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Danville Regional Foundation Summer Internship
Fitness and Wellness Obesity Initiative

Executive Summary

This report responds to the growing obesity epidemic and the obstacle it presents to the Dan River Region. Data indicates that one in three children in Virginia is either overweight or at risk of becoming overweight, which raises concern over local childhood obesity. The Danville Regional Foundation is addressing obesity, especially childhood obesity, with aspirations to prevent and decrease this growing epidemic for improvement of the community's families.

Tackling the obesity issue in the Dan River Region should be through a multifaceted approach that builds on existing model programs that are successful at preventing and reducing obesity. The programs are well suited to interface with already existing programs which work with the culture and economic status of the region. The report targets six areas of interest: obesity observation and collection of data, a community coalition to educate and design policy, day care/early childhood development providers, church/religious organizations' health ministry, after-school activity and nutrition programs for at-risk youth, and workplace wellness.

Through this multifaceted approach, information contained in this report focuses on the target areas that will have the most impact on the Dan River Region as community unification is created for concerted action related to obesity reduction. Key areas are identified that involve wellness and fitness programs that work to reduce obesity and decrease the rate of childhood obesity in a ten year span. Those programs should receive support from Danville Regional Foundation.

What is Obesity?

Obesity is measured by "BMI," or Body Mass Index, which is a measure of an individual's weight in relation to height. Calculate BMI by dividing weight in pounds (lbs) by height in inches (in) squared and then multiplying by a conversion factor of 703. The formula is: $\text{weight (lb)} / [\text{height (in)}]^2 \times 703$ (Example: Weight = 150 lbs, Height = 5'5" (65") Calculation: $[150 \div (65)^2] \times 703 = 24.96$). A specific example of calculating a BMI of an adult 5'9" male whose weight ranges between 125 and 168, has a BMI ranging from 18.5-24.9 and is considered to have a normal weight. If he were to weigh between 169 and 202 (BMI of 25.0-29.9) then he would be overweight; if 203 lbs or more (BMI of 30 or higher) then obese (Measuring Obesity in Virginia 2009).

Among children and adolescents, overweight and obese are defined using sex-specific "BMI-for-Age" growth charts. The growth charts show weight status categories used with children and teens; underweight, less than the 5th percentile; healthy weight, 5th percentile to less than the 85th percentile; overweight, 85th to less than the 95th percentile; and obese, equal to or greater than the 95th percentile (CDC, Body Mass Index 2009). Currently for children, BMI between the 85th and 95th percentile is considered at risk of overweight, and BMI at or above the 95th percentile is considered obese (VDH 2009). The percentile indicates the relative position of the child's BMI number among children and adults of the same sex and age. These two factors are different for children and teens for two reasons: the amount of body fat changes with age and the amount of body fat differs between girls and boys.

BMI regarding both male and female adults is interpreted using standard weight status categories that are the same for all adults 20 years old and older. The standard weight status categories associated with BMI ranges for adults consist of underweight, BMI below 18.5; normal, BMI 18.5-24.9; overweight, 25.0-29.9; obese, 30.0 and above (CDC, Body Mass Index, 2009). For an adult, obesity is divided into three classes; Obesity Class 1 is a BMI of 30-34.9, Obesity Class II is a BMI of 35-39.9, and Extreme Obesity (also known as morbidly obese) is defined as a BMI over 40.

Obesity is a major risk factor for chronic diseases, is more common in low socioeconomic families, and exhibits major regional variations with higher rates in southern and poorer states (Schroeder 2009). One reason for the class gradient in health is that people in lower socioeconomic situations are more likely to engage in unhealthy behaviors because of inadequate local food choices and fitness opportunities (Schroeder 2009).

Identify Obesity Issue in the United States

Obesity has become a Twentieth Century epidemic that is affecting the entire nation. In the United States, obesity prevalence doubled among adults between 1980 and 2004. According to the 2007 Behavioral Risk Factor Surveillance System prevalence data from the Centers for Disease Control, 63 percent of adult Americans are overweight or obese. Regional analysis of obesity reveals that the prevalence of obesity is higher in the South (27.3%) and Midwest (26.5%) than in the Northeast (24.4%) and West (23.1%) (VDH 2009). Because obesity is a key risk factor for many major chronic diseases such as coronary heart disease, hypertension, type 2 diabetes, cerebrovascular disease, osteoarthritis, and cancer, the United States currently spends more on costs associated with obesity than costs associated with tobacco use (VDH 2009).

Obesity and increased weight along with their associated health problems have a significant economic impact on the U.S. healthcare system. In 2002, medical expenses attributed to both obesity and persons overweight, accounted for 9.1 percent of total U.S. medical expenditures reaching about \$92.6 billion; approximately half of these costs were paid by Medicaid and Medicare (CDC, Economic Consequences 2009).

Identify Obesity Issue in Virginia

Consistent with the national dilemma, obesity and inactivity have created economic, workplace, and health consequences in Virginia and the Dan River Region. A dramatic increase in obesity is observed in all age groups from preschoolers to seniors. Of Virginia's population, 36.6 percent are overweight (36.7 percent nationally), while 25.3 percent of Virginia's population is obese (26.3 percent nationally); this means that 61.9 percent of Virginia adults are obese or overweight (VDH 2009). According to the *Virginia Performs* website, 23.1 percent of Virginia's population was obese in 2005 and increased to 26 percent in 2006 (CDC, Body Mass Index 2009).

The Behavioral Risk Factor Surveillance System data shows that 25.3 percent of Hispanic Virginians and 37.3 percent of Black, Non-Hispanic Virginians are considered obese. Out of

adult males, 26 percent are considered obese and 43.9 percent of males are considered overweight. Out of adult females, 24.5 percent of adult females are considered obese and 29.4 percent of adult females are considered overweight. More than 50 percent of adult Virginians do not meet the recommended amount for moderate physical activity, and 21.6 percent have not participated in any physical activity within the past month (national average of 23) (VDH 2009).

A portion of the public health resources that have been allocated to the state to use in the region are wastefully spent on medical expenses attributable to adult obesity and inactivity. Adult obesity is considered one of the top two preventable behavioral causes of illness and premature death (Schroeder 2009). According to the Centers for Disease Control and Prevention, it is estimated that Virginia's direct obesity-attributable health care costs reached over \$1.6 billion in 2003, which is 5.7 percent of Virginia's total medical expenditures. Obesity accounted for an average of 6.7 percent of Medicare costs, totaling \$320 million, and 13.1 percent of Medicaid costs, totaling \$374 million (VDH 2009). Virginia also has the fourteenth (14th) highest obesity-related health care costs of the 50 states (CDC, Economic Consequences 2009). The state received a "C" in 2006 ("D" in 2004) for its efforts to control obesity and a "C" in 2006 ("F" in 2004) for its efforts to control childhood obesity. Because of the high costs of medical attention attributed to obesity and the failure of the state to control the epidemic, the increase is creating lost productivity and an inability to work. Money and time cost constraints have made fewer funds available to finance other important services and initiatives greatly needed by the community.

Identifying Obesity Issue in the Dan River Region

Unfortunately, the Dan River Region has major informational gaps in the systems tracking and reporting on obesity and inactivity. However, with the information that is known, the region is heavily impacted. According to the *2005 Virginia Atlas* report, 60 percent (28,855 in Pittsylvania County, 21,438 in Danville City) of the population is overweight or obese. Heart disease, diabetes deaths, obesity, and asthma prevalence are all above the state average; each of these diseases can be attributable to obesity (VDH 2009).

Other medical problems in the region are partially or wholly attributable to obesity:

- 10.4 percent of the adult population are asthmatic,
- 13.8 percent of the adult population lives with diabetes,
- 249.2 deaths per 100,000 from heart disease, and
- 203.9 deaths per 100,000 from cancer.

In 2005 Danville and Pittsylvania County, according to the *Virginia Performs* web site ("The Benefits from Being Fit and Healthy, 2009") had a 27.5 per cent obesity rate while the state's average was 23.1 percent. In 2006 Danville and Pittsylvania County had a 29 percent obesity rate while the state's average was 26 percent.

Data collection concerning childhood obesity in the Dan River Region is limited. No valid studies or data collection were found regarding early childhood, children, or youth obesity rates.

Why should Danville Regional Foundation Want to Reduce Obesity in the Region?

An obese individual typically leads a sedentary lifestyle coupled with poor nutrition. Often this segment of the population has a mindset that seeks to minimally sustain life, living each day with the goal of living to eat, instead of eating to live. They often are on a revolving door, maintaining them in the same position as the day before. Obese individuals who seek to simply maintain their unhealthy eating habits will not initiate a change in their eating habits or activity levels. Seeking to simply survive is nonproductive and does not correlate with Danville Regional Foundation's mission to transform the region.

A majority of people may not realize the need to maintain a healthy lifestyle, because they do not realize the implications of living without regard to their bodies requirements. People rarely react to a situation unless it already affects them. Those affected by diabetes, heart disease, and cancer value their health and attempt to reduce their weight after their diagnosis. Unless people are diagnosed with heart disease or cancer, they do not seem to realize the importance of fitness (Measuring Obesity in Virginia 2009).

In the Dan River Region, there is evidence of people suffering from the effects of obesity. Immediate intervention is required with obesity rates high and growing. Reducing the obesity numbers in the region requires a mindset change from survival to transformative. It also requires a clear understanding in the region that the local population continues to be underserved when money spent on obesity redirects money from other preventive medical initiatives. When this redirecting of money needed for other initiatives occurs, there is also less funding to invest in community initiatives that can bring sustainability to the regional economy.

The "October 2007 Community Health Assessment" consultant report alerted the community that obesity is an area problem. After the consultant's findings were released, DRF engaged in obesity reduction efforts by focusing on the childhood obesity epidemic as a major priority in its health-related grant-making portfolio. The proposed multi-faceted strategy allows DRF to have a major impact on the health and wellness of the entire region by engaging in transformative investments. If the obesity rates were reduced in the area, the reduction would:

- improve the wellness of the community,
- encourage more healthy/active citizens,
- reduce the morbidity and mortality rates,
- improve workforce development because of an increase in the productivity and retention of employees, and
- make the region more attractive to outside businesses that want to attract the top workers and create a high quality service for the community

Success in obesity prevention and reduction is not easily measured according to the consultant, Michael Beachler, in his obesity report. Because of this measurement problem, DRF's task is to be willing to commit effort, time, and energy to make progress on this issue. DRF will have a major impact on the obesity epidemic, especially childhood obesity, if its main priority is to fund health and wellness-related grants that target obesity. In September 2008, the DRF Board approved making obesity reduction a top priority.

Therefore, the role of the DRF is to enhance the Dan River Region's capacity toward health improvement by investing in wellness and health initiatives specifically geared toward obesity reduction. The foundation should support this obesity program, with emphasis on childhood obesity, for a minimum of 10 years and be open to a longer commitment if progress is being made. The childhood obesity epidemic evolved over decades and regional foundations should be prepared to make long-term investments if community-wide progress and transformation is to occur (Beachler 2009).

Methodology

The six target areas that contribute to the multifaceted approach were selected after review of the consultant's report on obesity. Information was also available in the Danville Regional Health Assessment Report conducted by East Tennessee State University and Virginia Department of Health's CHAMPION grant. A large amount of peer-reviewed material with creditable researchers and institutions was a source for valid information on obesity issues. Programs and institutions that have studied obesity reducing efforts for several years along with those possessing experience in obesity reduction were also accessed. Greenville and Spartanburg, South Carolina, were two model communities focused upon because of their similar socioeconomic status and effective obesity reduction plans. Foundations that funded specific obesity reduction programs were accessed to develop the most information for decisions on actions to be taken in the Dan River Region. The developmental strategy for this initiative is based on the *Health Action Process Approach Model*¹ and the *Transtheoretical Model*². Both of these models provide a framework in which individuals and the population can move toward healthier behavior changes over time and result in optimal health.

Proposed Solution

Proposed Goals

¹ The *Health Action Approach Model* applies to all health compromising and health enhancing behaviors that describe health behaviors over time. However with this particular model, it is divided into two phases and five stages. The first phase is "the motivation to change" which includes the process that leads to the development of behavioral intention. In this phase, everything revolves around risk perception, outcome expectancies, and perceived self-efficacy. *Risk perceptions* is when the individual becomes aware that actions are a threat to health, *outcome expectancies* is when the individual becomes understanding of the contingencies between actions and following outcomes, and *perceived self-efficacy* is when the individual is capable of engaging in the behavior change. The second phase which is the "self-regulatory phase" divides the pursuit of goals toward behavior change into a sequence of activities such as planning, initiation, maintenance, relapse management, and disengagement. Emphasis is placed on the ability to not only engage in the behavior change, but to also remain in the behavior change, and become capable of recovery from a relapse of the old health-compromising behavior (McKenzie, Neiger, and Thackeray 182-184).

² The *Transtheoretical Model* is an integrative framework that helps organizations understand how a community advances toward adopting and maintaining health behavior changes for optimal health. Behavioral changes do not occur overnight; therefore, if an individual is obese or inactive, he or she will not wake up the next morning and become an "exerciser" or healthy eater. Therefore, this model builds off of constructs that represent the different dimensions of change, beginning with the "stages of change" and ending with the "process of change." In the "stages of change" construct, individuals move from pre-contemplation (no intention of changing) to contemplation (intention to change) within six months, then from preparation (actively planning change) to action (overtly making changes) in thirty days, and finally from maintenance (sustaining) to the termination stage (no desire to return to old habits) (McKenzie, Neiger, and Thackeray 177). In the "process of change" construct, individuals start with experimental processes that increase intention and motivation and move to behavioral processes that implement and maintain action (McKenzie, Neiger, and Thackeray 178). In the "decisional balance" construct, the individual's decision to move from one stage to the next is based on the relative importance (pro) or lack thereof (con) of the behavior change. In the final construct "self-efficacy," two components: confidence and temptation, help determine the belief in individual capability, further influencing overall success. *Confidence* is an individual's feeling of being able to remain engaged in healthy behaviors across different challenging behaviors, while *temptation* is an individual's ability to remain engaged in health behavior throughout situational temptation (McKenzie, Neiger, and Thackeray 180).

The goal is to reduce obesity rates in the Dan River Region from 29.0 percent in 2006 to the Virginia state average of 25.3 percent within five years. As up-to-date data is collected, the goal may be revised to incorporate overweight and obesity rates.

An immediate goal will be to educate the public by implementing one program from each of the six target areas within the first year. The programs will be built on and reevaluated every two years to determine their effectiveness. Programs and statistics are to be reevaluated annually to determine if this targeted effectiveness is obtainable, should reach other audiences, or receive further funding.

Proposal for DRF

It is recommended that the Danville Regional Foundation develop a multi-faceted strategy that will educate the region about obesity and inactivity, implement short-term and long-term community programs, and reduce overall obesity in the Dan River Region. National research and policy experts believe that to make progress on such a complex issue as obesity, it is necessary to work with multiple constituencies to help stimulate community-wide transformation efforts (Beachler, 2009).

To ensure a higher probability of success, this strategy is based on recommendations from the consultant's report which have been specifically customized to create the greatest impact on the region and are most likely to build community unification. The approach addresses six program areas that collectively engage children, youth, parents, community, businesses, and civic leaders in the community-wide prevention and reduction of obesity. Information is derived from various sources that will ensure that the strategy is impactful and transformative in many community areas. The consultant's report recommends focusing on child obesity prevention through a strengthened focus on programs that incorporate the parents and family. It is more likely that the community at large will promote a change in lifestyle over the issue of childhood obesity. Communities are more likely to become mobilized around children's issues because children represent hopes and dreams for the future (Beachler, 2009).

The initiative is dispersed along a 10-year timeline. This regional epidemic in obesity does not typically yield instant reduction results and will require persistence, planning, and patience. The prevention and reduction of obesity will require a large number of partnerships and cooperation to reduce obesity levels and increase activity.

The report recommends that the Danville Regional Foundation focus on the prevention and reduction of obesity, with childhood obesity as the primary goal, in the following six programs areas: obesity observation and collection of data, a community coalition to educate and design policy, day care/early childhood development providers, church/religious organization's health ministry, after-school activity and nutrition programs for at-risk youth, and workplace wellness.

1. Obesity Observation and Collection of Data

Why?

Obesity is a growing epidemic in the nation, state of Virginia, and Dan River Region. In order to track this epidemic, the nation and state collect data and evaluations of programs. The issue of obesity is discussed in Danville, but statistics are non-existent in revealing its true impact and growth in the region. Through designing this report, the biggest obstacle was finding statistical data, surveillance, observation, and evaluations.

Collecting data with statistics and evaluations highlights the extent of the problem. Addressing the size of the obesity epidemic is a powerful motivator for the community to realize a call to action. With data proving the extent of the obesity issue, the medical community, schools, workplaces, and average citizens will then know the problem is not an assumption but a negative fact about their community.

Program evaluations point out what specific programs can be implemented and their success rates in other areas. It is valuable data to those who want to see progress, especially since obtaining measurements of weight and obesity has been difficult. Collecting data and evaluations is important in tracking the progress of reducing obesity. It identifies what program is producing the most successful outcome, which will be beneficial in making funding decisions.

Model/Perspective Program

- 1. Childhood Obesity Report Card:** *The Greater Rochester Health Foundation (GRHF)* recently funded the University of Rochester's Children's Hospital research to develop a *Childhood Obesity Report Card for the Rochester Community*. This 2007-8 effort serves as a baseline study of children ages 2-18 and includes a review of the height-weight records of 8,000 children ages 2-18 to secure baseline prevalence figures. Results of the study were reported in the local media as a way to highlight the importance of taking action to reduce childhood obesity in the Greater Rochester area. The study was large enough to identify that the city had a higher concentration of children who were obese than the surrounding suburbs and that African American and Hispanic children were more likely to be overweight or obese than white children. The study will be repeated in 2010 or 2011 and periodically thereafter as a way for the GRHF to track both the community's progress and the foundation's progress on the childhood obesity issue. The GRHF has made a significant commitment to the childhood obesity issue, developing a 10-year plan that will commit up to \$5 million per year to childhood obesity issues during the period 2007 through 2017. This approach may be adopted if DRF chooses to make obesity prevention and/or reduction the primary focus of its health grant-making strategy (Beachler 2009).

Suggestions: Create a Regional Report Card for resources similar to the *Child Obesity Report Card for the Rochester Community*. The Regional Report Card will further its study to review height-weight records of children 2-18 to reveal overweight, obesity, and further health concerns such as hypertension and diabetes. To raise awareness, the results will become public knowledge and podcast on channel 20, local radio stations, and in other public facilities. The study will be repeated every year, so DRF can track the impact or progress on childhood health concerns while centering on obesity. This approach requires a significant amount of funding to create the annual studies and interpret the

data. The outcome of this project will identify problem areas and where to target efforts, along with a community-wide awareness of the childhood obesity issue.

Possible Lead Agency: Danville Regional Foundation, Danville Health Department

- 2. Observing Use of Trails:** The *Mary Black Foundation* in Spartanburg provides modest annual funding (about \$30,000 per year) to the South Carolina Research Center to survey community residents annually about their use of the Mary Black Foundation Rail Trail as well as community perspectives and trends on activity, nutrition, and safety issues. The Mary Black Foundation approach is based on the belief that the foundation's investments can "contribute" to solving the inactivity problem in their service area—but that the foundation would not be able to attribute health status changes (e.g. reduction in obesity levels) to the Foundation's grant making. The Mary Black Foundation has focused on intermediate markers such as number of users of the walking/biking trails, increased utilization of the farmers' markets, changes in consumers' attitudes toward safety and other issues related to promoting activity and healthy eating, and external designations such as the award to Spartanburg as South Carolina's first Bicycle Friendly City as measures of program impact (Beachler 2009).

Suggestions: Establish another obesity data collection and evaluation program similar to the *Mary Black Foundation* in Spartanburg. Danville Regional Foundation should fund and lead a survey of community residents about their physical activity, nutrition, and trail usage in Danville, Pittsylvania County, and Caswell County. This will point out areas of interest for DRF.

Lead Agency: Danville Regional Foundation

- 3. Online registration:** part of a 'Change 4 Life' slim down effort for the Dan River Region. The lead agency will fund and create a web site collecting miles walked and food eaten by individual members. The registration will require weekly participation for one year. It will allow the members to identify where they walked in the community and the food groups they consumed to measure that they met their nutritional values. Lectures will be provided by the Institute for Advanced Learning with registered dietitians, doctors, athletic trainers, and other health professionals. The program will also connect members, especially members who do not have easy access to trails and can pair with others to transport them to the site. Incentives will attract people to memberships under the online program. Doctors can refer patients to the online registration for an exercise routine; local businesses can compete to see who can lose the most weight and receive company benefits. Beyond these efforts, coupons and monthly prizes are also incentives that can be developed. The program will indirectly collect data on where people are walking, where they are retrieving their food, how much weight they have lost, and other needed data.

Lead Agency: Danville Regional Foundation, Institute for Advanced Learning

2. Community Coalition to Educate and Design Policy

Why?

A local coalition would begin organizing and mobilizing community members, businesses, educational entities, researchers, and a large number of organizations with interests in obesity. With diverse involvement, local policy changes could be implemented and would improve the health livability of the city through:

- creation of “built environments” that support active living;
- development of health communication strategies to inform and influence the community’s decisions to enhance their health;
- promotion of economic development of retail outlets, the downtown area, and farmers’ market with affordable high-quality produce and healthy foods to increase accessibility to nutritional choices.

These multidisciplinary partnerships can help foster changes in policies and environments, leading to systems and social norms that support healthy eating and active living for the region.

Model/Perspective Program

1. **Policy Change** - A comprehensive plan that includes local policy change in land use and zoning. The development of “built environments” can be an important starting point to mobilize support for fostering active living and healthy eating options. It is more likely that local policymakers will look at any active living-related changes primarily as a means to improve economic development and tourism with the improvement of health being a secondary outcome. However, these efforts will still create a healthy and transformative region. The built environment is broadly defined as manmade surroundings that include public resources, land use patterns, buildings, the transportation system, and design features. Research has shown significant links between the “built environment” and eating and physical activity behaviors. Factors such as availability of parks and walking trails, the “walkability” of neighborhoods, community recreation facilities, and school/community playgrounds have an influence on the choices individuals make in their daily lives (Beachler, 2009). Citizens will benefit from the policy changes that influence positive health outcomes, both involving physical activity and nutrition options.

Suggestions:

- *Proceed in the development of the walking trails initiative*
- *Develop a master plan for links for the trails systems throughout the region*
- *Develop a master plan for the creation of exercise parks throughout the region - Specifically for the Dan River Region, low socioeconomic classes tend to be faced with more barriers to physical activity than other socioeconomic classes. Rural areas’ residents also face the challenge of residing in less dense areas. These population areas are heavily influenced by the obesity epidemic; it is important that exercise parks are created in these areas. Exercise parks in rural and low socioeconomic city communities could heavily influence the choice of this population to become active, because these facilities would be accessible and permanent.*

- *Build on already existing endeavors such as suggested in the consultant's report - "DRF staff has indicated that there is some momentum to build on in this area including the Riverwalk Trail along the Dan River, a downtown farmers' market and a network of community facilities that provides recreational activities." The "2007 Community Needs Assessment" conducted for the DRF highlighted as a community strength recent improvements in access to facilities providing physical activity. In 2008 Danville was one of three cities in Virginia recognized as a Playful City USA. In October 2008, the Danville Department of Parks and Recreation received an award for its Crooked Stick Mountain Trail as the Best New Trail in Virginia. Both of these awards represent an opportunity to capitalize on civic pride to motivate local policymakers to make additional positive changes." (Beachler 2009).*

The Danville Playful City Task Force and/or the Danville/Pittsylvania Community Health Coalition represent vehicles to provide support for coalition activities. DRF's recent grant to the YMCA for its new facility and previous grants to the Chatham Community Center, Caswell County Senior Center, and Caswell County Heritage Trails Initiative indicate that DRF is investing in stable physical fitness centers throughout the region. This support is recognized and is an important starting point to initiate change.

Lead Agency: Danville Parks and Recreation, Danville Regional Foundation

2. **Communications** - The development of a health communication strategy will influence and inform the community's citizens, promoting positive decisions concerning enhancing their health. This will also be an important starting point in mobilizing support for active living and healthy eating options. Communication is imperative because many people in the region are involved in the obesity problem. Small media, including brochures and posters, public speaking with target groups, or mass media such as newspaper and radio can be very useful avenues in reaching many of the goals of the community health initiative. Communication is especially effective in increasing individuals' risk perceptions, which then promotes active positive changes.

Suggestions: *Multi-communication channel strategy* - small/mass media campaigns, organization and community channels, and intrapersonal channels. This will diversify the marketing methods through which information about obesity and inactivity in the region are delivered.

Lead Agency: Piedmont Community College Film and Video Production Technology Program, Contact: Michael Corbit, Director

3. **Accessibility to Healthy Food Choices** - Promoting the economic development of the downtown area, and farmers' markets with affordable high-quality produce and healthy foods to increase accessibility to nutritional choices will be an important starting point in mobilizing citizens to participate in active living and healthy eating options. Nutrition plays a key role in achieving wellness, which cannot solely be achieved through exercise. Low socioeconomic classes typically choose food options that are lower in cost because they are convenient and less expensive. It is important to target quality nutritional choices with nutritional education and subsidies.

Suggestions:

- *Develop a “Farmers’ Market Wireless EBT Program”* The goal of this program is to increase the accessibility of locally grown, high-quality foods for citizens and EBT customers. The accessibility will promote a change in dietary habits of EBT customers. Over time they should include more fresh fruits and vegetables from local growers as they change shopping habits. Through partners and programs, the EBT program will attract low-socioeconomic citizens. Their purchases will benefit the local agricultural economy by opening up the market to additional customers and increased sales for farmers.
- *Proceed in the development of “local foods” initiative.*

Possible Lead Agency: Pittsylvania County/Caswell County Extension Office, Danville City Extension Office

3. Daycare/ Early Childhood Development Programs

Why?

Food and nutrition are at the heart of the normal growth and development of children with the introduction of its importance beginning in early childhood. During this stage, it is vital to teach and implement well-balanced meals into young children’s lives. Daycare and early education teaches basic nutrition not only for the importance of growth and development in young children but to encourage healthy eating as they mature and potentially prevent obesity. A recent study by the University of Calgary suggests that a poor diet in early childhood can have long-lasting effects even in those who do not develop obesity at a young age.

Daycare providers have the ability to teach and implement nutrition and offer several other opportunities for obesity reduction in childhood. They introduce exercise and active living through programs that take children away from televisions and promote running games outside. Teaching exercise at a young age will encourage an active habit throughout the child’s life. Daycare and early childhood programs work with families to provide messages about the importance of physical activity and healthy eating. They can make parents aware of the role daily activity and healthy nutrition play in the health status and intellectual growth of their children.

Several curriculums and regulations have already been implemented, but there is still a need for programs and promotion to ensure that daycare providers continue to teach about nutrition and activity to young children.

Regulations

A number of daycare and early childhood development centers are utilized by families throughout the Dan River Region. The Virginia Department of Social Services (VDSS) Division of Licensing Programs (DOLP) is responsible for licensure and inspections of child day centers (CDC), short-term child day centers (CCS) and family day homes (FDH). These include child day centers (except those exempted by law), family day homes and short-term child day centers

(such as summer camps). There are eighteen (18) childcare and ten (10) family licensed facilities in Danville, there are ten (10) childcare, nine (9) family, and nine (9) short-term licensed facilities in Pittsylvania County. Daycares that are licensed by the State of Virginia must provide services to children under nutrition regulations enforced by the U.S. Department of Agriculture (USDA) Food and Nutrition (FNS) division. If the childcare center and family meets assisted meal requirements, the child will receive subsidized food under the Child and Adult Care Food Program (CACFP),³ which also meets the USDA regulations.

Unlicensed child care includes child care that is not required by law to be registered or certified. This type of child care includes religious exempt child day centers, voluntarily registered family day homes and certified preschools. In Danville there are twelve (12) religious exemption and 16 voluntary certification unlicensed facilities; in Pittsylvania County there are three (3) religious exemptions, and one (1) voluntary unlicensed certification facility. Unlicensed childcare centers are not required to follow USDA guidelines.

Model/ Perspective Program

- 1. Child Care Nutrition Consultation Project** - The Durham, North Carolina, Department for Health working with Durham's Partnership for Children (a Smart Start funded initiative) has launched an innovative program to help childcare centers improve the nutritional quality of food they serve to children. The Child Care Nutrition Consultation Project began in 2006 and annually helps up to twenty-five (25) daycare facilities meet or

³ The Child and Adult Care Food Program (CACFP) is a federally funded program, which is administered and funded by the USDA. The purpose of the program is to ensure that eligible children and adults who attend qualifying non-residential care facilities receive nutritious meals. To accomplish this purpose, CACFP provides reimbursement to qualified caregivers for meals and supplements (snacks) served to participants. While the FNS develops the regulations and establishes the policies needed to conduct the program, state agencies are responsible for administering the program on the State level and for assisting sponsors on the local level. Currently, there are seventeen (17) child care facilities using the CACFP funds in Danville, VA.

In North Carolina, the CACFP is administered by the Special Nutrition Programs Unit in the Division of Public Health, Department of Health and Human Services. CACFP in North Carolina serves Child Care Centers (Public or private nonprofit child care centers, Head Start programs, and some for-profit centers, which are licensed or approved to provide day care, may serve meals and snacks to infants and children through CACFP), Family Day Care Homes (CACFP provides reimbursement for meals and snacks served to small groups of children receiving nonresidential day care in licensed or approved private homes. A family or group day care home must sign an agreement with a sponsoring organization to participate in CACFP. The sponsoring organization organizes training, conducts monitoring, and helps with planning menus and filling out reimbursement forms), At-Risk Afterschool Programs (Afterschool care programs in low-income areas can participate in CACFP by providing free snacks to school-aged children and youths), Homeless Shelters (Emergency shelters which provide residential and food services to homeless families with children may participate in CACFP. Unlike most other CACFP facilities, a shelter does not have to be licensed to provide day care), Adult Day Care Centers (Public, private nonprofit, and some for-profit adult day care facilities which provide structured comprehensive services to adults 60 years of age and over as well as functionally impaired, nonresident adults may participate in CACFP).

Under the licensed child care providers, meals and snacks prepared and served should meet the requirements for the USDA. This is also known as the "the Food Program" which involves planning menus for children of different ages. The CACFP meal patterns use the same food groups for children of all ages older than one year. The amount of food, the texture, and the size of the pieces may be different. How much the provider serves and the way it is served depends on the child's age, growth, and development (this must correlate with the "Menu Planning Checklist," found at http://www.mchlibrary.info/pubs/PDFs/Nutrition_Std/Nutrition_4.pdf). Sherri Thompson of the department of Social Services (the Department of Social Services regulates the USDA guidelines for child care nutrition in Virginia) out of Roanoke is an inspector for child care centers. She audits licensed centers a minimum of two times a year and has permission to regulate unlicensed religious exemptions only when there is a complaint. Early child care centers are also required to have one hour of physical activity outside each day, weather permitting.

The food needs of children are related to their growth and development. This means more than just how tall the child is or how much the child weighs. It also includes skills the child has or can learn. Differences between a newborn infant, a toddler, and a five-year-old affect the foods a child can eat and needs to eat—and the way a child should be fed. Within age groups, each child develops skills at a different rate. No one food can provide all the nutrients these young children need. The regulations set by CACFP are to insure that childcare providers serve a variety of foods to children; therefore, they get all the nutrients they need to grow and develop.

exceed nutrition guidelines, which require them to serve a minimum number of items from each food group at each meal, while staying within their budgets. A health department registered dietitian and licensed nutritionist host workshops and meetings and conduct presentations for childcare providers, teachers, and parents on the importance of nutrition and healthy menu planning. Facilities have taken steps to introduce more whole grains and fresh produce into meals. Staff members also encourage increased activities for the young children as a part of the daycare experience.

Suggestions: This program is a concrete and feasible model for DRF. Regulations from the USDA have provided guidelines for licensed childcare centers, but there is a need for meeting and exceeding the nutrition requirements. To ensure healthy outcomes in the children's growth, lessons learned must be implemented and promoted in their lives. The children must be given not just the food requirements but must receive nutrition education.

Potential Lead Agency: Virginia Early Childhood Foundation,⁴ Smart Beginnings. The foundation is a newly formed organization in the Danville and Pittsylvania County Region. The Virginia Early Childhood Foundation is a public-private partnership whose mission is to provide leadership to foster Smart Beginnings for all young children in Virginia. The foundation provides grants, training, and technical assistance to local and regional Smart Beginnings initiatives. Its staff also collaborates with state government, the business community, parents and early childhood leaders to implement long-term strategies for improving school-readiness for all young children, ages birth-5. Virginia Early Childhood Foundation is part of Virginia Smart Beginnings whose mission is to bring public and private agencies and organizations together. As partners these groups work to build and sustain a system to support parents and families preparing their children to be healthy and ready to succeed when they arrive in kindergarten (Smart, 2009). In North Carolina, the Child Care Nutrition Consultation Project is a Smart Start funded initiative, which could continue into the Caswell County region.

Licensed and unlicensed early child care facilities exist throughout the Dan River Region. The FNS division of the USDA enforces certain regulations and check lists for licensed day cares to meet nutritional guidelines. However, the unlicensed facilities are religiously affiliated, voluntary registered family centers, or certified preschools that are not required to meet the USDA guidelines. It is important to reach both groups under the Child Care Nutrition Consultation Project.

The Virginia Early Childhood Foundation will lead the Child Care Nutrition Consultation Project in the early childhood development programs in Danville and Pittsylvania

⁴ The Virginia Early Childhood Foundation recently gave a grant for Smart Beginnings to perform a community assessment. It involves four categories of early childhood. The first utilizes and assesses the availability of ways to get young children cognitively ready for kindergarten through Headstart and various daycares. Second, the health and mental wellness aspect involves a dietician, social services, and the health department; third, early intervention connecting the services available; fourth, parent support which includes assessing the support available to rear children, developing proper home environment, and communicating with the parents. The plan is scheduled for completion by June 2010 with specific defined and measurable goals.

County. Virginia Early Childhood Foundation collaborates with local educators to organize and plan for the child's future. To ensure that this approach continues to promote positive outcomes for young children's futures, the project will need multiple components. Having a nutritionist host workshops and meetings with facility workers is vital to ensuring the children receive correct nutrition, but the nutritionist also needs to work with the children's parents. Educational classes that include information on nutritional food choices, preparation, and benefits of select foods when exercising should be offered to the children's parents.

4. Church/ Religious Organization's Health Ministry

Why?

Churches and faith communities gather over potlucks or Sunday afternoon buffet-style meals full of fried chicken and grandma's home cooking. Although the food and country style of grandma's cooking is appetizing, it usually contains more than the daily recommendation of saturated fats, starches, and sweets. Approximately 300 churches are located in the Dan River Region with multiple dinners and lunches being served. The Southern cooking often being served increases obesity in the community. Faith communities have various opinions on the importance of health in the realm of ministry. A widely accepted opinion is the "ministry of healing" by which people can be made whole. The concept of "whole" involves "the whole person," spiritual, physical, mental and social. It is the idea that people of faith cannot exist in isolation and must involve the "whole" person to easily connect with God.

The Health Ministry Initiative is designed to promote holistic health by encouraging and supporting the development of health ministries in faith-based congregations. A Health Ministry is a bridge that connects people in a congregation to the information and resources they need to achieve a whole and healthy lifestyle (Health 2009). Health Ministries work with the faith community and can serve as an extension of the medical field. All religious traditions stress attention to health and care for the sick and under-served. Faith communities are vital centers for addressing the well-being of people in their communities.

Current Programs

Danville Regional Medical Center is currently working on a church-affiliated program with emphasis on cardiovascular health. Known as the 'Neighbor-to-Neighbor' program, it involves church members and lectures from a cardiologist.

Parish Nurses exist in a few churches throughout the community, but there are not any efforts to reduce obesity in their congregations. At one time, there was a Parish Nurse Coordinator through Danville Regional Medical Center. According to the Chaplin at the hospital, Helen McKee, there is interest in reestablishing the coordinator. One present obstacle is that most of the nurses also have a paying job, which is not Parish Nursing. The Parish Nursing work is secondary to a nurse; therefore, they do not make Parish Nursing their top priority. (Contact: Head of Pastoral Care, 434-799-3731)

Model/Perspective Programs

1. **Creating a Health Ministry:** The Alta Bates Summit Medical Center in Berkeley, California, has implemented three model programs. The medical center's goal is to positively impact health disparities and improve health outcomes in the community by developing and supporting mind, body, spirit, and wellness initiatives in faith congregations.
 - *Lay Health Promoters Model:* Lay Health Promoters are members of a local church who volunteer their services to provide health education and encourage healthy lifestyles among members of the congregation. They also serve as liaisons between members of the congregation and healthcare services in the community. Lay health promoters do not need to have any medical training or background, but such training is highly recommended and encouraged. People who are natural helpers and who are respected by their fellow members do well in this position.
 - *Faith Community Nursing Model:* Faith Community Nursing is one of the most exciting and fulfilling of the nursing specialties. It is a dynamic process of incorporating a paid professional registered nurse to work with parishioners and families in the community toward wholeness of body, mind, and spirit. Faith Community Nursing fits the model of wellness and prevention in a way that touches lives across generational, cultural, and socioeconomic lines. Once a congregation fully grasps the implications for change, health, healing, and hope inherent in the Faith Community Nursing model, it is forever changed.
 - *Health Cabinet Model:* The Health Cabinet assumes that health ministry is already a part of the life of the church. A health cabinet encourages the congregation to talk more explicitly about the role of health to ensure it is integral to all areas of church life.

Program objectives are to provide essential education and resources that address prevalent chronic conditions such as high cholesterol, hypertension, stroke, diabetes, and cancer. Related objectives are to provide medical screenings, referrals and health education to vulnerable populations, to provide leadership and technical assistance to church health ministries and community organizations, and build community capacity by developing culturally relevant programs that can be replicated and sustained in the community. Finally, the Alta Bates Summit Medical Center strives to empower and educate community members to become health advocates.

The organization also encourages community involvement. Service work is a very important part of a community, because it can bring people together for a goal, which will make the community stronger and allows individuals to become "part of the solution."

Suggestions:

- *Lay Health Promoter Model* - The coalition's goal will be to implement a *Lay Health Promoters Model* in each of their churches. Having a member of a local church who volunteers services to provide health education and encourage healthy lifestyles among members of the congregation will encourage pride and

emphasize the church's need. For effective health outcomes, the promoters need medical training or background. There are many ways to organize a health ministry. Each congregation is unique and has its own set of resources and needs, therefore; the teachers could design specific programs on nutrition and physical activity to reduce obesity. The Lay Health Promoter could provide medical screenings to test for hypertension along with education on food preparation to limit salt intake and reduce hypertension. Promoting healthy food alternatives at Sunday afternoon potlucks is also a mission of the health promoter. It is important to target the women of the church who typically prepare the food. Beyond food, a way to encourage physical activity is by organizing walking groups for men and women's groups before Wednesday night meetings. Walking or swimming groups are important for the retired, who have extra time to devote to maintaining health. These programs led by the Lay Health Promoter form the basis for a Health Ministry.

- *Faith Community Nursing Model* - A registered nurse or medical doctor has gained respect for their knowledge from the public. Bringing in healthcare and/or health promotion from the Dan River community will prove beneficial. Their diagnoses and suggestions for a better quality of life will be widely accepted. They could begin programs that address individual members of the congregation. Holding individual health screenings every Sunday for select members and prescribing a certain individualized exercise or foods programs with emphasis on a holistic approach will benefit individuals who will carry the message forward to others in the community. After the lay health promoter model and this model are implemented, a strong health ministry will be underway to aid in reducing obesity.
- *Health Cabinet Model* – Encourages the congregation to talk more explicitly about the role of health to ensure it is integral to all areas of church life. The Lay Health Promoter and the registered nurse or doctor will assist in these continuation efforts. This model ensures that the health and obesity reduction efforts continue to grow throughout the church and that the health ministry is a main area of focus. Current programs should continue with emphasis on improving health and reducing obesity.

The three models are implemented in each church/religious organization according to the most effective programs for reducing obesity and promoting healthier lifestyles. The ultimate goal is to create a sustaining health ministry and build collaborative relationships among health ministries and with the healthcare and/or health promotion community. To assure that the models are making an impact, the Health Ministry should seek to obtain measurable outcomes in the congregation. Affiliation with Danville Regional Medical Center is not recommended but using their resources such as public health educators, nurses, doctors, or equipment will be beneficial.

Potential Lead Agency: The churches or religious organizations in the community are not united over health issues through any agency. This poses a need for the 'City of Churches.' DRF can initiate a coalition with participation of Parish Nurses or appointed health representatives.

Additional Partners: A church with a health ministry can integrate its efforts into its own early childhood program or day care facility. As mentioned under the daycare/early childhood development program, church affiliated daycare facilities have the option of an unlicensed title from the Department of Social Services in Virginia. An unlicensed agreement gives the facility permission to serve any type of food without nutritional regulation and without requirements for outside movement. Having a church with a Health Ministry, including a Lay Health Promoter, a Parish Nurse, or Health Cabinet, will encourage the daycare to serve nutritional foods and to involve students in physical activity. The two target areas will work together in creating a healthy lifestyle by reducing and preventing obesity in the Dan River Region. Additional partners are found in three areas: *Health Ministries Associations*⁵, *Sisters of Saint Joseph Charitable Fund*,⁶ and *Moses Cone Wesley Long Community Health Foundation*.⁷

5. After School Activity and Nutrition Program for At-Risk Youth

Why?

It is important to reinforce to low-income children at the elementary and middle school level the importance of staying active and eating healthily. Structured after-school activity and nutrition programs can help low income families find ways to become more active while providing nutritious foods on a limited budget.

Current Programs

Virginia Cooperative Extension is a division of the USDA, which brings the resources of Virginia's land-grant universities, Virginia Polytechnic Institute and State University and Virginia State University, to the people of the Commonwealth. The Extension agents and specialists form a network of educators whose classrooms are the communities, homes, and

⁵ *Health Ministries Associations (HMA)* - HMA's vision is to aspire to engage, educate and empower people of faith to be passionate and effective leaders for creating healthier communities. Their mission is to encourage, support and empower leaders in the integration of faith and health in their local communities. HMA works on reaching out into the community and transform the approach to wholeness and health. They work to bond Faith Communities with Health Systems to advocate for justice in health care, protection of the environment and respect for all forms of creation. Their vision is that Faith Communities will reclaim their roles as healing centers within society. (Contact: Kathleen Fogerty/ Faith Community Nurse Coordinator, Virginia Chapter/ Kathleen_Fogerty@bshsi.org/ www.hmassoc.org)

⁶ *Sister's of Saint Joseph Charitable Fund (SSJC)* - The mission of SSJC is to continue and expand the health and wellness ministry of the Sisters of Saint Joseph of Wheeling. The mission of the SSJCF is to promote healthy and sustainable communities by providing financial assistance, strengthening collaborative relationships, and supporting local initiatives. The SSJCF is a resource and catalyst to enhance the rich gifts already found in local communities. As of April 2009, the SSJCF Board of Directors has approved 590 grant requests, representing more than \$9.6 million in funding. SSJC is currently contributing to four program areas: community support initiative, healthy ministry initiative, more active people, and oral health initiative. This organization directs funding to the Ohio-Appalachian area.

⁷ *Moses Cone Wesley Long Community Health Foundation* - A health conscious community where social and physical environments support healthy choices, a community that identifies good health as an asset, a primary health care home for each person.

businesses of Virginia where they bring research-based solutions to the problems Virginians deal with daily. Obesity is a problem in the Dan River Region that Extension will work to correct.⁸

Head Start is a national program that promotes school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social, and other services to enrolled children and families. The Head Start program in Danville has a child development center that serves breakfast, lunch, and snack to 3-5 year olds, who are low-risk children. A total of 204 children participate in five different centers in Danville: Holbrook St., Upper St. kitchen, Cedar Terrace, Cardinal Village, Pleasant View, and Westover. The meals follow the food pyramid, the nutrition program "Chat and Chew," with exercise and nutrition as a main focus of Head Start.

Council of Community Services is an incentive program designed for recipients of reduced meals to provide an in-home nutrition program. The service is part of the USDA and covers a majority of Southside Virginia where residents are reimbursed for food and food programs. The homes are voluntarily registered.

Model/Perspective Program

- 1. Youth fitness program:** Develop a program that works with overweight and obese at-risk youth to help them achieve healthy weights by providing professional nutritional, psychological, and fitness services. This would be a program in which participants must participate more than one year for observation as well as to receive participation incentives.

Suggestions: Resources include the City Auditorium fitness center, Averett University's athletic department, the Free Clinic, and the Science Institute, which can be partnered for this program. It should be modeled after the *T.E.E.N.S Program* at Virginia Commonwealth University in Richmond, Virginia.

Potential Lead Agency: Danville Parks and Recreation, Public School System, YMCA, Boys and Girls Club

- 2. Cooking/Shopping made easy:** Develop a program that teaches at-risk youth the importance of nutrition through hands-on cooking classes.

Suggestions: The youth will be responsible for creating the shopping list, finding the best bargains for preparing the meal in a healthier fashion. They will be responsible for learning ingredient replacement to make foods healthier.

Potential lead agency: Boys and Girls Club, George Washington High School Culinary Arts Program

⁸ There is a Virginia Cooperative Extension office in Danville and Pittsylvania County. The nearest Unit Coordinator of Family and Consumer Science Agent on Food, Nutrition and Health is in Franklin County, Shewanna Hariston (540-483-5161, shhairst@vt.edu). The nearest Area Coordinator for Food Nutrition Program Coordinator, Family and Consumer Sciences, is Anne Carter Carrington in Halifax (434-476-9927, acarrington@vt.edu). The local Danville Food Nutrition Programming Assistant and SNAP-Ed Youth educator is Mike Miller (434-799-6558, pmmiller@vt.edu). The local Pittsylvania County Family Nutrition Program Assistant, SNAP-Ed Adult educator is Beverly Vaden (434-432-7770, bevden@vt.edu).

3. **Food for the Community:** The *Food from the Hood* program was started in 1992 by a group of students from Crenshaw High School. Their goal was to convert an abandoned garden into a garden that would supply food for the less fortunate people in their community. By the end of that year, the program harvested its first crop and donated 100 percent of its produce to a local food bank. The following year, the program participants also began selling their produce at the local farmers' market, and two months later, because of research by a student manager, salad dressing was identified as one of the best selling food products. Within that year, the program organizers applied for a foundation grant to turn the gardens into a business, set up a partnership with a leading salad dressing co-packer and manufacturer, and developed their own salad dressing. Upon receipt of the grant money, a corporate office was established, and to date, the program generates enough revenue to award over \$140,000 dollars in scholarship money to its student managers. The "student-managers" design, develop, and create products; plant, maintain and harvest their own garden; and make marketing decisions, develop business plans, and run the daily operations. Each student tracks his or her work hours and receives payment in the form of a direct scholarship to their post-secondary school, college, or university. The program also provides academic tutoring, SAT and college entrance exams preparation, mentoring, and life-skills training. Seventy-seven (77) program graduates have attended two-year or four-year colleges or technical schools, including Howard University, Tuskegee Institute, Morehouse, Stanford, University of California at Berkeley, University of North California, and USC.

Suggestions: Create a program that allows the youth to learn about nutrition and health by growing their own food. This program can be modeled after the *Food from the Hood Program* in Los Angeles, California.

Potential Lead Agency: Boys and Girls Club, Danville Parks and Recreation

4. **Fitness through movement:** Program in which funding is granted to organizations to create "sports/ movement introduction" camps that service at-risk youth. These camps expose at-risk youth to sports/activities not normally participated in, such as rugby, lacrosse, swimming/diving, dance, field hockey, and rock climbing.

Suggestions: Each "introduction camp" would last for two weeks, and then the youth would move on to a different camp. Based on feedback from the participants, if there is a high interest to continue with an activity, it will be offered to the organization through the teaching agency.

Potential Lead Agency: Danville Parks and Recreation, YMCA

6. Workplace Wellness

Why?

Obesity leads to diabetes, hypertension, stroke, and cancer. Compromised health affects employees' efficiency in the workplace. Employees missing work and companies having increased health insurance costs mean less efficiency and less dollars for expansion.

Health and nutrition initiatives in the workplace are needed to reduce obesity. Employers have significant cost savings as their employees' health improves through less lost work hours and decreased health insurance claims. Johnson and Johnson officials claim their workplace wellness efforts saved the company \$15.9 million in 2007 and Pitney and Bowes has claimed a savings of \$40 million over the past nine years. Another reason companies develop these programs is to avoid more drastic steps such as actions taken this year by the North Carolina state legislature. Starting in 2011, state employees or family members who are seriously overweight or obese will be (involuntarily) moved into the most expensive health insurance plan option.

Model/Perspective Program

1. Wellness Works in Cenla Program: Provides employers of all sizes in Central Louisiana the resources to offer a customized worksite wellness program. The program, initially led by a group of five Central Louisiana occupational health nurses, started as a pilot effort in 2003. Five companies, company occupational nurses, and health experts instituted programs to promote preventive health measures among employees, with special emphasis on cardiovascular disease. Services offered to employees include: assistance in developing a comprehensive wellness program, exercise demonstrations, walking programs, weight-loss programs, health risk appraisals, telephonic counseling, and biometrics.

Suggestions: *Develop a "lunch time" workout program* that allows employees to participate in a workout session during lunchtime. These workouts could be traditional style workouts or could be non-traditional workouts led by guest trainers. Create an incentive program in which employers are rewarded for their participation. The following are examples of incentives that can be offered:

- longer lunch break,
- earned hours toward paid vacations,
- discounts towards gym memberships,
- bonus dollars on paychecks,
- workout apparel, sporting game tickets,
- gas cards, grocery gift cards, and paid childcare.

For organizations that do not have space to hold workouts, partnerships with the City Auditorium, YMCA/YWCA, and local gyms are logical. Employees from multiple organizations can collaborate on a region-wide, work-force wellness program.

Many employees may have difficulty engaging in fitness and wellness programs because of the lack of babysitting services for their children. Therefore, special programs should be created for employees to allow children the opportunity to participate in mommy and baby yoga, daddy and toddler weightlifting, and family circuit training.

Potential Lead Agency: Danville Public School Systems, YMCA, YWCA

Connecting the Dots

The strategic plan presents six areas that encompass targets believed to be effective for implementing obesity prevention and reduction programs. Each area has specific targets, programs, and effective areas of performance. They have the opportunity to prevent, reduce, and measure obesity through their own unique features.

The first step of the plan is obesity observation and collection of data because of the lack of obesity information in the community. Data regarding obesity was last collected in 2005 and because of the four-year difference, the rates could be higher. This information is vital to proving that obesity is a Dan River Region issue. Second, a community coalition to educate and design policy is the next step to tackling the obesity issue in the community. The problem cannot change without a community coalition to address the problem, raise awareness, and challenge the community. Third, childhood obesity is targeted. Early childhood providers are trained to implement educational nutrition programs involving parents to ensure that they implement nutrition and physical activity. Beginning nutrition and physical activity at a young age ensures continued emphasis throughout life. Fourth, a health ministry could be effective in making obesity reduction a mission of the church. The Dan River Region is known to have many diverse churches; connecting them with a health ministry will be effective in targeting and reducing obesity.

Targeting childhood obesity is further carried out in the fifth step, after-school activity and nutrition programs for at-risk youth. Data shows that at-risk youth from low-socioeconomic areas have the highest obesity rates. This step is vital to educating the youth concerning nutrition and choices for eating healthily on a limited budget. It also encourages physical activity.

The sixth step directly targets the adult population, the workplace wellness which provides incentives for employees to reduce their weight and implement exercise into their lifestyles. This step is essential to encouraging employees to remain healthy for the benefit of themselves and the workplace.

“Connecting the Dots” includes taking areas from all the small ‘dots’ of the community and applying them to a ‘bigger’ picture. The small dots are the six areas of implementation which work together under the bigger picture, obesity reduction. The approach encompasses children, youth, parents, community, businesses, and civic leaders in the community-wide prevention and reduction of obesity. Having each area work with others, either by partnering or simply sharing resources, the whole community contributes to the goal. Through the six areas presented in the report, a majority of the Dan River Region will work together to transform the region through a reduction in obesity.

Opponents

Based on research, now is the optimal time to launch this initiative; however, there may be reluctance. Organizations that are unwilling to partner are a negative. Leaders may not see the benefit of working together to create a community-wide attack on the issue. Often organizations will work independently, claiming success for themselves instead of realizing that more is accomplished through a group effort.

Beyond the lack of cooperative effort, there may be a struggle for who will lead the project and the reluctance of many to follow the leader. That is why a multifaceted approach is vital to

motivating the community. It provides several approaches that allow leaders to appear in each section. They all work for the common obesity reduction goal and emerge as leaders in their individual fields. A lack of instant results will create unwillingness for immediate participation from the community; however, short term outcomes will provide an important motivational incentive.

Individuals who struggle with access to healthy food as well as access to facilities that promote physical activity, such as gyms and walking trails, also present problems. Families living on limited incomes usually are not willing to purchase the healthiest foods at the grocery store because of higher costs. However, education on how to prepare inexpensive food in a healthy way will transform the access to healthy food. Adding to this training, various subsidized food services from social services allow access to healthier foods. Concerning exercise, gyms and exercise centers have fees that prevent participation from low-income residents. Ready access to walking trails is also a problem. Public transportation, expansion of trails, and after-school activities are ways to increase physical activity.

Another negative is those who do not realize that obesity is an issue for themselves; they do not realize that their own health is at risk. Many individuals may not believe they need to maintain healthy lifestyles because they do not realize the dangers of obesity. People rarely react to a situation unless it already affects them. Only after diagnosis do individuals take action against their unhealthy lifestyles. The *Transtheoretical Model*, *Health Action Process Approach Model*, and “Change 4 Life” campaign are approaches that will assist individuals in making lifestyle changes.

Conclusion

This report addresses the obesity dilemma that the Dan River Region is facing and the need to stop the epidemic. The Danville Regional Foundation must focus on preventing and reducing obesity rates in order to end the spread of obesity and encourage a transformative region. Therefore, the report recommends that the Danville Regional Foundation focus on the prevention and reduction of obesity, with childhood obesity reduction as the primary goal, in a multifaceted approach. A ten-year plan involving six areas designed to prevent and reduce obesity is proposed. Each area’s uniqueness and small audiences allow for education, implementation, and encouragement of healthy nutrition and physical activity. Through the efforts expended on six diverse and unique areas, the Dan River community will work toward a “Change 4 Life” that will promote healthy lifestyles. With a multi-faceted strategy that involves the community, DRF can have a major impact on the health and wellness of the community, which will contribute to a thriving region that works well for everyone.

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