

Roanoke Valley Community Health Assessment

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HEALTH IMPROVEMENT IMPLEMENTATION STRATEGY
FY 2018-2020

Carilion Roanoke Memorial Hospital
Carilion Roanoke Community Hospital
carilionclinic.org/community-health-assessments



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Carilion Medical Center

Health Improvement Implementation Strategy

FY 2019 – FY 2021 Summary

Carilion Clinic is a not-for-profit, integrated healthcare system located among the Blue Ridge Mountains with its flagship hospital in the heart of the City of Roanoke, which serves as the largest urban hub in Western Virginia. There, through a comprehensive network of hospitals, primary and specialty physician practices, wellness centers and other complimentary services, quality care is provided close to home for nearly 1 million Virginians. Carilion's roots go back more than a century, when a group of dedicated citizens came together and built a hospital to meet the healthcare needs of the community. Today, Carilion is a key anchor institution focusing on more than just healthcare; Carilion is dedicated to its mission of improving the health of the communities we serve.

With an enduring commitment to the health of our region, care is advanced through clinical services, medical education, research and community health investments. Carilion believes in service, collaboration and caring for all. Through ongoing investments in discovering and responding to the health needs of its community comes the understanding that stakeholders must address community health issues together to most effectively create change.

The purpose of this implementation strategy is to describe what Carilion Medical Center (CMC), comprised of Carilion Roanoke Memorial Hospital (CRMH) and Carilion Roanoke Community Hospital (CRCH), plans to do to address the community health needs identified in the 2018 Roanoke Valley Community Health Assessment (RVCHA).

CMC includes Carilion Clinic's flagship facility, CRMH. A 703-bed hospital, CRMH includes a Neonatal Intensive Care Unit, Carilion Children's Hospital, specialty and advanced clinical care and the region's only Level 1 Trauma Center. U.S. News & World Report ranks it among Virginia's top five; it is one of only 43 in the country ranked at the top for nine adult procedures and conditions. CRMH provides access to the region's most experienced providers and specialty services, while teaching and developing tomorrow's medical leaders through residencies and fellowships sponsored by the Virginia Tech Carilion School of Medicine.

Carilion Medical Center serves all patients regardless of their ability to pay. The Hospital's governing Board is elected annually and the majority of members are neither employees nor contractors of the Hospital. Medical staff privileges are extended to qualified providers. Any surplus funds are reinvested in new technology, clinical initiatives, education and charitable efforts. This includes providing free, discounted and subsidized care as well as critical medical services that operate at a loss.¹

¹ <https://www.carilionclinic.org/locations/carilion-roanoke-memorial-hospital>

Community Served

The Roanoke Metropolitan Statistical Area (MSA), home to Carilion Clinic's flagship hospital, commonly known as the Roanoke Valley, is composed of the independent cities of Roanoke and Salem and the counties of Botetourt, Craig, Franklin, and Roanoke. It is nestled among the Blue Ridge Mountains with the City of Roanoke at its heart. The City is a destination place, rich in cultural diversity, the arts, shopping, recreational opportunities, natural beauty and services not available in more rural areas of the region.

Despite these amenities and the presence of key safety net providers in the region, including Carilion Clinic, a federally qualified health center, free clinics, the health department and other service organizations, there remain thousands of low-income and uninsured or underinsured residents who do not have access to affordable care.

The service areas for Carilion Clinic's Community Health Assessments are determined by at least 70% of unique patient origin of the hospital in each respective market. There is a focus placed on areas that are considered Medically Underserved Areas (MUAs) and Health Professional Shortage Areas (HPSAs).

CRMH and CRCH, collectively referred to as CMC, are located in Roanoke, Virginia. In fiscal year 2017, CMC served 129,045 unique patients. Patient origin data revealed that during this year, 76.52% of patients served by CMC lived in the following localities:

- City of Roanoke (28.65%)
- Roanoke County (19.95%)
- Franklin County (8.81%)
- City of Salem (5.81%)
- Bedford County (5.17%)
- Craig County (0.70%)



The service area for the 2018 RVCHA includes the cities of Roanoke and Salem and the counties of Bedford, Botetourt, Craig and Roanoke, with secondary data included for Franklin County. It is important to note that Franklin County is partly served by Carilion Franklin Memorial Hospital, located in Rocky Mount, VA. Franklin County is not included as part of the service area for the 2018 RVCHA because CFMH also conducted its own CHA of Franklin and Henry counties concurrently.

The target population for Carilion Clinic's CHA projects consists of the following groups: underserved/vulnerable populations disproportionately impacted by the social determinants of health including poverty, race/ethnicity, education, and/or lack of insurance. Populations are examined across the different life cycles including parents of children and adolescents, women of child-bearing age, adults, and the elderly as well as across various race and ethnic groups.

Implementation Strategy Process

CMC and Healthy Roanoke Valley (HRV) partnered to conduct the 2018 RVCHA. This process was community-driven and focused on high levels of community engagement involving health and human services leaders, stakeholders, and providers; the target population; and the community as a whole.

Founded in October 2012, HRV is an initiative of United Way of Roanoke Valley and derived from the 2012 RVCHA. A partnership of more than 50 organizations, HRV strives to enhance health equity related to these priorities as a means to create a “culture of wellness” across the Roanoke Valley. HRV provides an on-going forum for over 130 volunteer members to step outside organizational boundaries and share leadership, expertise, and resources to activate a common set of shared goals for community improvement in an environment that offers mutual respect, trust and understanding while nurturing collaborative relationships. HRV partners are a diverse group of cross-sector stakeholders representing health, education, housing, safety, income, government and access to healthy foods and physical activity. For five years, HRV has been serving as a key partner with Carilion Clinic. HRV’s strategic framework, which is updated every three years to align with the triennial Community Health Assessment, is community-driven and a major driver of Carilion Clinic’s Health Improvement Implementation Strategy for the Roanoke Valley. HRV and Carilion Clinic’s partnership has been featured locally, statewide and nationally. In addition, these collaborative efforts have resulted in state and national funding from the Virginia Health Care Foundation, DentaQuest Foundation and the Robert Wood Johnson Foundation – Reinvestment Fund.

A 31-member Community Health Assessment Team (CHAT) oversaw the planning activities. The CHAT consists of health and human service agency leaders, persons with special knowledge of or expertise in public health, the local health department, and leaders, representatives, or members of medically underserved populations, low-income persons, minority populations, and populations with chronic disease. In the Roanoke Valley, Healthy Roanoke Valley’s Steering Committee serves as the CHAT and additional key community leaders are invited to participate.

Please see Appendix 1 for the CHAT Directory.

Beginning in October 2017, primary data collection included a Community Health Survey, focus groups with key stakeholders and providers, and focus groups with target populations. Secondary data was collected including demographic and socioeconomic indicators as well as health indicators addressing access to care, health status, prevention, wellness, risky behaviors and the social environment.

After all primary and secondary data collection is complete, the CHAT reviews all data and participates in a prioritization activity. This activity consists of each CHAT member picking the ten most pertinent community needs and ranking them on a scale of one to ten, with one being the most pertinent. The categories listed on the prioritization activity sheet align with the Robert Wood Johnson Foundation framework for what influences health (please see Appendix 2 to view the prioritization worksheet). The data are combined and priorities are selected based on the number of times a category is selected in the top 10, with average ranking serving as a tie-breaker. Once the

priorities have been selected, the CHAT participates in an activity to rate the feasibility and potential impact of a solution to each health issue. Healthy Roanoke Valley will host a planning retreat and action team tactical planning this fall. Please see Appendix 3 for Feasibility and Impact activity results.

The 2018 RVCHA was approved by the CMC Board of Directors and made publically available in August 2018. This Implementation Strategy was developed by the Carilion Clinic Community Health and Outreach Department based on priority community health needs identified in the 2018 RVCHA. Input on Implementation Strategies was solicited from CHAT members, the CMC Board of Directors, the CMC Community Benefit Team, Community Health and Outreach staff and key Carilion Clinic leadership. This document has been approved by Carilion Medical Center's Board of Directors.

Prioritized List of Significant Health Needs Identified in the 2018 RVCHA

The findings of the 2018 RVCHA revealed 10 priority health-related issues in the community, identified by the CHAT after review of the data collected.

1. Poverty / low average household income
2. Transportation / transit system
3. Access to mental / behavioral health services
 - a. Access to substance use services
4. Culture: healthy behaviors not a priority
5. High uninsured / underinsured population
6. Affordable / safe housing
7. Access to dental care
8. Poor diet
9. High cost of care
10. Educational attainment

CMC Implementation Plan

According to the Robert Wood Johnson Foundation's (RWJF) County Health Rankings², where an individual lives, works and plays is a strong predictor of their health outcomes. Currently in the United States, a person's zip code can help predict their life expectancy due to its direct link to the social determinants of health such as poverty, race/ethnicity, education and employment status in these areas³. These factors are so important to our overall health, that they were added to the 10-year national Healthy People 2020 objectives with a goal to "create social and physical environments that promote good health for all."⁴

Carilion responds to community health needs in innovative ways: making sure our regions have access to state-of-the-art healthcare close to home; providing community grants and sponsorships to extend our mission and support other organizations that address health need; creating and implementing community-wide strategies to reduce barriers, coordinate resources and enhance community strengths; and by providing community-based health and wellness programming.

Carilion Clinic's response strategies are organized by the RWJF framework for what influences health: health behaviors; social and economic factors; clinical care access and quality; and physical environment.

Commitment

Commitment to community service is evident at all levels of the organization. In 2016, Carilion committed more than \$170 million toward activities that improve community health and social determinants of health. Carilion's commitment to community health is evidenced by its commitment to a population health infrastructure including an entire community health and outreach (CHO) department dedicated to assessing and addressing community need. The department is responsible for leading and facilitating the CHIP, CHAs, the system's community grant process, community health education, community benefit collection, and neighborhood health initiatives. CHO has staff at the system level and at each community hospital and works with the each hospital's Board of Directors and Carilion Clinic's Board of Governors to create health improvement strategies to address community health need. Each Carilion Clinic hospital has a Community Benefit Team which oversees the local hospital's plan to address community need in partnership with the local community health assessment team. There is also a Community Benefit Council at the system level providing oversight for Carilion Clinic as a whole. This council is responsible for overseeing and strategically guiding Carilion's community health improvement work and for community benefit strategy, collection and submission.

² County Health Ranking & Roadmaps. Retrieved from: <http://www.countyhealthrankings.org/>

³ Robert Wood Johnson Foundation. Retrieved from: <https://www.rwjf.org/en/library/interactives/whereyouliveaffectshowlongyoulive.html>

⁴ Social Determinates of Health. Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

Community Partnerships

Carilion Clinic believes in the power of collaboration and understands that community health issues must be addressed together, with the community. To ensure lasting community impact from the health assessment and community health improvement process, Carilion participates in and provides financial and in-kind support to community health coalitions that address health needs in the Roanoke Valley such as HRV. In addition, Carilion partners with multiple community and business organizations around initiatives to improve health and wellness and to impact the social determinants of health for all who live in the Roanoke Valley.

Healthy Roanoke Valley

Forming a true community collaborative with lasting impact is no small feat. In 2012, using the Strive Collective Impact model, Carilion and United Way played key convening roles, bringing together strategic community partners to create HRV. HRV, an initiative of United Way of Roanoke Valley, is now a partnership of more than 50 organizations that strives to enhance health equity related to these priorities as a means to create a “culture of wellness” across the Roanoke Valley.

For five years, HRV has been serving as a key partner with Carilion Clinic. HRV’s strategic framework, which is updated every three years to align with the triennial Community Health Assessment, is community-driven and a major component of Carilion Clinic’s Health Improvement Implementation Strategy for the Roanoke Valley. In 2012 and again in 2015, HRV identified three main priorities for improving health outcomes in the Roanoke Valley for underserved populations, including (1) access to services (primary care, behavioral health, and oral health); (2) coordination of care; and (3) wellness. HRV will conduct a planning retreat with its steering committee and tactical planning with its action teams in response to the health priorities identified in the 2018 RVCHA. Carilion provides both financial and in-kind support to Healthy Roanoke Valley with representatives active on the HRV steering committee and all five action teams: wellness; mental health; primary care; oral health; and coordination of care.

Through Healthy Roanoke Valley, multiple programs and strategies have arisen in response to community needs, such as Fresh Foods Rx and the Pathways Community HUB. Carilion provides additional support to implement these strategies in the Roanoke Valley.

Fresh Foods Rx

Fresh Foods Rx is a 12-week program that provides patients with weekly health education, peer and physician support and vouchers for fresh local fruits and vegetables from the LEAP Mobile Market. The program is designed to address both social determinants of health, particularly environments and behaviors linked to healthy nutrition choices and fruit and vegetable consumption, and the clinical care needs of patients. The program works with low-income, uninsured and publicly insured adult patients living in Medically Underserved Areas who are overweight or obese and who have been diagnosed with diabetes.

Community partners include: United Way of Roanoke Valley's Healthy Roanoke Valley, New Horizons Healthcare, LEAP for Local Food, Virginia Cooperative Extension, and YMCA of Roanoke Valley.

Pathways Community HUB

The Pathways Community HUB is a community-based care coordination system anchored by community health workers strategically located in two Carilion teaching practices in Roanoke City, at Carilion Community Care and at partners' clinics. The model addresses social determinants of health through a home visiting model. Community Health Workers link clients and their families to resources and services. The program works with uninsured adults who are high utilizers of the CRMH Emergency Department and have a chronic disease diagnosis, working to reduce barriers to good health.

Community partners include: Bradley Free Clinic, Fralin Free Clinic, Mental Health America of Roanoke Valley, New Horizons Healthcare and United Way of Roanoke Valley's Healthy Roanoke Valley.

Community Grants

Carilion Clinic is committed to improving the health of the communities we serve by addressing key health priorities identified through our triennial Community Health Assessments. Carilion fulfills this commitment in many ways, one of which is through targeted grants for community health improvement programs and those that impact the social determinants of health. Carilion provides a multitude of community grants and community health sponsorships helping local charitable organizations fulfill their missions as they relate to the health and well-being of our communities. Community grant dollars are allocated across the entire Carilion Clinic service area based on requests received. During this three-year Implementation Strategy cycle, Carilion Clinic intends to be more targeted with grant support through the initiation of a Request for Proposal (RFP) process, looking for organizations that can impact specific community health priorities in specific identified geographies.

Targeted Neighborhood Initiatives

CMC's community health goal is to improve health and wellbeing for the entire Roanoke Valley, especially for those individuals living in MUAs. The City of Roanoke tends to perform worse than other Roanoke Valley communities in many health and social determinant indicators. Therefore, efforts are often focused on the MUAs in the Northwest and Southeast quadrants of the City of Roanoke. CMC plans to address key community health needs identified in the 2018 assessment by focusing additional investment in the Southeast MUA, which sits adjacent to CRMH. Through greater access to clinical care and community outreach programs, creative community partnerships and focused financial and in-kind support of initiatives, CMC plans to see improvement in community health in the Southeast neighborhood. Key focus areas of this health improvement project over the next three years include access to services, coordination of care and wellness.

Fallon Park Project

Carilion is working with Roanoke City Public Schools and other partners to expand access to healthcare services and wellness opportunities for children and families and to create a community space in the new Fallon Park Elementary School. The first phase of this work is programmatic: to address chronic conditions, starting with asthma, at Fallon Park Elementary School. The goal is to reduce the number of sick days, ED visits and hospitalizations, and to improve asthma control scores. This partnership plans to: transform the school nursing program to utilize a more integrated, holistic and proactive approach to health; provide families with community space and health education; and provide families with Community Health Workers to assist them with coordination of care and social determinant of health needs.

Community partners include: Roanoke City Public Schools; Carilion Community Health and Outreach; Virginia Tech Cooperative Extension; Healthy Roanoke Valley; Big Brothers Big Sisters; Carilion Wellness; Carilion departments of Psychiatry, Pediatrics and Family and Community Medicine; Delta Dental; Freedom First Credit Union; and Virginia Tech Carilion Research Institute.

Significant Health Priorities to be Addressed:

Health Behaviors

Needs: culture: healthy behaviors not a priority; poor diet.

To address health behavior related priorities from the 2018 RVCHA, such as poor diet and improving health culture so that healthy behaviors become more of a priority, Carilion provides a variety of free health education, screenings and flu immunizations in community settings.

Community health education is provided by the Community Health and Outreach department as well as by Trauma Outreach, dietitians, Carilion Wellness, homecare, hospice and select other departments. Health and wellness education topics include: general wellness; healthy eating and activity; anti-inflammatory eating; tobacco cessation, infant safe sleep, infant and child safety, wilderness medicine, emergency care in the case of gun wound, exercise for balance and confidence building for seniors, stress management, warning signs for heart attack and stroke, women's health and other topics as requested. Health educators also lead guided public walks and hikes and Carilion supports Roanoke's local Bikeshare program, organized by Ride Solutions, helping improve access to exercise and transportation.

Resources committed to these programs include staff time and often food and giveaway items that encourage healthy behaviors. The Morningside Urban Farm will host many health education classes, encouraging people to learn to eat healthy and grow healthy food. Programs such as Fresh Foods Rx encourage healthy eating through prescription vouchers to access healthy food paired with education and coaching. In addition to community events, Carilion works to encourage healthy behaviors through offering classes to its own employees and through partnerships with other employers in the Roanoke Valley. As the largest employer in the region, efforts to engage employees and their families in their own health impact community health overall. Carilion has rolled out the Virgin Pulse program with employees and enabled employees to involve others on the platform to encourage healthy behaviors daily. In addition, Carilion Wellness centers offer their FitRx program to employees for free and to the entire community, regardless of membership, for a nominal fee.

Support groups also often contribute to wellness. Support groups are offered for grief and loss, cancer, diabetes and other diseases.

A key part of wellness is compliance with safety and preventive behaviors. CMC coordinates child passenger safety trainings and checks to reduce injuries from car accidents through proper use and installation of car seats. Carilion family practices will also offer gun locks for free to the community, encouraging gun safety. As part of infant safe sleep education, Carilion provides community members who take the class a free Pack and Play as well as a free Sleep Sack when available. Infants born in Carilion hospitals also receive a free Sleep Sack to encourage safe sleep practices.

Carilion remains committed to addressing the priority of poor diets. Through the Local Foods Program, Carilion provides hundreds of thousands of dollars of support to improve access to healthy foods. Community grants, such as one providing SNAP double value, make healthy foods more affordable and accessible in the Roanoke Valley. In addition to community grants, CMC makes available a Farm Share program to its employees and their families through payroll deduction. CMC also serves as an additional pick-up option for community members participating in the Farm Share. Carilion remains committed to the Healthier Hospital Initiative pledge and continues to work to improve the amount of healthy, local, sustainable foods purchased and served through its cafeterias. Carilion's Morningside Urban Farm will bring fresh foods to the Southeast Roanoke City community and enables new types of health education and incentives.

Clinical Care

Needs: access to mental health and substance use services; access to dental care; high uninsured/underinsured population; high cost of care.

Issues with access to care are a focus for CMC when addressing community health need. In addition to providing financial support to qualifying patients who cannot afford care, Carilion is working on the following to improve affordable access to care and resources.

To improve access to primary care and resources for adolescents, CMC partners with Roanoke City Public Schools to operate an Adolescent Health Clinic in both high schools in the City of Roanoke, plus a stand-alone clinic in downtown Roanoke City. With parent waivers signed at the start of the school year, students can visit with health professionals as needed at clinics conveniently located in their schools, regardless of their ability to pay.

Mental health and substance use services

Through a new program, #AllIn, Carilion is providing additional access to non-traditional services for mental health and substance use. A key component of #AllIn, peer support has expanded the type of care people in the Roanoke Valley can access. Carilion trained peer recovery specialists in the Roanoke Valley to provide support groups in community and clinical settings as well as support for patients that come to the hospital with mental health or substance use issues. Peer recovery specialists have a unique perspective into mental health and substance use diseases, having gone through them personally. In addition, the #AllIn program is offering Mental Health First Aid trainings in the community and helping to initiate college level advocacy groups.

Carilion's Opioid Task Force brings together expertise from throughout the Carilion system to better understand and address the Opioid Epidemic in Southwest Virginia. The Opioid Task Force is working to address this epidemic internally and in the community. Efforts arising from this task force include: developing system-wide guidelines and a system dashboard for opioid prescriptions; developing treatment pathways for opioid addiction in specific high-risk groups; developing best practices for risk assessment, treatment and standard orders in Carilion's electronic medical record system, EPIC; developing an inventory of community resources related to prevention, treatment and recovery services for opioid patients and community members; and providing locations for free, safe, prescription drug returns or deactivation bags.

Carilion provides both financial and in-kind support for the Mental Health America Collaborative. This program increases access to Psychiatric care and medication for people without health insurance in the Roanoke Valley. Carilion psychiatry residents and physicians provide hours and services in-kind through this program. Physicians and residents also provide in-kind services to people through the Rescue Mission's Fralin Free Clinic.

Dental care

Carilion hosts a pediatric and an adult dental clinic in Roanoke and operates a dental residency program. Dental residents provide in-kind dental services through the Rescue Mission's Fralin Free Clinic. Located in Southeast Roanoke City, the Rescue Mission is a comprehensive crisis intervention center for men, women and children. Oral health is also prioritized through the HRV Oral Health Action Team with support provided by the DentaQuest Foundation.

High uninsured / underinsured population and high cost of care

Carilion is committed to helping improve access to affordable medical care in our communities. With expansion of Medicaid in the Commonwealth of Virginia, Carilion will work diligently in the coming months to develop a plan for outreach and enrollment in Medicaid for those newly eligible. Additionally, Carilion will work to find medical homes for those newly enrolled. Carilion will also work closely with its FQHC partners to understand their Medicaid enrollment efforts. Community Health Workers, managed by Healthy Roanoke Valley through the Pathways HUB, and otherwise, will also have additional opportunities to help clients complete insurance pathways and to pair them up with appropriate services once they are enrolled.

Carilion physicians provide in-kind services to uninsured people through Bradley Free Clinic. People are able to access regular care and medications as well as coordinate lab services through Carilion financial assistance. Medication access for Bradley Free Clinic patients is improved through RX Partnership, an effort which Carilion supports financially.

Social and Economic Factors

Needs: poverty; transportation; affordable / safe housing; educational attainment.

The City of Roanoke was recently identified as a *City of Opportunity* by the National League of Cities. With this title comes a wealth of support and guidance as the City of Roanoke, with Carilion as a key partner, works to improve health outcomes for residents. The *Cities of Opportunity* project improves health by impacting the social determinants of health such as: education opportunities; affordable, safe housing; economic opportunities for residents; transportation; safe neighborhoods; and affordable, healthy foods. Carilion has committed to be a partner in this work as it aligns directly with the findings of the 2018 RVCHA. The direction of the action plan will guide investments Carilion makes in the social determinants of health.

In its commitment to reducing inequity of care, Carilion provides financial support for people who cannot afford insurance or healthcare. Carilion also makes available a Medication Assistance Program helping people gain access to affordable needed medication. Medication is also replenished by Carilion for emergency medical service vehicles as they are used in transport. Support is also provided to many not-for-profit organizations helping to reduce the impacts of poverty on health through investments in social determinants such as housing, transportation, employment, education, access to healthy foods and many others. Each year, Carilion Clinic coordinates a system-wide United Way campaign through which employees can provide additional support to these causes.

The Pathways HUB model employs community health workers to help people navigate the barriers to good health and find solutions. Many of the Pathways are related to social determinants such as education, employment, transportation or affordable/safe housing. This coordination of care model will help people find ways to reduce these types of barriers to good health. Community health workers will also be engaged through the Fallon Park project to provide guidance on care and social determinants of health for families.

The Virginia Tech Carilion Health Sciences and Technology Campus in Roanoke City contributes to economic growth for the region through job growth, spending at the campus, student populations and research grant funds.; and its growth will continue through at least 2026. Community partners, including Carilion, start outreach in schools early to inspire future healthcare workers and to create education pathways for all. The community, Virginia Western Community College and local universities have partnered to make it possible for local, invested students to access affordable or free education.

Transportation

Carilion recognizes the impact that lack of reliable transportation can have on health in the community. In an effort to improve access to transportation for the purpose of accessing regular healthcare, Carilion provides support for the City of Roanoke's Trolley. The Trolley provides free transportation from downtown Roanoke to the Carilion Clinic and Virginia Tech Carilion Roanoke and Riverside campus where people can access many types of healthcare, including both Carilion Roanoke Community Hospital and Carilion Roanoke Memorial Hospital.

Carilion has been in conversations with Lyft to begin helping people with access to regular primary care appointments. If successful, Carilion will explore ways to expand the program.

Physical Environment

While physical environment did not necessarily arise as a top priority in the 2018 RVCHA, Carilion still recognizes the impact the environment has on the health of our communities. That is why efforts continue to improve the efficiency of Carilion buildings, the utilization of recycling and recyclable or bio-degradable materials where possible, the reduction of waste and the utilization of local, sustainable foods.

In addition, as part of the afore mentioned Fallon Park project in Southeast Roanoke City, partners will address air quality and other physical environment issues that contribute to poor health, specifically breathing related, outcomes.

Implementation and Measurement

Carilion has invested in multiple systems to help manage data and track outcomes of our community work. Clear Impact will be utilized to develop community, system-wide, hospital-specific and project-specific scorecards with appropriate outcome measures. Community health education programs and screenings will have program level outcomes assigned based on the topic. These outcomes will be tracked with pre- and post-tests as well as through screening results. Community programs supported by Carilion grants will be responsible for reporting program outcomes regularly.

Scorecards will be developed with key secondary data points at the zip code and county level to be updated annually to track impact of community health initiatives. Carilion will track and measure impact on certain aligned indicators that contribute to the Robert Wood Johnson Foundation County Health Factors Ranking and County Health Outcomes Ranking. Our goal is to improve County Health Rankings for the entire Roanoke Valley, but we understand that by the nature of County Health Rankings, improvements are relative to improvements in other communities within the Commonwealth of Virginia.

Another software, REDCap, will enable internal data to be utilized at the aggregate level to show outcomes of targeted health initiatives for research teams, such as the one focusing on asthma interventions at Fallon Park Elementary School. Esri ArcMap will enable Carilion to communicate outcomes and impact through story maps. Outcome results will be utilized for future planning and decision making.

Healthy Roanoke Valley will also develop outcomes to be measured based on the results of its planning retreat and action team tactical planning in fall 2018.

Priority Areas Not being Addressed and the Reasons

A community approach to determine and address priority needs as described earlier in this document was used in determining which needs cannot be addressed immediately. The needs not identified as “priority” are those that will not be actively addressed in this time period. Please see Appendix 2 for the full prioritization worksheet to see what needs are not being actively addressed. It is CMC’s intent to address all identified priority health issues through the aforementioned initiatives, programs and/or grants.

Please visit <https://carilionclinic.org/community-health-assessments> to review the 2018 Roanoke Valley Community Health Assessment. Learn more about Carilion Clinic Community Health and Outreach at <https://www.carilionclinic.org/community-health-outreach>.

This document was adopted on behalf of Carilion Medical Center on 9/18/2018.

Appendices

Appendix 1: Community Health Assessment Team

This list includes members that attended 50% (2) or more of the CHAT meetings.

Name	Organization	Area of Expertise
Elizabeth Ackley	Roanoke College	Public Health/Education/Research
Kristin Adkins	VA Department of Health	Public Health
Hannah Alleman	Healthy Roanoke Valley	Public Health
Ann Billings	City of Roanoke - Lead Safe Roanoke	Home Safety
Debbie Bonniwell	Blue Ridge Behavioral Healthcare	Mental Health, Substance Use, ID
Aaron Boush	Carilion Clinic	Hospitals, Healthy Food
Serenus Churn	High Street Baptist Church	Church and Community Northwest
Lee Clark	Rescue Mission Ministries, Inc.	Health & Human Services for the Homeless
Brittany DeKnight	Healthy Roanoke Valley	Public Health
Timothy Fortuna	Carilion Clinic	Access to Healthcare
Robin Haldiman	CHIP of Roanoke Valley	Children's Health
Crystal Hall	RRHA	Housing
Abby Hamilton	United Way of Roanoke Valley	Collective Impact, Social Determinates of Health
Shirley Holland	Carilion Clinic	Hospitals/Community Development
Mark Lainoff	Bradley Free Clinic	Community Health Workers/ Operational efficiency/Lean Six Sigma
Eileen Lepro	New Horizons Healthcare	Primary Care Access/Healthy Communities Development
Maureen McNamara Best	LEAP	Food/Agriculture/Wellness
Amy Michals	Carilion Clinic	Public Health
David Nova	Blue Blaze Consulting	Health Systems
Michele Peppers	Roanoke Regional Chamber of Commerce	Business Development
Paula Prince	Jefferson College of Health Sciences	Human Services/Research/Homelessness
Dave Prosser	FreedomFirst	Financial Well-being
Bobby Putnam	Community Care Clinic of Carilion	Urgent Care/Transitional Care
Kim Roe	Carilion Clinic	Ambulatory Care
Rebecca Stackhouse	Salem VAMC	Hospital-based Care
Sierra Steffen	Carilion Clinic	Health Data Analytics, Statistics
Sharon Thacker	Family Service of Roanoke Valley	Mental Health & Life Skills
Kenya Thompson	Carilion Clinic	Hospitals, Scribe
Janine Underwood	Bradley Free Clinic	Free Clinic
Sarah Wall	Community Volunteer	Health Education/Promotion
Pat Young	Healthy Roanoke Valley	Community Arm of CHA

Appendix 3: Feasibility and Impact Activity Results

Priorities	Group One Categories	Group Two Categories	Group Three Categories
Poverty / low average household income	High Impact, Low Feasibility	High Impact, Low Feasibility	High Impact, Low to Medium Feasibility
Transportation / transit system	High Impact, High Feasibility	High Impact, Medium to High Feasibility	High Impact, Medium to High Feasibility
Access to mental / behavioral health services and substance use services	High Impact, Medium to High Feasibility	High Impact, Medium to High Feasibility	High Impact, High Feasibility
Culture: health behaviors not a priority	High Impact, High Feasibility	High Impact, High Feasibility	High Impact, Low Feasibility
High uninsured / underinsured population	High Impact, High Feasibility	Low Impact, High Feasibility	High Impact, Low to Medium Feasibility
Affordable / safe housing	High Impact, Low Feasibility	High Impact, High Feasibility	High Impact, Low Feasibility
Access to dental care	High Impact, Medium to High Feasibility	N/A	Low Impact, High Feasibility
Poor diet	High Impact, Medium to High Feasibility	N/A	High Impact, Low to Medium Feasibility
High cost of care	High Impact, Low Feasibility	N/A	High Impact, Low Feasibility
Educational attainment	High Impact, High Feasibility	N/A	High Impact, High Feasibility