

NEW RIVER VALLEY LIVABILITY INITIATIVE: Community Health

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EXECUTIVE SUMMARY

The New River Valley faces a number of challenges, but it also has enormous assets and resources. The Livability Initiative is an opportunity for New River Valley key stakeholders and residents to develop a vision for the future and develop strategies that businesses, community organizations, local governments and individuals can use to make this future vision a reality. The Livability Initiative is comprised of the following nine working groups: (1) Agriculture and Food Systems, (2) Arts & Culture, (3) Economic Development, (4) Energy, (5) Housing, (6) Internet Access, (7) Natural & Water Resources, (8) Transportation and (9) Community Health. These groups not only work within their own groups, but also as a single group – integrating their research, knowledge, strategies and campaigns.

The Robert Wood Johnson Foundation (RWJF) has provided resources to support the creation of the Community Health working group within the Livability Initiative structure. The Community Health leadership and working group is comprised of key stakeholders from diverse backgrounds, fields, and geography. The resources provided by RWJF have allowed the formation of this strong community health group, where the group has been able to effectively synthesize their knowledge and expertise. The group has identified the following topic areas to be of importance: (1) Healthcare, (2) Built Environment, (3) Natural Environment, (4) Behaviors and (5) Chronic Diseases. Within each of these broad topics, the community health group has identified a robust and solid list of goals, strategies and action items.

By the end of 2013, the Livability Initiative will develop a plan of action; communities can select from this menu of action items to best address their most pressing challenges, while at the same time accomplishing regional goals. The planning process of the Initiative will help identify ways to increase regional self-reliance and prosperity, save tax dollars, increase support for local businesses, create communities that offer more choices in housing and transportation, and protect the region's rural character and scenic beauty. Overall, the Livability Initiative's process, plan and action, which now includes community health, will not only help ensure that the New River Valley is a healthy community, a great place to live, work and play, today and tomorrow, it will also help guide communities across the nation in processes, lessons learned and best practices so that we all may live in a healthy and vibrant communities.

INTRODUCTION

Community health addresses healthy living and chronic disease prevention where people work, live, learn and play. Five major categories affect community health - innate individual traits (biological/genetic), individual behaviors or lifestyle choices, social, family and community networks, living and working conditions, and broad social, economic, cultural, health and environmental conditions and policies at the global, national, state and local levels. The Livability Initiative identified the following five key factors of community health:

A	Healthcare	Increase access, availability, and affordability of health care services for all.
B	Built Environment	Create conditions which encourage healthy living, including improving transportation, housing, and recreation options and access.
C	Natural Environment	Monitor and improve the environmental quality of the New River Valley's air, water, and land to promote health.
D	Behaviors	Promote proactive choices about food, fitness, family, work and play.
E	Chronic Diseases	Promote local strategies that prevent and reduce the burden of chronic conditions, disease, and substance abuse.

HEALTHCARE

Access to healthcare, including increasing availability and affordability of health services, is an important factor in promoting the general health and well-being of people. Healthcare systems are established to provide diagnosis, treatment and prevention of disease, illness, injury and other physical and mental impairments. Typically, it is delivered by practitioners in medicine, behavioral health, optometry, dentistry, nursing, pharmacy and other care providers, including community and public health workers.

In the New River Valley region, 20% of its residents who are between the ages of 18-64 and 7.5% under 19 years of age are without health insurance, as compared to Virginia's 18% and 7%, respectively. Most uninsured people cannot afford to go to a physician on a regular basis. Many seek attention for routine and acute medical conditions in the most costly of all settings – hospital emergency rooms. Contributing to residents' inability to access and afford necessary healthcare services include geographic isolation, lack of adequate transportation, unemployment, and high poverty levels. The median New River Valley household income is approximately \$20,000 less than that of Virginia. Unemployment ranges from 5 - 6%, and though this is not significantly different from the state average, the region's underemployment, as evidenced by the high percentage of individuals living in poverty (20%), clearly indicates that the unemployment statistics do not present a complete picture of the most economically vulnerable populations in our region. (Table 1)

Table1. Uninsured, Unemployment and Poverty Indicators

INDICATOR	FLOYD	GILES	MONT.	PULASKI	RADFORD	NRV	VIRGINIA
Population ¹	15,378	17,124	94,342	34,607	16,414	177,865	8,104,384
Unemployment Rate ²	5.6%	5.5%	5.2%	5.4%	6.1%	5.4%	5.6%
Median Household Income ³	\$39,997	\$43,139	\$44,066	\$39,054	\$33,848	\$41,707	\$61,877
% All Ages Living in Poverty ³	13.5%	12.6%	22.5%	16.5%	26.8%	20.0%	11.6%
% Under Age 18 Living in Poverty ³	20.9%	19.1%	17.0%	23.9%	19.4%	19.1%	15.6%
% Uninsured Adults 18-64 ⁴	24.2%	19.9%	19.7%	18.9%	21.2%	20.1%	17.8%
% Uninsured Children Under 19 ⁴	9.8%	7.4%	7.5%	6.8%	6.5%	7.5%	7.0%

The region has health departments in each of the five jurisdictions⁵. Hospitals are only located in four jurisdictions – there is no hospital in Floyd and in some cases, residents must travel over 60 miles to receive care. There are three Free Clinics located in Pulaski, Giles and Montgomery; a Federally Qualified Health Center (FQHC) located in Floyd and a new FQHC in Giles/Montgomery. In 2012, all jurisdictions are listed as Medically Underserved Area, Dental Health Professional Shortage Area and Mental Health Professional Shortage Area. And both Floyd and Giles County are listed as Primary Care Health Professional Shortage Area.¹ High ratios of population to an individual primary care physician or dentist make accessibility and availability of healthcare services difficult for residents. All of the counties, except for the City of Radford have a significantly high ratio of population to primary care physicians as compared to Virginia. And all of the counties, including the City of Radford, have significantly high ratios of population to dentists as compared to Virginia. (Table 2)

Table2. Clinical Care – County Health Rankings

Indicator	Floyd	Giles	Mont.	Pulaski	Radford	Virginia
Ratio of population to primary care physicians	5,110:1	1,441:1	1,575:1	1,740:1	1,028:1	1,356:1
Ratio of population to dentists	7,707:1	3,485:1	2,730:1	3,973:1	1,910:1	1,811:1

Overall, New River Valley residents have

- Low access to healthcare insurance
- High rates of uninsurance
- High rates of emergency care utilization
- Low numbers of certain healthcare specialists
- Lack of care coordination and continuity of care

¹ US Census, 2011 estimate

² Bureau of Labor Statistics, Dec. 2012

³ US Census, Small Area Income & Poverty Estimates, 2011

⁴ US Census, Small Area Health Insurance Estimates, 2010

⁵ Counties of Floyd, Giles, Montgomery and Pulaski, and the City of Radford

- Transportation and geographic isolation

If the region continues on its' current trajectory, access to healthcare and specialists will remain low and emergency services utilization for the ever growing chronic conditions the population faces will increase. The following strategies were developed to realign this trajectory and support effective and efficient healthcare access for citizens of the New River Valley.

Strategies: The New River Valley aims to increase access, availability and affordability of healthcare services for all. Specifically, the region would like to support integration of local health departments and community service board mental health services, private providers and health systems to assure essential services are available and accessible. This includes integrating health criteria into local government decisions and expanding and increasing access to information technology.

Local Focus Strategies - Low Investment

Patient Shared Decision Making: Research cultural barriers, gaps to understanding, knowledge, perception and compliance. To help promote a culture of active participation (versus passive), that allows patients, consumers (especially the uninsured population) to feel a part of the process and to be open to asking questions. This includes promoting citizens action, which means that community members can call their community health contact at their primary care office or local health department to get information on access and efficacy of health related activities (e.g. leapfrog). In particular, many patients will have first time access to prevention services and will need guidance to utilize prevention services.

Social Campaign for Healthcare Service Providers: Conduct a social campaign to help healthcare service providers better understand the Affordable Care Act (ACA) and its upcoming impacts and changes. Additionally, increase educational opportunities (e.g. education concerning healthcare access, availability, and costs of treatment options, regarding the ACA) between healthcare services practitioners (e.g. doctors, nurses, pharmacists), community and public health services practitioners through intentionally continuous training. Institutionalizing annual training between and for agencies about services so all providers are "on key" about what is available, by whom, when and how will help shift the culture of integration of messages.

In general, these strategies will increase patients' knowledge and understanding of accessibility, availability and costs of healthcare services and outcomes. This will help shift patients shift to a positive decision making process and reduce use of high-cost care (e.g. emergency services). Additionally, providers will have increased collaborations and understanding of the healthcare system and the community.

Local Focus Strategies - High Investment

Social Campaign on Health: Conduct a social marketing health campaign (e.g. Pulaski Hospital's model) with hospitals, providers and key stakeholders with evidenced based strategies and messages in support of prioritized community health goals, objectives and strategies to educate the community on health and health literacy, specifically recruiting high need consumers

and people. This includes having providers (e.g. hospitals, employers, businesses, schools) host and promotes screenings, linkages to services and healthcare enrollment.

Needs Assessment of Services Availability and Gaps: Conduct a needs assessment of provider, community and public health services availability to support and promote evidence-based strategies to bridge gap in services (e.g. expand or provide increased healthcare services availability and accessibility - primary care, ob/gyn, urgent care, specialists, community service boards).

In general these strategies will increase key stakeholders' knowledge and understanding of healthcare services in the community and create a unified healthcare message. It will increase facilities and services and increase appropriate healthcare utilization in rural regions. Strategies will help guide the population to make healthy choices.

Regional Collaboration - High Investment

Coordinate and Promote Effective and Efficient Patient Care: Coordinate effective and efficient patient care across a variety of providers (e.g. regional medical centers, in-home care, and targeted care, free clinics and federally qualified health centers, pharmacist, home care givers, CSB, LHD's). This includes (1) supporting systems navigators to support care coordination and culturally competent assistance (e.g. social worker or clinical person, nurse practitioner) – which includes developing regional best practice around prescription education and knowledge to ensure consumers/patients are taking the correct medications at the correct dose and at the correct time, (2) promoting preventative care through financial incentives for patients to adopt preventative care behaviors, (3) reviewing and supporting administrative policies, and (4) increasing funding to expand access to mental health services.

Maximize Healthcare Service Effectiveness: Expand, number and availability of healthcare workers (e.g. physicians, nurse practitioners, community health workers) and improve access to healthcare services (e.g. telemedicine) and specialists, particularly in high risk populations and underserved areas. Focus on continuity of care. Specifically, this may include providing salary positions for physicians to deal with under-insured or uninsured. And where broadband access is available in rural areas, support expansion and initiation of telemedicine to deliver consultative, diagnostic and healthcare treatment for individuals with chronic conditions. This includes electronic health records.

The intention of these strategies is to increase accessibility and availability of healthcare services. With a better understanding of healthy behaviors and treatment options, there will be an increase in positive health outcomes. Additionally, with increased focus and integration of health-related outcomes, regional planning and implementation, there will be improved access to healthcare services and facilities. These strategies offer opportunities to increase access to community health centers and comprehensive care, especially for persons uninsured and underinsured, with the intent of making healthcare services more affordable and accessible for a majority of residents in the region.

The following indicators can effectively assess progress for the above healthcare strategies:

- Number of preventable hospitalizations
- Percent of persons under 65 without health insurance
- Percent of persons eligible for Medicaid, who are enrolled
- Infant mortality rate
- Number of low birth-weight births
- Breastfeeding rate
- Number of dental services provided to school aged children on Medicaid
- Percent of school aged children getting dental services
- Depression screening
- Geographical access – miles to a hospital – travel distance to primary care, hospitals and specialist

BUILT ENVIRONMENT

Peoples' health and well-being are strongly determined by the environments in which they work, live, learn and play - healthy people require healthy environments. The built environment refers to human-made resources and infrastructure designed to support human activity (e.g. buildings, housing, roads, land use patterns, transportation systems, parks/recreation facilities, restaurants, stores and other amenities). The built environment influences residents' daily health choices. Though surrounded by beauty and offering many rural amenities, New River Valley residents are limited by:

- Lack of a physical activity culture
- Few healthy food options

Strategies: The New River Valley aims to improve transportation, housing and culturally-supported physical activity options and access for all residents of the New River Valley. This includes healthy living options and access so that more residents have access to healthy living options, such as food, athletic facilities and outdoor recreation opportunities. Objectives include designing and promoting affordable, accessible, safe and healthy housing, integrating health criteria into local government decisions, and enhancing collaboration in community planning to promote health and safety. Specifically for obesity, strategies will focus on distances to a variety of recreation facilities and proximity to SNAP approved food and grocery stores. Additionally, it can be augmented with evidence-based strategies and more health collaboration/access, as described in other sections.

Local Focus Strategies - Low Investment

Expand Utilization of School-Based Recreation Facilities and Equipment: Increase physical education in schools around nutrition and the importance of physical activity. Additionally, open-up or expand hours of availability of school-based recreation facilities and equipment to the community and increase the number of locally-supported league sports for the community.

Local Food System Sustainability: Collaborate with farm programs (e.g. farm to table) to create and/or expand school and community vegetable gardens. This includes education on how to prepare healthy meals quickly and economically.

In general, these strategies will increase opportunities for physical activity and fresh foods in the community. Additionally, they will increase knowledge and awareness on physical activity, healthy eating and nutrition. Expanded exercise and healthy food options, particularly targeting children result in some improvements in average body mass index (BMI). Also, land use and infrastructure choices are made to support healthy behaviors and choices.

Local Focus Strategies - High Investment

Create Healthy Physical Space: Implement competitive pricing in the community and schools, to assign higher costs to non-nutritious foods and lower costs to nutritious foods. This includes vending machine policies. Support and expand evidence-based breastfeeding programs and

strategies, including lactation policies at work and schools.

Interconnectivity: Walkable and Bike-able Community: Improve development patterns to create more walkable neighborhoods and communities (e.g. mixed use development; system of connected sidewalks, trails, and bike lanes in community cores, linking to residential areas). This includes, creating safe school routes by using the complete streets approach to all transportation investments (equal consideration given to all modes of transportation: private vehicles, public transit, pedestrians, and cyclists). Collecting and analyzing body mass index scores of community members, including students, to a) identify high risk populations, b) determine effective interventions/strategies and c) implement intervention(s).

In general, these strategies will promote healthy food choices. Also, increase understanding of current body mass index trends for the community, which will build the foundation for meaningful interventions. Increase awareness and opportunities for healthy eating and physical activity. Increase local opportunity for recreation/activity (facilities, and access to healthy food. Institutional policies will help support life-long healthy habits.

Regional Collaboration - Low Investment

Social Campaign on Healthy Living: Conduct a social campaign on healthy living options in the home, work and community (e.g. breastfeeding promotion, healthy housing – weatherization, work environment – air quality). This includes, supporting Carilion’s current plan on stealth marketing strategies to get fresh fruit and veggie markets and whole grain breads for sale in major businesses.

Recreation Options: Promote and increase access points to recreation options, especially natural environment areas of recreation opportunities, and expand recreation options at existing facilities. This includes, integrating walking and biking options into all new transportation and housing development (e.g. sidewalks and green space) projects or substantial upgrades to existing projects. Educate the community on the different access points to recreation options (facilities and natural environments) and support policies that promote walking/exercise groups to access fitness facilities.

Assessment: Assess and map New River Valley for food deserts. This could be shepherded by a professional conducted by students.

In general, these strategies will improve healthy living knowledge and understanding. An increase of accessibility of lactation locations will improve infant and child wellness and development. Also, increase accessibility and availability of recreation options and increase community’s physical activity levels. Improved access to healthy food and practical opportunities for regular, low-cost exercise. Reduced costs associated with hospitalizations and treatment for substance abuse and mental health crisis. And increased awareness and opportunities for healthy eating and physical activity, with regional support for implementation to maximize efficiency.

Regional Collaboration - High Investment

Local and Fresh Food: Promote and support stealth marketing strategies to get local fresh fruit and veggie markets and whole grain breads for sale in major businesses, schools and convenience stores, especially in food deserts. Create and/or expand school and community vegetable gardens and educate the community on healthy meal preparation that is quick and economically feasible.

Rehousing Community Members: The use of rapid re-housing for individuals with persistent mental illness and substance abuse problems. This includes building permanent housing for multiple income and service-need populations. Providing graduated housing options for people in recovery as well as those with varying mental health needs is also critical to ensuring adequate services and opportunities for healthy community engagement for these populations.

Invest in Rehabilitation loan and grant programs: Housing rehabilitation loan and grant programs provide funding primarily to low- or median-income families to make their homes more energy efficient or install a heating system that reduces indoor air quality hazards (older woodstove, kerosene heaters), and to remove health or safety hazards (such as lead abatement), or to upgrade failing septic systems.

Interconnectivity: Between Regions: Improve development patterns to create more walkable and biking neighborhoods and communities (e.g. mixed use development; system of connected sidewalks, trails, and bike lanes in community cores, linking to residential areas), specifically including vulnerable populations. This includes expanding public transit to popular services and commercial centers (e.g. rec centers, trails, grocery stores, mall area, etc.). Implement a social campaign around carpooling, rideshare programs, bikeway walkway adoption, and transit pass programs.

Multi-component obesity prevention interventions (in school and workforce) include a combination of educational, environmental and behavioral activities such as nutrition education, aerobic/strength training, behavior, and diet modifications.

In general, these strategies will increase awareness and opportunity for healthy choices, including regional recreation/activity facilities; infrastructure and land use decisions are made to support healthy behaviors and choices.

The following indicators can effectively assess progress for built environment strategies:

- Distance to publicly accessible outdoor recreation areas
- Shared roadways, percent of total
- Number of joint use agreements for community recreation facilities
- Percent of population Low Income and miles from a grocery store
- Number of Fast Food Restaurants per capita
- Average distance to recreation facility (park, trail)
- Trail network, access points and recreation centers/gyms
- SNAP approved full service grocery locations and ‘convenience’ stores
- Number of farm to community food access sites

NATURAL ENVIRONMENT

The natural environment is an environment that is not the result of human activity or intervention. It encompasses the assessment and support of environmental factors – air, water and land that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. Public health and the natural environment have central importance to the lives of people, to their health, to their wellbeing and to the role played in sustainable development of their habitat. Concerns include, but are not limited to air quality (ambient outdoor and indoor); climate change; disaster preparedness and response; food safety; childhood lead poisoning; land use planning; noise pollution; safe drinking water; solid waste management and vector control. The trend for the New River Valley's natural environment is:

- Public transit retrofits is low
- Residential energy efficiency retrofits is low
- Hard to reach rural areas
- High rate of surface and ground water impairments and contamination
- Lack of information about outdoor air quality

Strategies: The New River Valley aims to monitor and improve the environmental quality of the New River Valley's air, water, and land to promote health. Environmental impacts – the quality of the air, water and land is maintained or improved to protect the public's health. Objectives include monitoring air quality, preserving surface water quality, monitoring and maintaining drinking water quality and preserving quality of land.

Local Focus Strategies - Low Investment

Social Campaign: Implement a social campaign to increase knowledge on land, water and air quality and its effects on health.

In general, the natural environment supports improved access to low cost everyday exercise and recreation options, as well as options for active commuting. There is potential for substantial improvements in water quality and small reduction in air emissions. Localities have education campaigns around air and water quality health impacts. Therefore, local government can make more informed decision about land use and resources based on health information.

Local Focus Strategies - High Investment

Mitigate On-Site Threats to Water Quality: Work with local businesses to identify and mitigate on-site threats to water quality from on-site storage tanks, particularly underground tanks; proper disposal of chemicals, and better on-site management of storm water and sediment.

Homeowner Water Testing and Education: This includes educating homeowners about private water systems (e.g. springs, well water and septic). Additionally, localities could require water testing of well at time of property transfer. The homeowner/buyer would do the testing and carry the cost. Supporting localities to offer the well owner education and testing annually as provided by the Cooperative extension program that does this work.

In general, these strategies will provide better education and informed decision making. They will also increase local, public and private, investment in air and water quality, improvement techniques, and improved monitoring infrastructure.

Regional Collaboration - Low Investment

Regional Database of Water Systems: Coordination between local health departments and regional health district to create a regional database of private septic, well and spring systems. This includes utilizing geospatial information systems (GIS).

Storm Water: Support regional creative and best practices for residential and commercial storm water management.

In general, regional coordination of local efforts on air and water quality and education campaigns will reduce air emissions from increased energy efficiency, decreased residential energy use, and improve indoor air quality. Also, these strategies will reduce toxic exposure to lead and improve water quality. *Note: Relative degree of impact is dependent upon investment level and proportion of households and businesses participating.*

Regional Collaboration - High Investment

Water Supply: Promote water supply strategies and invest in aging municipal wastewater systems by a) reaching out to the public concerning water supply impacts of old or improperly maintained private septic systems and b) promote investigated effective and efficient strategies that will enable homeowners to maintain and upgrade their private septic systems. (e.g. [Virginia Household Water Quality Program](#): Virginia Cooperative Extension Office in Montgomery County). Also, invest in substantial infrastructure upgrades in aging municipal wastewater systems.

Land Use: Support, design and implement land use policies, including zoning regulations that support physical activity. Additionally, require riparian zones to be built will support preservation of surface water and land.

Air Pollution: Assess air quality threats and develop an air pollution monitoring system.

In general, investments in other areas in the region (e.g. transportation, land use) create improvements in environmental health and improved monitoring infrastructure. Reduction in air pollution, improved health outcomes and helps preserve natural landscapes. This tends to attract population growth, with a better mix of age groups, which still could lead to an increase in local air pollution.

The following indicators can effectively assess progress for natural environment strategies:

- Number of miles of impaired streams (water)
- Number of annual Particle Matter (PM) Days (Air)
- Number of annual Ozone Days (Air)
- Percent of forest cover by sub watershed
- Acres of conserved land, % of total

BEHAVIORS

Many significant challenges to our health can be linked to individual behavior. What we eat, how much we exercise, whether we practice safe sex, whether we smoke, whether we engage in illicit drug or substance use – these and myriad other behaviors not only influence our individual health but impact the health of our communities as well. Many factors play a role in behaviors and decision making, including but not limited to family history, social pressures, cultural influences, the media, attitudes, knowledge, and local, state and federal policies and regulations. Two primary behavioral concerns in the New River Valley that impact all residents are

- Teen pregnancy
- Substance abuse

Teen Pregnancy: Teen pregnancy and childbearing bring substantial social and economic costs through immediate and long-term impacts on teen parents and their children. Teen pregnancy is associated with many social issues, including lower educational levels, higher rates of poverty, and poorer life outcomes in children of teenage mothers. The children of teenage mothers are more likely to have lower school achievement and drop out of high school, have more health problems, be incarcerated at some time during adolescence, give birth as a teenager, and face unemployment as a young adult.ⁱⁱ

Between 1991 and 2008 there have been approximately 176,927 teen births in Virginia, costing taxpayers a total of \$5 billion over that period. Teen childbearing in Virginia cost taxpayers at least \$215 million in 2008. Of the total teen childbearing costs in Virginia in 2008, 35% were federal costs and 65% were state and local costs. In Virginia, taxpayer costs associated with children born to teen mothers included: \$41 million for public health care (Medicaid and CHIP); \$30 million for child welfare; and, for children who have reached adolescence or young adulthood, \$59 million for increased rates of incarceration and \$62 million in lost tax revenue due to decreased earnings and spending.

In the New River Valley, births to teens are disproportionately represented in live births. In 2013, Giles and Pulaski have much high rates of teen birth (44 and 50, respectively) as compared to the state (32). Teen pregnancy and childbearing has immediate and long-term social and economic impacts on teen parents, their children and on the community. Teen pregnancy and childbirth costs taxpayers for increased healthcare and foster care, increased incarceration rates among children of teen parents, and lost tax revenue because of lower educational attainment and income among teen mothers.ⁱⁱⁱ The estimated cost of teen childbearing for the New River Valley is approximately \$28,432,100. These costs are conservative, as all the measures of outcomes and costs cannot be calculated. (Table 3)

Table3. Teen Birth Statistics – County Health Rankings 2013

Indicators	Floyd	Giles	Mont.	Pulaski	Radford	Virginia
Teen Population	3,003	3,505	36,657	6,682	10,964	--
Teen Births	89	153	509	335	94	--
Teen Birth Rate	30	44	14	50	9	32
Children in single-parent households	16%	23%	27%	36%	35%	30%

Estimated cost of teen childbearing	\$2,144,455	\$3,686,535	\$12,264,355	\$8,071,825	\$2,264,930	--
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New River Valley residents have many risk factors associated with teen pregnancy, including high rates poverty and unemployment, growing up in a single-parent family, low levels of education and/or poor performance in school. Unfortunately, there are no data on teen contraceptive use or teen sexual activity.^{iv} Teen pregnancy has many adverse outcomes, including, repeat pregnancies, poor prenatal care, pre-term delivery, gestational hypertension, anemia, and low birth weight, which increases the risk of child developmental delay, illness and mortality. The trend for the New River Valley is as follows:

- High rates of teen pregnancy
- High rates of poverty and unemployment
- Low levels of education and/or poor performance in school
- High rates of incarceration
- High costs on healthcare, foster care and incarceration; lost tax revenue

If the region continues on its' current trajectory, teen pregnancy and its negative effects on individuals and the community will continue to worsen. Teen pregnancy has been one of the perpetrators of the poverty cycle, constituting a community wide challenge to prevent unintended pregnancies and nurture babies born into families unequipped to raise children in a wholesome atmosphere. Teen pregnancy prevention is one of the Centers for Disease Control's top six priorities, a "winnable battle" in public health, and of paramount importance to health and quality of life for our youth.^v According to the National Campaign, at a time when policymakers and others are intensely focused on cost-saving measures, funding proven efforts to reduce teen pregnancy is important, timely, and should be a high priority.

"Reducing teen pregnancy not only improves the well-being of children, youth, and families, it saves taxpayer dollars." –Sarah Brown, CEO of The National Campaign to Prevent Teen and Unplanned Pregnancy

Substance Abuse: Substance abuse is the use of illicit drugs or the abuse of prescription or over-the-counter drugs or alcohol for purposes other than those for which they are indicated or in a manner or in quantities other than directed. People abuse substances for varied and complicated reasons, but it is clear that our society pays a significant direct and in-direct cost. Substance abuse is high-risk behaviors linked with multiple disease states and public health challenges.

There is an exceedingly high incidence and prevalence of substance use and abuse in Southwest Virginia. From 1997 to 2003, drug overdose deaths increased 300%, with predominately poly-drug deaths. In the New River Valley, mortality rates from prescription drug abuse are 3 times higher than the state average, and rates in Giles and Pulaski Counties are 4 times and 6 times higher, respectively.^{vi} Since 2003, over 200 drug-overdose deaths occurred each year, six times higher than in other regions of the state. In this region, one in six people abuse prescription drugs, giving SWVA the highest mortality rate for prescription drug deaths in the state with many localities having a mortality rate of twenty-five to thirty-seven deaths per 100,000. Deaths were more likely to occur in rural counties, decedents were likely to have multiple medications

found on their toxicology reports and drug related deaths are occurring at a younger age and disproportionately affecting males.^{vii viii}

A Virginia state policy study found that substance abuse costs Virginia and local governments an estimated \$613 million annually, with 96% of the identified costs deriving from the criminal justice system from incarceration, rise in foster care placements and substance abuse services. These figures are conservative, as the study did not measure the additional real and opportunity costs to local communities and the state from lost personal and business revenue and reduced well-being of the workforce.^{ix x} Substance use and abuse is not only resulting in health consequences but has a dramatic impact on the workforce and economy, foster care, and incarceration. Evidence suggests that difficulties filling vacant positions due to failed drug screens are causing businesses and industries to relocate.^{xi} The New River Valley had a rate of children coming into care because of parental substance abuse of 33% for all children coming into care, which is almost twice the state rate.^{xii} And according to local corrections officials, and supported by the literature, incarceration and high recidivism rates in the New River Valley are most notably influenced by substance abuse.

Strategies: The New River Valley aims to promote proactive choices about food, fitness, family, work and play. Additionally, the New River Valley aims to enhance collaboration in community planning to promote health and safety. This includes providing residents with the social and emotional support needed. Specifically for maternal and child health, strategies will focus on healthy newborns and the need for greater collaboration in all healthcare sectors (e.g. free clinics, health systems – Carilion and HCA, Community Service Boards, Public Health, VCOM clinics) to assure mothers get what they need to insure a healthy newborn.

Local Focus Strategies - Low Investment

Social Campaign on Healthy Behaviors: Promote a healthy community and support healthy choices, including reducing stress, for where people work, learn and play through an assessment and community engagement process. This includes, (1) promoting the use of the School health index and/or the YMCA Community Healthy Living Index, (2) leveraging positive health attributes and behaviors of local culture – link the community to culturally relevant opportunities, (3) increasing education about natural environment recreation options, (4) creating healthy workplaces where healthy food choices and physical activity are a benefit to employee and employer and (5) facilitating increases in dual use agreements between schools and other entities that sponsor physical activity services and programs for youth and adults (e.g. public recreation and community centers).

In general, this strategy will reduce isolation and improve mental, cognitive and physical health for residents. It will also improve adolescent mental health and self-efficacy; reduce behavioral problems and self-destructive behaviors. Improve cognitive, physical and emotional readiness for children entering kindergarten. Overall, residents will better understand social, emotional and physical development, early childhood and parenting.

Local Focus Strategies - High Investment

Vulnerable Populations: Promote a healthy community and support healthy choices for

vulnerable populations (e.g. disabled, mental health, low income, those with disabilities, older adults and youth) where they work, learn and play through an assessment and community engagement process. This includes: (1) providing community education to vulnerable populations and their families, employers and the community regarding benefits to education, training and employment opportunities that enable citizens to be full participants in the community - including supporting home care givers and general care givers, (2) supporting and promoting evidence based youth programs by increasing educational program offerings for school aged youth to include more options for outdoor education, experiential education, community arts programs, youth empowerment programs, wilderness therapy programs, extracurricular activities (social, academic, physical), and reduced screen time in public service venues (3) supporting and promoting older adult programs by increasing the number of programs for older adults, such as offering educational, social, or physical activities in group settings that encourage personal interactions, regular attendance, and community involvement (adult day care, volunteer opportunities), and (4) creating a special recreation association, which has an office that set up programs for vulnerable populations to do similar activities. Policies that impact these programs and opportunities include housing policies at the local level that promote (or inhibit) recreational and community art spaces in neighborhoods and those that integrate (or separate) populations by income and race. Additional policies include educational funding for in school and after school programs; nutritional labeling; land use policies regarding siting of businesses in neighborhoods and communities and well as pedestrian access to such businesses.

Adult and Child Day Care Programs: Provide quality day care programs for children and adults, that promote healthy lifestyle policies (e.g. quality improvement star rating) to prevent morbidity and mortality (e.g. Kissito Company – long term care/assisted living). Increase funding for childcare subsidy and earned income tax credit.

In general, these strategies will enable residents to better understand social, emotional and physical development, early childhood and parenting. Additionally, the strategies will increase support substantially, which includes the addition of facilities.

Regional Collaboration - Low Investment

Social Campaign on Health Issues: Educate citizens on health issues and healthy behaviors. This includes increasing the number of alternative pain management programs (e.g. back), especially employer based programs. First, to address physical inactivity, strategies include increasing access to recreation facilities, practitioner training (e.g. obesity awareness and prevention) and working with schools to assess childhood obesity. Next, to address substance abuse (e.g. death rates, adult smoking, excessive drinking) strategies can include tobacco-free policies, amnesty/prescription take-back programs and the development of help hotlines to promote existing services.

Food Systems: Engage and connect food systems and food options, including promoting and supporting farmers markets to accept food stamps. Additionally, map food assets using Geospatial Information Systems (GIS) and examine affordability, accessibility and ethics. Additional discussion topics include addressing obesity, percent of population consuming daily fruits and vegetables, and the limited access to health food. Strategies discussed include vending

machine policies, expanding community agricultural opportunities, implementing food advertising policies and zoning for urban/community Ag and healthy food retail venues.

In general, these strategies will increase residents' understanding of healthy issues and healthy behaviors. It will also provide healthy food and pain management options.

Regional Collaboration - High Investment

Prenatal and Early Childhood Programs: Support and increase evidence-based quality prenatal and early childhood programs that is both effective and efficient.

Health Campaign and Healthfulness Assessment: Assess healthfulness or wellbeing by local governance where people work, learn and play and promote healthy behaviors and screening (e.g. YMCA Child and Policy to build for health).

Human Services: Integrate and coordinate access to social services across multiple social service areas, which can include housing, disability, nutrition, health insurance, child welfare, and workforce services.

In general, these strategies will increase residents' knowledge on health issues and healthy behaviors. Additionally, these strategies will increase the availability and accessibility of healthy programs and choices.

The following indicators can effectively assess progress for behavior strategies:

- Percent of Adult residents who are obese (body mass index ≥ 30)
- Percent of Adults reporting no leisure time physical activity
- Percent of Adults who are smokers
- Smoking, alcohol and substance use and abuse rates
- Number of deaths involving prescription drugs
- Suicide rate
- Number of founded cases of child abuse and neglect
- Percent of Adults without social/emotional support
- Tobacco and substance use and abuse in pregnant and pre-conceptual periods
- Teen Pregnancy Rates

CHRONIC DISEASES

Chronic diseases are among the most common, costly, and preventable of all health problems in the U.S. Nearly 1 out of every 2 Americans suffers from a chronic disease, defined as a non-communicable disease prolonged in duration, including cancer, heart disease, stroke, arthritis and diabetes. As a nation, 75% of our healthcare dollars goes to the treatment of chronic diseases. These persistent conditions – the nation’s leading causes of death and disability – leave in their wake deaths that could have been prevented, lifelong disability, compromised quality of life, and burgeoning healthcare costs.

Strategies: The New River Valley aims to promote local strategies that prevent and reduce the burden of chronic conditions, disease and substance abuse. This includes reducing violence, so that more residents live in homes and communities free of violence. Objectives include integrating health criteria into local government decisions and maintaining a skilled and diverse healthcare workforce.

Local Focus Strategies - Low Investment

Mentorship Programs: Establish and provide training, educational information, network, and information on local support/recovery programs for faith based communities (and other applicable groups) to better support members of their congregations with chronic conditions (e.g. substance abuse, diabetes, mental health, chronic heart disease).

In general, this strategy will educate the community about chronic diseases and help people manage their conditions appropriately. Additionally, violence and substance abuse issues are better supported by community members who have the local knowledge needed to identify issues, help others seek treatment and create the supportive environment for effective treatment. Outcome is prevention activities, case-finding of children in need of services, lower obesity rates in WIC.

Local Focus Strategies - High Investment

Case Findings for Developmental Disability/Detachment: Early prevention and identification of developmental delay and disability in the community where people work, learn and play. This includes being proactive in prevention, case finding, referral to accessible services, and educating the community about the benefits and process of claiming disability and coordination of care. This strategy may include reassessing the definition of disability, as many people classified as “disabled” may not be, and there is a gap between a person and their ability to be a part of the community. Mitigate the ones that do not necessarily qualify but are receiving disability benefits.

Substance Abuse: Advocate for alternative sentencing options such as drug courts for repeat substance abuse offenders and additional recovery options for offenders. Advocate for increased legal and professional collaboration with primary care providers who manage chronic pain, attention deficit health disorder, and anxiety, and work with them to establish policies and practices that prevent misuse, diversion and increase provider and patient satisfaction.

In general, these strategies will increase education and knowledge on chronic conditions. Additionally, they will provide appropriate healthcare services and provisions to help residents with chronic conditions.

Regional Collaboration - Low Investment

Focus on Vulnerable Populations: Promote a healthy community and support healthy choices for where vulnerable populations (e.g. disabled, mental health, low income and youth) with chronic conditions work, learn and play through an assessment and community engagement process. This includes, (1) early childhood home visitation programs and comprehensive child development programs for at risk populations, (2) Implement functional family therapy and/or cognitive-behavioral therapy to prevent recidivism related to child neglect and abuse, and substance abuse and (3) multidimensional treatment foster care (trained foster families in behavior management with case managers).

Social Campaign: Promote a healthy community and support healthy choices for citizens with chronic conditions (e.g. diabetes, chronic heart disease, tobacco use, COPD, obesity). This includes, (1) incorporating violence prevention, pre-conceptual care and birth control topics into substance abuse treatment plans, (2) family violence assessment as a part of regular wellness checkups with primary providers, and (3) require businesses and workplaces to promote the adherence with U.S. Preventive Services Task Force Guidelines.

In general, these strategies will increase, expand and refine programs available to ensure effective treatment and reduced recidivism, while also supporting affected family members and improving their cognitive outcomes.

Regional Collaboration - High Investment

Substance Abuse: Work collaboratively with hospitals on chronic disease management and readmission rates. Some recovery options include pain management - chronic pain, increase access to legitimate pain clinics – which connect back to pain management strategy, train primary care physicians, support registries/databases in physician offices and emergency rooms, promote linking database systems, family, support therapy, prevent people from selling their prescriptions. Additionally, educate consumers on medication safety and direction (where, how, when, how much), this may include changing the directions to be more explicit (e.g. give a high limit – not “as needed”).

Advocate for increased legal and professional consequences for healthcare practitioners (e.g. physicians, nurse practitioners, psychiatrists) who do not follow prescribing protocols for drugs with the highest likelihood of addiction/abuse. Also, increase consequences/enforcement or alternative sentencing options such as drug courts for repeat substance abuse offenders and additional recovery options for offenders (e.g. family treatment drug courts).

Smoke and Drug Free Policies: Implement smoke/drug free policies on campuses, parks, and other public community locations. Additionally, examine the possible application of the Lazarus Project, a program that has been piloted in North Carolina to prevent deaths from overdosing.

Human Service Efforts: Coordinate, promote and support efforts to integrate social service to coordinate access to services across multiple social service areas, drug treatment, child welfare, day care centers (adult/child) and workforce services.

In general, these strategies will increase effective and efficient coordination of care, which will allow residents to receive appropriate and timely care. Additionally, the strategies will enhance the health of residents by reducing exposure to smoke and drugs in public locations. Specifically, these strategies will reduce incidents of child injury, neglect and maltreatment, improve potential for family reunification and reduced need for foster care, following incidents of substance abuse and/or child abuse and neglect, decrease incarceration rates, crime, delinquency, drug use, teen pregnancy, because families and children will be routinely cared for across multiple areas – health and well-being, education, job).

The following indicators can effectively assess progress for chronic disease strategies:

- Childhood vaccination rates
- Childhood and Adult Obesity rates
- Number of preventable hospitalizations
- Number of deaths involving prescription drugs
- Suicide rates
- Years of Potential Life Lost (YPLL-75)
- Percent of births without early prenatal care
- Hepatitis C incidence rate

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