ii. Health Status Data

Virginia Overall



AMERICA'S HEALTH RANKINGS
UNITED HEALTH FOUNDATION

Virginia

2017 ANNUAL REPORT

Measure	Rating	2017 Value	2017 Rank
BEHAVIORS			
Drug Deaths (Deaths per 100,000 population)	+++++	11.3	7
Excessive Drinking (Percentage of adults)	++++	17.4%	15
High School Graduation (Percentage of students)	++++	85.7%	20
Obesity (Percentage of adults)	+++	29.0%	21
Physical Inactivity (Percentage of adults)	+++	23.3%	26
Smoking (Percentage of adults)	++++	15.3%	15
Behaviors * (All Behaviors)	+++++	**0.112**	**8**
POLICY			
Immunizations - Adolescents (Mean z score of HPV, meningococcal and Tdap)	++	-0.590	40
Immunization HPV Females (Percentage of females aged 13 to 17)	+	41.1%	42
Immunization HPV Males (Percentage of males aged 13 to17)	+++	37.4%	25
Immunization Meningococcal (Percentage of adolescents aged 13 to 17)	+	71.5%	41
Immunization Tdap (Percentage of adolescents aged 13 to 17)	++	87.1%	32
Immunizations - Children (Percentage of children aged 19 to 35 months)	+	65.9%	45
Public Health Funding (Dollars per person)	++	$73	33
Uninsured (Percentage of population)	+++	8.9%	28
Policy * (All Policy measures)	++	**-0.042**	**39**
CLINICAL CARE			
Dentists (Number per 100,000 population)	++++	63.6	14
Low Birthweight (Percentage of live births)	+++	7.9%	22
Mental Health Providers (Number per 100,000 population)	++	145.2	40
Preventable Hospitalizations (Discharges per 1,000 Medicare enrollees)	++++	42.8	15
Primary Care Physicians (Number per 100,000 population)	+++	141.8	24
Clinical Care * (All Clinical Care measures)	+++	**0.002**	**26**
COMMUNITY & ENVIRONMENT			
Air Pollution (Micrograms of fine particles per cubic meter)	++++	7.5	20
Children in Poverty (Percentage of children)	++++	13.0%	11
Infectious Disease (Mean z score of chlamydia, pertussis and Salmonella)	++++	-0.443	13
Chlamydia (Cases per 100,000 population)	+++	424.5	21
Pertussis (Cases per 100,000 population)	+++	4.4	22
Salmonella (Cases per 100,000 population)	++++	14.1	19
Occupational Fatalities (Deaths per 100,000 workers)	++++	4.2	20
Violent Crime (Offenses per 100,000 population)	+++++	218	4
Community & Environment * (All Community & Environment Measures)	+++++	**0.170**	**6**
ALL DETERMINANTS			
All Determinants * (All Determinants)	++++	**0.241**	**19**
OUTCOMES			
Cancer Deaths (Deaths per 100,000 population)	+++	190.1	24
Cardiovascular Deaths (Deaths per 100,000 population)	+++	239.1	25
Diabetes (Percentage of adults)	+++	10.4%	23
Disparity in Health Status (Percentage point difference)	+++	27.4%	27
Frequent Mental Distress (Percentage of adults)	++++	10.9%	19
Frequent Physical Distress (Percentage of adults)	++++	11.0%	14
Infant Mortality (Deaths per 1,000 live births)	+++	5.8	23
Premature Death (Years lost before age 75 per 100,000 population)	++++	6,696	19
All Outcomes * (All Outcomes)	+++	**0.062**	**23**
OVERALL			
Overall * (Overall)	++++	**0.303**	**19**

RATING	RANK
+++++	1 – 10
++++	11 – 20
+++	21 – 30
++	31 – 40
+	41 – 50

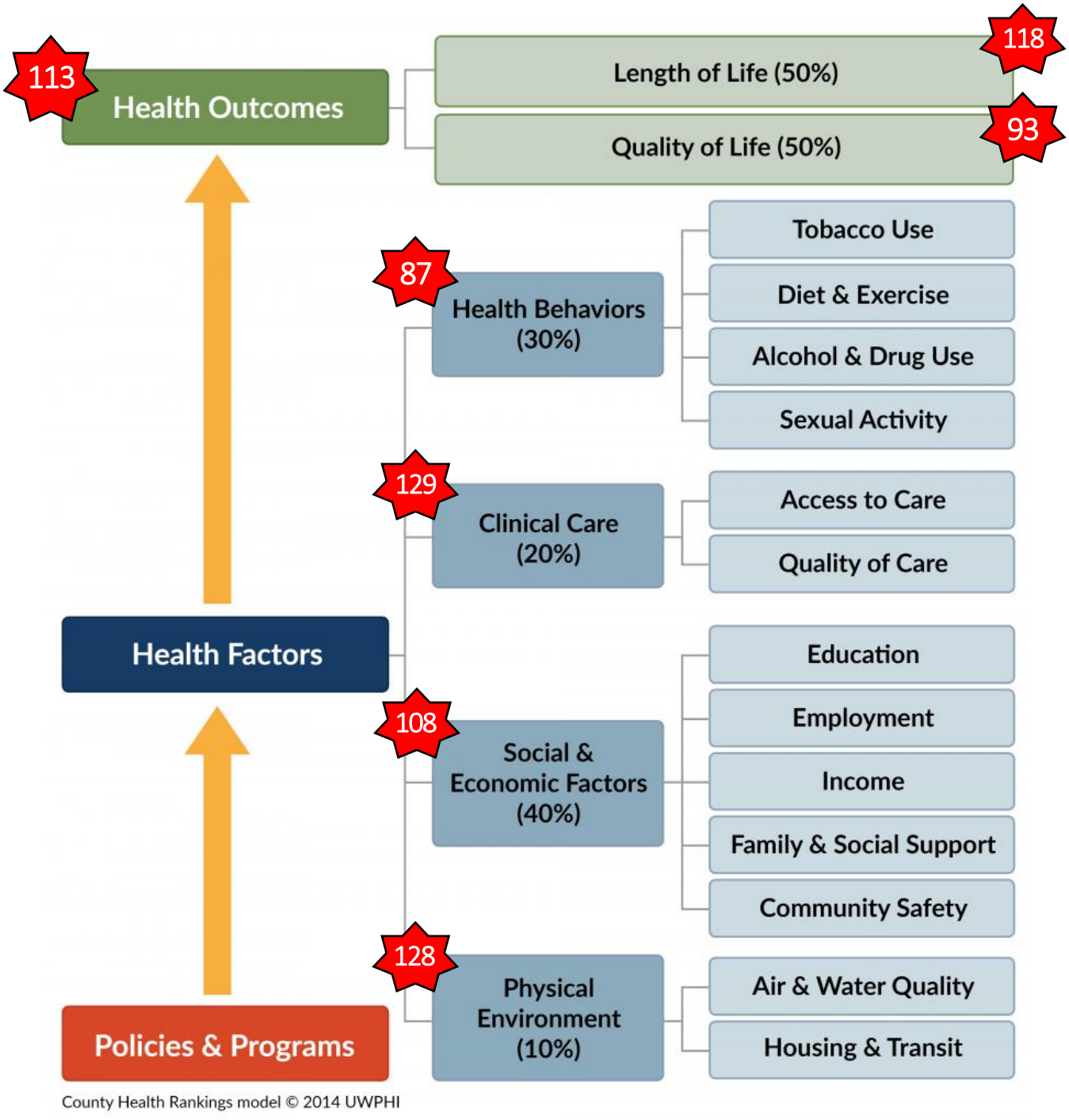
* Value indicates z score. Negative scores are below US value; positive scores are above US value. For complete definitions of measures including data sources and years, see "Appendix: Core Measures".

iii. County Snapshots

Russell County, VA

2018 County Health Rankings

www.countyhealthrankings.org



Russell County, Virginia

Health Outcomes	Russell County	Virginia	Desired
Infant mortality	3.9	5.9	↓
Low Birthweight (%)	8%	8%	↓
Children with NAS (rate)	19	6.10	↓
Poor or fair health (%)	18%	15%	↓
Cardiovascular Death (per 100,000)	205.6	155.9	↓
Cancer deaths (per 100,000)	196.9	161.36	↓
Diabetes Mellitus deaths (per 100,000)	19.7	18	↓
Cerebrovascular deaths (per 100,000)	28.6	38.5	↓
Suicide Rate (per 100,000)	25.5	12.2	↓
Lung cancer deaths (per 100,000)	60.6	60.4	↓
Female breast cancer deaths (per 100,000)	26.4	22.7	↓
Prevalence of diabetes (%)	12%	10%	↓
Mammography Screening (%)	65%	64%	↑
Frequent Mental Distress	12%	10%	↓
Premature Deaths (age adjusted)	510	310	↓

Health Behaviors	Russell County	Virginia	Desired
Alcohol-impaired driving deaths (per 100,000)	27%	31%	↓
Excessive Drinking (%)	15%	17%	↓
Adult Smoking (%)	19%	17%	↓
Adult Obesity (%)	29%	27%	↓
Physical Inactivity (%)	27%	21%	↓
Teen births (per 1,000)	49	25	↓
Drug overdose deaths	24	12	↓
Violent crime (per 100,000)	175	194	↓
Motor vehicle crash deaths (per 100,000)	18	9	↓
Non Marital Births (%)	36%	35%	↓

Health Determinants	Russell County	Virginia	Desired
Uninsured Adults (%)	17%	15%	↓
Uninsured Children (%)	7%	6%	↓
Median Household Income ($)	38,400	66,300	↑
Children eligible for free or reduced lunch (%)	57%	40%	↓
Children in single-parent households (%)	29%	30%	↓
Children in poverty (%)	28%	15%	↓
High school graduation (%)	87%	86%	↑
Unemployment (%)	6.50%	4.40%	↓
Food insecurity (%)	13%	12%	↓
Passage rate for third grade reading subject standards of learning (SOL) (%)	82%	75%	↑

Physical Environment	Russell County	Virginia	Desired
Severe housing problems (%)	12%	15%	↓
Air pollution - particulate matter (µg/m^3)	9.20	8.70	↓

Health Resources	Russell County	Virginia	Desired
# of Primary Care MDs (residents to MD)	2550:01:00	1320:01:00	↑
# of Mental Health Providers (residents to provider)	1640:01:00	730:01:00	↑
Food stamp eligible participants (SNAP) (%)	5,828		↓
Children on SNAP (%)	3.5%	4.2%	↓

Maternal Infant Health	Russell County	Virginia	Desired
Birth rate per 1,000 population	9.2	12.3	↑
Prenatal Care beginning in first trimester	52.9%	81.6%	↑
Mothers who smoke during pregnancy	171.5	56	↓
Fully Breastfed (WIC Participants in Cumberland Plateau)	7.1%	10.2%	↑
Partially Breastfed (WIC Participants in Cumberland Plateau)	2.4%	12.4%	↑

Buchanan County, Virginia

Health Outcomes	Buchanan County	Virginia	Desired
Infant mortality	12.3	5.9	↓
Low Birthweight (%)	10%	8%	↓
Children with NAS (rate)	49.1	6.10	↓
Poor or fair health (%)	19%	15%	↓
Cardiovascular Death (per 100,000)	218.6	155.9	↓
Cancer deaths (per 100,000)	147.7	161.36	↓
Diabetes Mellitus deaths (per 100,000)	24.3	18	↓
Cerebrovascular deaths (per 100,000)	35.9	38.5	↓
Suicide Rate (per 100,000)	17.1	12.2	↓
Lung cancer deaths (per 100,000)	48.1	60.4	↓
Female breast cancer deaths (per 100,000)	26.4	22.7	↓
Prevalence of diabetes (%)	15%	10%	↓
Mammography Screening (%)	52%	64%	↑
Frequent Mental Distress	13%	10%	↓
Premature Deaths (age adjusted)	580	310	↓

Health Behaviors	Buchanan County	Virginia	Desired
Alcohol-impaired driving deaths (per 100,000)	23%	31%	↓
Excessive Drinking (%)	15%	17%	↓
Adult Smoking (%)	21%	17%	↓
Adult Obesity (%)	32%	27%	↓
Physical Inactivity (%)	34%	21%	↓
Teen births (per 1,000)	45	25	↓
Drug overdose deaths	42	12	↓
Violent crime (per 100,000)	177	194	↓
Motor vehicle crash deaths (per 100,000)	34	9	↓
Non Marital Births (%)	40%	35%	↓

Health Determinants	Buchanan County	Virginia	Desired
Uninsured Adults (%)	18%	15%	↓
Uninsured Children (%)	7%	6%	↓
Median Household Income ($)	32,400	66,300	↑
Children eligible for free or reduced lunch (%)	66%	40%	↓
Children in single-parent households (%)	39%	30%	↓
Children in poverty (%)	34%	15%	↓
High school graduation (%)	86%	86%	↑
Unemployment (%)	10.8%	4.40%	↓
Food insecurity (%)	15%	12%	↓
Passage rate for third grade reading subject standards of learning (SOL) (%)	63%	75%	↑

Physical Environment	Buchanan County	Virginia	Desired
Severe housing problems (%)	13%	15%	↓
Air pollution - particulate matter (µg/m^3)	9.30	8.70	↓

Health Resources	Buchanan County	Virginia	Desired
# of Primary Care MDs (residents to MD)	3300:01:00	1320:01:00	↑
# of Mental Health Providers (residents to provider)	3800:01:00	730:01:00	↑
Food stamp eligible participants (SNAP) (%)	4,691		↓
Children on SNAP (%)		4.2%	↓

Maternal Infant Health	Buchanan County	Virginia	Desired
Birth rate per 1,000 population	7.2	12.3	↑
Prenatal Care beginning in first trimester	70.6%	81.6%	↑
Mothers who smoke during pregnancy	256.8	56	↓
Fully Breastfed (WIC Participants in Cumberland Plateau)	7.1%	10.2%	↑
Partially Breastfed (WIC Participants in Cumberland Plateau)	2.4%	12.4%	↑

Tazewell County, Virginia

Health Outcomes	Tazewell County	Virginia	Desired
Infant mortality	9.1	5.9	↓
Low Birthweight (%)	n/a	8%	↓
Children with NAS (rate)	33.9	6.10	↓
Poor or fair health (%)	15%	15%	↓
Cardiovascular Death (per 100,000)	239.6	155.9	↓
Cancer deaths (per 100,000)	198.3	161.36	↓
Diabetes Mellitus deaths (per 100,000)	30.5	18	↓
Cerebrovascular deaths (per 100,000)	36.3	38.5	↓
Suicide Rate (per 100,000)	11.9	12.2	↓
Lung cancer deaths (per 100,000)	67.9	60.4	↓
Female breast cancer deaths (per 100,000)	26.4	22.7	↓
Prevalence of diabetes (%)	15%	10%	↓
Mammography Screening (%)	58%	64%	↑
Frequent Mental Distress	11%	10%	↓
Premature Deaths (age adjusted)	530	310	↓

Health Behaviors	Tazewell County	Virginia	Desired
Alcohol-impaired driving deaths (per 100,000)	32%	31%	↓
Excessive Drinking (%)	16%	17%	↓
Adult Smoking (%)	18%	17%	↓
Adult Obesity (%)	30%	27%	↓
Physical Inactivity (%)	30%	21%	↓
Teen births (per 1,000)	47	25	↓
Drug overdose deaths	29	12	↓
Violent crime (per 100,000)	164	194	↓
Motor vehicle crash deaths (per 100,000)	19	9	↓
Non Marital Births (%)	38%	35%	↓

Health Determinants	Tazewell County	Virginia	Desired
Uninsured Adults (%)	18%	15%	↓
Uninsured Children (%)	6%	6%	↓
Median Household Income ($)	40,500	66,300	↑
Children eligible for free or reduced lunch (%)	52%	40%	↓
Children in single-parent households (%)	29%	30%	↓
Children in poverty (%)	24%	15%	↓
High school graduation (%)	76%	86%	↑
Unemployment (%)	7.5%	4.40%	↓
Food insecurity (%)	14%	12%	↓
Passage rate for third grade reading subject standards of learning (SOL) (%)	82%	75%	↑

Physical Environment	Tazewell County	Virginia	Desired
Severe housing problems (%)	11%	15%	↓
Air pollution - particulate matter (µg/m^3)	8.80	8.70	↓

Health Resources	Tazewell County	Virginia	Desired
# of Primary Care MDs (residents to MD)	1360:01:00	1320:01:00	↑
# of Mental Health Providers (residents to provider)	790:01:00	730:01:00	↑
Children on SNAP (%)	3.6%	4.2%	↓

Maternal Infant Health	Tazewell County	Virginia	Desired
Birth rate per 1,000 population	10.3	12.3	↑
Prenatal Care beginning in first trimester	50%	81.6%	↑
Mothers who smoke during pregnancy	269.7	56	↓
Fully Breastfed (WIC Participants in Cumberland Plateau)	7.1%	10.2%	↑
Partially Breastfed (WIC Participants in Cumberland Plateau)	2.4%	12.4%	↑

iv. Ballad Health Population Health Index

Measure	Russell County	Virginia	Better/ Worse than VA
Smoking	19%	17%	Worse
Smoking During Pregnancy (rate per 1,000 births)	171.5	56	Worse
Youth Tobacco Use		25.7%	
Physically Active Adults	73%	79%	Worse
Physically Active Youth		54.8%	
Adult Obesity	29%	27%	Worse
Obesity in Public School Students	n/a	n/a	
Average Maternity Practices in Infant Nutrition & Care (mPINC) Score	n/a	n/a	
Fully Breastfed	7.1%	10.2%	Worse
Partially Breastfed	2.4%	12.4%	Worse
NAS Births (rate per 1,000)	19	6.10	Worse
Drug Overdose Deaths	24	12	Worse
Adults using Prescription Drugs for non-medical reasons	n/a	n/a	
Children – On-time Vaccinations	n/a	64.4%	
Vaccines – HPV Females	n/a	32.7%	
Vaccines – HPV Males	n/a	33.3%	
Vaccines – Flu Vaccine, Older Adults	n/a	63.0%	
Teen Pregnancy	49	25	Worse
Third Grade Reading Level	82%	75%	Better
Dental Sealants	n/a	n/a	
Frequent Mental Distress	12%	10%	Worse
Infant Mortality	3.9	5.9	Better
Low Birthweight	8%	8%	On Par
People with Pre-diabetes referred to a prevention program	n/a	n/a	
Premature Deaths	510	310	Worse

Fully and partially breastfed infant data is from the subset of women who are involved in WIC

v. Key Definitions for Population Health Index Data

Third grade reading level: Passage rate for third grade reading subject standards of learning (SOL) Kidscount

Frequent Mental Distress: Percentage of adults reporting 14 or more days of poor mental health per month, County Health Rankings, 2017

Obesity: Greater than 30.0 Body Mass Index (BMI), County Health Rankings, 2017

Adult Physical Activity: Percentage of adults over age 20 who participated in leisure time physical activity, County Health Rankings, 2017

Youth Physical Activity: Were Not Physically Active At Least 60 Minutes Per Day On 5 Or More Days, Youth Behavioral Risk Factor Surveillance System, 2016

Smoking: % of adults who are current smokers, County Health Rankings, 2017

Youth Tobacco Use: Ever tried cigarette smoking (even one or two puffs), 2015

Smoking During Pregnancy: Number of births for which the mother indicated she smoked while pregnant, Virginia Department of Health Maternal-Child Health, 2014

Low Birthweight: Percentage of live births with low birth weight (<2500 grams), County Health Rankings, 2017

Infant Mortality: Number of all infant deaths (within 1 year), per 1,000 live births, County Health Rankings, 2017

Prenatal Care Beginning in First Trimester: , Local Agency Report VA Department of Health, 2015

Virginia WIC Participants who either partially breastfed or fully breastfed: , WIC Breastfeeding Data, 2015

Teen Births: Births to mothers aged 15-19, County Health Rankings, 2017

NAS Discharge Rate: NAS diagnosis code was present on the record and the patient was < 1 year of age (VA residents only) rate per 1,000, Virginia Department of Health Opioid-Overdose Data, 2016

Drug Overdose Deaths: Number of drug poisoning deaths per 100,000, County Health Rankings, 2017

Prescriptions Opioid Overdose Mortality Rate: Fatal overdose data are based upon toxicology results and cause of death statements. Data include all manners of death (accident, homicide, suicide, and undetermined) and are based upon the locality of event (overdose). 'Prescription opioids' excludes fentanyl and counts fatal overdoses with one or more prescription opioids causing death, 2016

Combined 7-vaccine series coverage among children 19-35 months, CDC VaxView, 2016

Older adults flu vaccination: Adults aged 65+ who have had a flu shot within the past year, Behavioral Risk Factor Surveillance System, 2016

Colorectal Screenings: Aged 50-75 had a colonoscopy in the past 10 years, Behavioral Risk Factor Surveillance System, 2016

Mammography: Percentage of female Medicare enrollees aged 67-69 who received a mammogram, County Health Rankings, 2017

Cervical Screening: Women aged 21-65 who have had a pap test in the past three years, Behavioral Risk Factor Surveillance System, 2016

Diabetes Prevalence: Percentage of adults aged 20 and over who have been diagnosed with diabetes, County Health Rankings, 2017

vi. Data Sources

Kids Count Data Center *(http://datacenter.kidscount.org/)*
America's Health Rankings *(https://www.americashealthrankings.org)*
County Health Rankings *(http://www.countyhealthrankings.org/)*
Sg2 Analytics
Virginia Department of Health