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WNC Healthy Teens: A Multi-level Teen Pregnancy Prevention Initiative

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WNC Healthy Teens: A Multi-level Teen Pregnancy Prevention Initiative

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Abstract

WNC Healthy Teens is a multi-component, community-based teen pregnancy prevention initiative. The program will be targeted in rural areas of Buncombe and Henderson Counties that have aggregate rates showing that over half the population of women aged 15-19 years are giving birth. Sexual education is necessary, but not sufficient to preventing risky sexual behaviors[1]. Tying multiple levels of evidence-based school interventions together with standardization of adolescent sexual health care will provide a well-rounded approach to address teenage pregnancy. Starting the initiative at age 14, it is anticipated the majority of teens will have yet to initiate sexual activity. *Reducing the Risk* will be utilized as a sexual education curriculum in 9th-grade health and gym classes. This program has been shown to delay initiation of sexual activity and increase knowledge of condom and contraception use[2]. The *Teen Outreach Program* is a community engagement intervention that has been shown to reduce health and academic risk factors, including significant decreases rates of teen pregnancy[3]. Lastly, bringing local healthcare providers together to standardize adolescent healthcare will be essential to providing resources and trusted services to the teens involved in the initiative. All components will be evaluated for consistency and fidelity, as well as health outcomes. Evaluation will include comparison schools that are similar to implementation sites to ensure improvement is associated with the initiative and not outside factors. The Mountain Area Health Education Center will coordinate planning, implementation, and evaluation with the assistance of local health departments.

TARGET POPULATION & NEED

The overall rate of teen pregnancy in the United States (U.S.) has been decreasing substantially since its peak in 1991[4]. In fact, experts say that pregnancy rates have decreased by 35 percent between 1990 and 2004, and birth rates have decreased about 24 percent between 1991 and 2005[5]. However, the U.S. rate of teen pregnancy remains high when compared to similar countries[6]. Taking a closer look, significant disparities are present between specific populations, such as racial and ethnic groups (e.g. black vs. white), and more recently between urban and rural populations[7]. Like much of the U.S., North Carolina has seen a decrease in teen pregnancies, however, there are pockets of the population where prominent disparities still exist due to geographic and racial differences. In particular, Western North Carolina, including Buncombe and Henderson Counties, has also seen a general improvement in teen pregnancy and birth rates over time[8]. Despite the decreasing rates of these counties, specific rural populations in this region still experience significantly higher rates of teens giving birth compared to their urban counterparts[8].

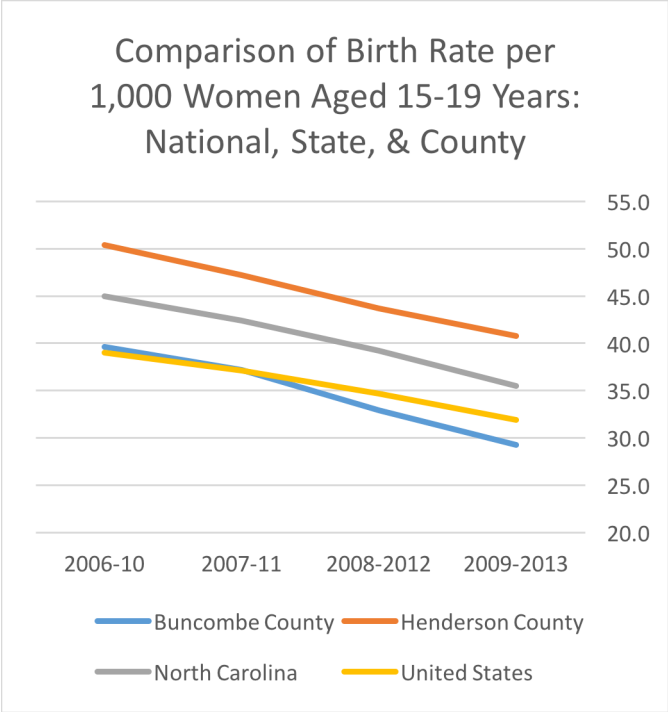

Figure 1: Comparison of Birth Rate per 1,000 Women Aged 15-19 Years: National, State, & County, as reported in the U.S. Census Bureau American Community Survey

Buncombe County and Henderson County are located in the

mountainous western region of North Carolina; both counties are designated as Appalachian by the Appalachian Regional Commission (ARC)[9]. In 2010, the Buncombe County population was 238,307[8]. Thirty-five percent of the county population is located within the city of Asheville, the county seat and sole metropolitan area of the county, resulting in an average of 235.89 people per square mile outside of Asheville[8]. Henderson County had a population of 106,742 in 2010 and does not have a significant metro area[8]. There are approximately 286.1 people per square mile[8]. Although both counties appear to be urban in nature, specific areas of each county are quite rural and geographically isolated. Outside of the city centers, there is limited industry and opportunity for employment. Without travelling to Asheville or Hendersonville, the outer stretches of these counties are under-resourced in healthcare and many other other social service resources. Due to the effects of economic downturn, lack of opportunity in the mountains, and businesses moving to the city centers, there has been a decrease in activity and career opportunities in rural areas.

In North Carolina in 2013, the teen pregnancy rate was 35.2 per 1,000 females aged 15-19 years, which is nearly 10 per 1,000 greater than the national rate of 26.5 per 1,000[10]. The rate was 24.4 per 1,000 in Buncombe County and 42.0 per 1,000 in Henderson County[11]. Although the rate in Buncombe County is actually *less than* the U.S. average teen pregnancy rate and the two county rates straddle the North Carolina average, Buncombe Counties success in lowering the teen pregnancy rate is due to efforts targeting only urban populations. The more rural area between Arden in Buncombe County, and Mills River in Henderson County, has significantly higher rates than the surrounding areas (Figure 2). The U.S. Census Bureau published aggregate

rates by census tract from the American Community Survey from 2009-13. Near Arden, Census Tract 22.03, the rate of 15-19 year old females giving birth was over 600 per 1,000[8]. Near Mills River, Census Tract 9307.01, over 810 per 1,000 15-19 year olds gave birth[8]. These high rates are outliers in the county (Figure 2). Rates based on small numbers may be marked as unreliable. Although these rates are based on small populations of 102 and 55 women aged 15-19 years in Buncombe and Henderson counties, respectively, the significance of the issue of teen childbearing is obvious in the numbers that were used to determine the rates (Table 1). Throughout this document, each census tract region is referred to by the name of the nearest town, rather than the numbers assigned by the U.S. Census Bureau. In Buncombe County, Census Tract 22.03 is referred to as Arden. In Henderson County, Census Tract 9307.01 is referred to as Mills River.

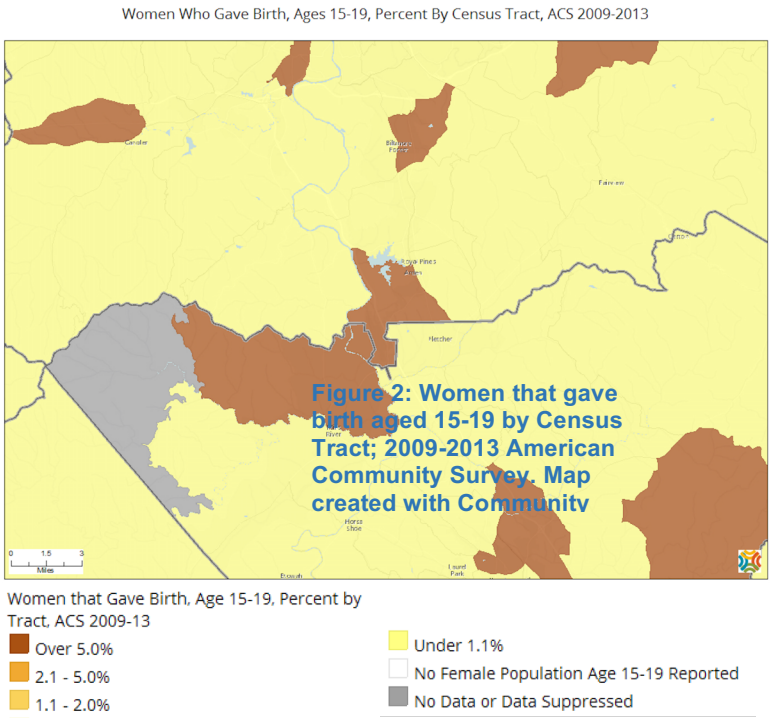

Figure 2: Women that gave birth aged 15-19 by Census Tract; 2009-2013 American Community Survey. Map created with Community Commons (c).

	Arden: Census Tract 22.03, Buncombe County, NC	**Mills River:** Census Tract 9307.01, Henderson County, NC
Total Number of 15-19 Year Old Women:	102	55
15-19 year-old women who had a birth in the past 12 months	**62**	**45**
Now married (including separated and spouse absent)	17	0
Unmarried (never married, widowed, and divorced)	45	45
15-19 year-old women who did not have a birth in the past 12 months	40	10
Now married (including separated and spouse absent)	0	0
Unmarried (never married, widowed, and divorced)	40	10

Table 1: Estimates of Population Women that Gave Birth, Ages 15-19, in Arden, Buncombe County, and Mills River, Henderson County: American Community Survey, 2009-2013 5-Year Estimates

Rural areas, like these two tracts, have been found to have teen pregnancy and birth rates that are one-third higher than more urban areas of the country[12]. There are unique characteristics that contribute to this increase in risk. Rural women are more likely to lack access to both public and private insurance coverage, especially for maternal and preventative services, when compared to urban women[13]. To add to that, rural teens live farther away from friends and entertainment, leaving many both isolated and bored. These qualities are associated with high rates of risky behaviors in teens, including increased drug use and risky sexual behavior[14]. Other factors associated with the high risk of teen pregnancy are also often present in rural areas, including families of low income and low education levels[15]. In this region, the area with *higher* teen

	Arden: Census Tract 22.03, Buncombe County, NC	**Mills River:** Census Tract 9307.01, Henderson County, NC
Total population	5,666	3,463
RACE		
Non-Hispanic White	53.8%	90.5%
Black	11.2%	5.3%
Hispanic	30.9%	3.2%
Two or more races	5.1%	0.4%
EDUCATION		
Population aged 25 years or older	3,520	2,616
Less than high school graduate	20.1%	6.6%
High school graduate	24.3%	16.1%
Some college	33.4%	41.1%
Bachelor's degree	14.9%	16.1%
Graduate or professional degree	7.2%	20.1%
INCOME		
Median income	$23,474	$31,712
Population living below 100% of the federal poverty level	28.4%	6.8%
Children under 18 years living below 100% of the federal poverty level	24.3%	1.4%

Table 2: Social characteristics of the population in Arden, Buncombe County, and Mills River, Henderson County; American Community Survey, 2009-2013 5-Year Estimates

pregnancy rates, Mills River, has notably less low income and low education families. Only 6.8% of the population is living below the poverty level compared to 28.4% in Arden. Only 22.7% of the population have attained a high school diploma compared to 44.4% in Arden[8].

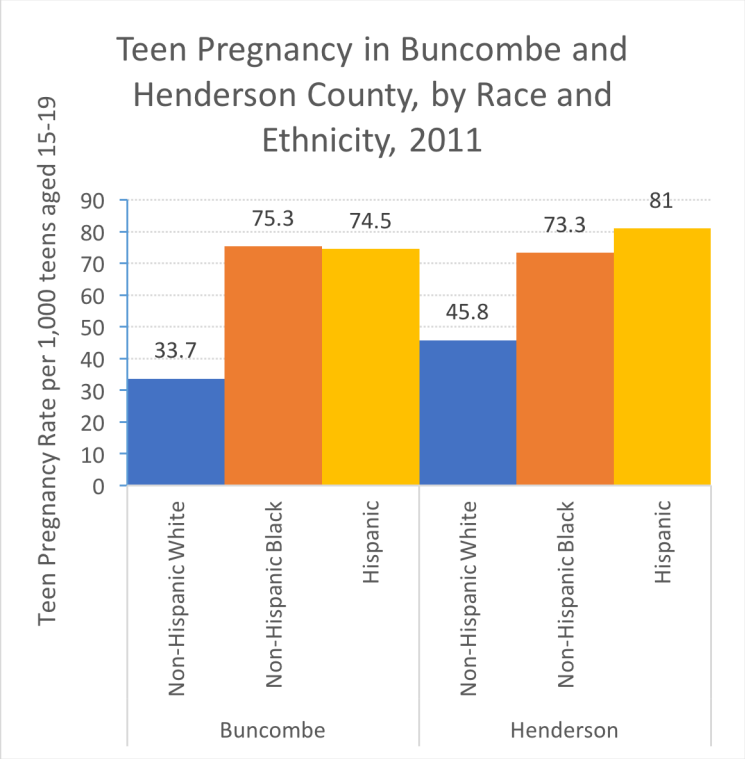

Figure 3: Teen Pregnancy in Buncombe and Henderson County, by Race and Ethnicity, as reported in the respective county Community Health Needs Assessment, 2012.

Demographics vary between Arden and Mills River not only in income and education, but also in race and ethnicity. Historically, there have been racial disparities in teen pregnancy and birth rates, with Hispanic and black rates significantly higher than those in the white population[4].Teen pregnancy and birth rates have decreased, regardless of race and ethnicity, however, this racial disparity persists in most areas[4]. As shown in Table 2, the non-Hispanic white population accounts for 90.5% of the total population in Mills River and only 53.8% of the total population in Arden[8]. While the higher birth rate is associated with the less diverse area, both the Buncombe and Henderson County Community Health Assessments (CHAs) acknowledge an existing racial disparity[16,17], as demonstrated in Figure 3.

Teen pregnancy was highlighted as a health priority in both the Buncombe County and Henderson County CHA conducted in 2012[16,17]. Recognizing the need from

statistics collected and analyzed by Western North Carolina (WNC) Healthy Impact, Buncombe County Health and Human Services (BCHHS) and Henderson County Department for Public Health (HCDPH) addressed the issue in focus groups and community surveys, illuminating the motivation of the community to act on the issue. The Buncombe County Community Health Improvement Process (CHIP) Advisory Board and the Henderson County Board of Health each addressed the issue and elected to form a dual-county committee to focus on reducing the rate of teen pregnancy in each county[16,17].

The proposed approach will have three necessary components in addressing teen pregnancy in both Buncombe and Henderson counties. The initiative will be targeted to teens ages 14-19 years at T.C. Roberson High School of Buncombe County Schools (BCS) and West Henderson High School of Henderson County Public Schools (HCPS). These are the two high schools serving the populations of the census tracts highlighted above. As mentioned previously, there are few places for youth to come together in rural communities. Targeting schools will allow the initiative to maximize the amount of teens it will reach. The North Carolina School Report Card system estimated that nearly 1,600 and 1,100 students were enrolled, in T.C. Roberson[18] and West Henderson High[19] respectively, in the 2014-2015 school year. While the high schools will have the largest population participating in the initiative, alternative high schools and the regional foster youth program will also be involved.

Community High School in BCS and Balfour Education Center in HCPS act as alternative public schools for those students who did not find success in more traditional schools. The proposed initiative will pair with the existing positive youth development

programs in these schools to reach those at-risk within the student population. In addition to the high-risk populations at alternative schools, foster youth in Buncombe and Henderson Counties are a unique and vulnerable population, as foster care placement is associated with increased risk of a number of negative health and social outcomes, including risky sexual behavior and substance abuse. The Goodwill Industries of Northwest North Carolina program, ECHO, provides one-on-one mentor ship and group meetings for foster youth with a goal of building a support network, providing training in academic and career skills, and improving life skills, like financial management[20]. Collaborating with the ECHO program will allow the initiative to access a population of youth that may be difficult to engage in a traditional environment.

Based on 2010 U.S. Census data, there are an estimated 4,000 lesbian, gay, bisexual, transgender, and questioning (LGBTQ) youth in WNC[21]. To ensure inclusivity for LGBTQ teens, Youth OUTright WNC, a non-profit organization that empowers LGBTQ youth and advocates for safety and inclusivity throughout the WNC region, will provide consulting on the programs, surveys, and language used throughout the initiative[21]. Recent research has found that LGBTQ youth are often at *higher* risk of unintended teen pregnancy, and are more likely to initiate sexual activity at an earlier age[22]. Ensuring that LGBTQ youth feel comfortable, respected, and included throughout proposed initiative will be essential to successfully improve outcomes for the adolescent population of Buncombe and Henderson Counties.

With a focus on the Mills River and Arden youth population through these high schools, alternative schools, and foster care through Goodwill's ECHO, over 600 teens will be reached in the initial stages of the initiative. Consulting with organizations like

Youth OUTright WNC will assure that the initiative maximizes its reach within this population. Eventually the initiative will aim to reach *all* youth in schools and alternative programs in rural Buncombe and Henderson Counties, if not all youth throughout each county.

There are existing resources in Buncombe and Henderson counties that contribute to efforts to reduce the teen pregnancy rates that remain high in rural areas. In Buncombe County, the Mt. Zion Community Development Corporation is supported by North Carolina Department of Health and Human Services (NCDHHS) in administering *Reducing the Risk (RTR)* and *Teen Outreach Program (TOP)*. The *RTR* curriculum is a comprehensive safe sex and STI education program that provides tools and knowledge about the multiple components of safe sex behavior, including condom and contraception use, as well as effective communication and refusal skills (ETR.org). The *TOP* program is a community-engagement-focused, positive youth development program that has successfully reduced teen pregnancy, school failure, and school suspension rates where it has been implemented and evaluated[23]. Unfortunately, Mt. Zion currently only has the capacity to provide these programs in Asheville City High School's ninth-grade physical education classes. BCS and HCPS have yet to develop approaches to the state-supported implementation of *RTR.* Based in Arden, Mt. Zion will be an essential partner in expanding the reach of safe sex and STI education to include city and county schools in each area.

Both school systems embrace health and leadership development in their districts. The Buncombe County program Y.E.A.H. (Youth Educators Advocating for Health) and the Henderson County Young Leaders Program aim to teach students

leadership skills, assist them in setting future goals, and prepare them for higher education through educating their peers about goal-setting, healthy behaviors, and positive attitudes[24,25]. Partnering programs like these with college mentors from area community colleges and universities will add to the development of high school students and increase students' confidence in pursuing and earning a higher degree.

The Mountain Area Health Education Center (MAHEC) and Mission Health are the primary providers of healthcare in both Buncombe and Henderson counties. Although they currently do not provide adolescent-specific care, these entities are the current healthcare providers accessible to the majority of teens in the two counties. Mission Health is a not-for-profit, independent community hospital system with six hospitals and a number of outpatient, surgery, and post-acute care providers throughout Western North Carolina[26]. MAHEC is the region's leader in health professional education and continuing education, but also maintains an extensive system of full spectrum healthcare, focusing on family medicine, obstetrics and gynecology, behavioral health, and internal medicine[27]. Mission Health and MAHEC often partner to address health in the region. For example, in Buncombe County, the Pediatric Care Collaborative ties all healthcare professionals that provide care for youth ages 0-18 into one entity. The providers included in this network are both within and outside of Mission Health and MAHEC, as there are pediatricians practicing outside of the healthcare systems. MAHEC, Mission Health, and the Pediatric Care Collaborative will be partners in developing a standard of care for adolescent sexual health.

PROGRAM APPROACH

Gaston Youth Connected

Buncombe County Health and Human Services (BCHHS), Henderson County Department of Public Health (HCDPH), BCS, HCPS, and MAHEC will be the primary partners initiating the project. These entities will be most involved in the full initiative, including planning, implementation, and evaluation. The initial intervention will target the aforementioned areas of high teen pregnancy rates, but will have a goal of being used throughout both counties once fully developed. The overall program will be designed based on the Centers for Disease Control and Prevention (CDC)-funded Gaston Youth Connected (GYC) initiative. GYC is a multi-component, community-wide teen pregnancy prevention initiative (TPPI) that utilizes evidence-based programming through community partners to improve not only adolescent sexual health, but also goal-setting practices and hope for the future within their target population[28]. Implemented in a similar environment in Gaston County, North Carolina, the initiative had a five-year goal (2010-2015) of lowering the teen pregnancy and birth rates by ten percent[28].

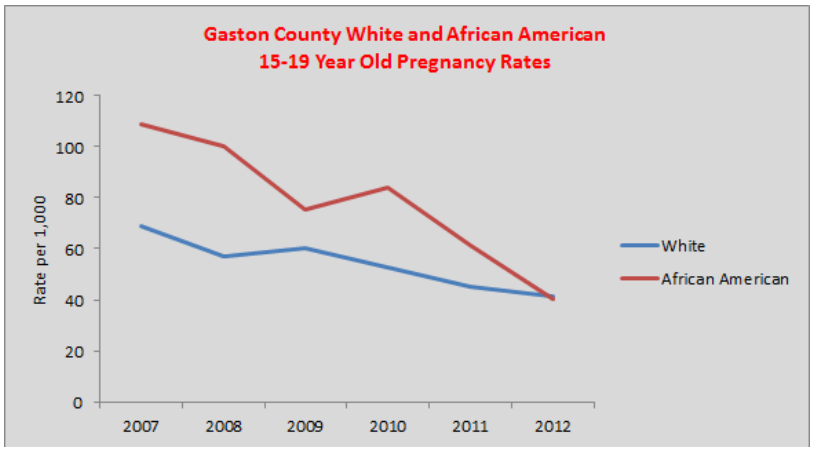

Figure 4: Progress of Gaston Youth Connected; from gastonyouthconnected.org

In the most recent report of impact and outcomes, GYC reported a 40 percent decrease in the teen birth rate and notably closed the gap between the pregnancy rates

of white and African American teens by 2012[28]. Their success can be attributed to community-driven, evidence-based education, prioritization of adolescent health, and utilization of young adults as peer role models. In fact, one of their most significant outcomes was increased contraception use due to improved education and access to adolescent-specific reproductive healthcare. Gaston County Public Health alone increased use of long-acting reversible contraception (LARC) by 51 percent in their target population between 2010 and 2014[28]. In the same time period, national rates in this population increased by only seven percent at public health clinics[29]. LARC is significantly more effective in preventing pregnancy when compared to pills, patch, or ring for all ages of women[29]. In comparison, only about five percent of teens in the state of North Carolina use the same or similar birth control measures[28].

The successes of GYC demonstrate the effectiveness of a multi-level, community approach when partners are motivated to act on improving community health around teen pregnancy. The multi-component nature targets more than one aspect of teen risk behavior by integrating education, clinical practice and mentorship. The proposed initiative for Buncombe and Henderson counties will have three similar components that will be targeted specifically for the most at-risk populations in these counties.

Education: Reducing the Risk

Historically, teen pregnancy prevention has been addressed with a variety of distinct educational approaches[6]. The primary curriculum-based education programs are abstinence only and comprehensive. Comprehensive sex education highlights abstinence as the epitome of pregnancy and STI prevention[1]. However, these curriculums do not rely on abstinence as the only approach as there is discussion of

other safe sex behaviors, like condom and contraception use, for participants who are sexually active[1]. Abstinence-only approaches have been found to neither reduce frequency, nor reduce initiation of sexual activity[30], where comprehensive sex education programs have shown more promising results[1]. One analysis of programs found that nearly 70 percent of 48 analyzed studies concluded that comprehensive sex education had a positive impact on at least one behavior; 38 percent positively impacted two or more behaviors[1].

Informed by the successes and failures of previous approaches, the most recently developed curricula are based upon theories that have been successful in interventions regarding other risky behaviors, like substance abuse, as well as strategic and rigorous evaluation to ensure effectiveness[30]. These are comprehensive programs that use positive language to emphasize *why* it is important to wait to have sex or practice effective contraception, while giving teens the tools and confidence to make informed decisions regarding sexual activity. The *Reducing the Risk (RTR)* curriculum is a comprehensive safe sex and STI education program that provides tools and knowledge about multiple components of safe sex behavior[29]. This is one of several programs supported by the North Carolina Department of Health and Human Services[31].

While other programs were considered for this initiative, *RTR* was selected to use within this target population due to existing state and community support, as one local organization is currently implementing *RTR* with a small group of teens. The 16-session curriculum will be used to educate teens and construct a norm of safe, protected sexual behaviors. Anticipated outcomes include improved attitudes and

efficacy surrounding prevention of pregnancy and sexually transmitted infection (STI), as these outcomes are included in the original purpose and evaluation of the curriculum[32]. Separate components of *RTR* focus on a variety of topics including abstinence, birth control methods, refusal skills and communication skills administered through roleplaying and skill practice activities, in addition to mini-lectures and critical-thinking worksheets[32]. Based on social learning theory, social inoculation theory, and cognitive behavior theory, instructors and mentors modeling socially desirable behaviors as well as roleplaying with the participants will increase students' confidence and self-efficacy in resisting negative pressure and exercising positive practices[2].

The initial evidence of success using *RTR* was a quasi-experimental study design comparing classrooms with and without the program in high schools with primarily white populations[2]. Researchers found that 18 months after intervention, female adolescents were significantly less likely to be participating in unprotected sex, particularly those who were sexually inexperienced at the baseline[2]. Given that the program was designed to target high school populations, the curriculum will be administered to 14- and 15-year-old teens in freshmen gym and health classes to educate teens early in their high school career. It will also be adapted to meet the needs of foster groups meeting at local Good Will Ministries and students at alternative high schools. These groups have been shown to be of higher risk and may require a more focused, small group program[33]. Because of the at-risk nature of these groups, the program may need to be alter to tailor to the needs of a smaller number of participants that may be at higher risk of teen pregnancy and STIs[34]. These adaptations will be based on the *RTR* Adaptation Kit, as well as meetings with teens and separate

meetings with staff members of these locations in order to collect input address specific needs. There will be no changes made to the curriculum and administration outside of what is currently published by ETR (Education, Training, and Research) Associates.

In addition to the Adaptation Kit, the *RTR* supplement, *Understanding Self-Identity: Building a Supportive Environment for LGBTQ Students*, published by ETR, will be used to ensure inclusivity for participants of all sexual orientations[35]. These documents will be used to adapt *RTR* to meet the needs of the target population while addressing diversity and inclusivity.

Mentorship and Community Engagement

RTR is noted to potentially be an important *part* of a sexuality education program, but is *not sufficient on its own*[2]. While *RTR* will serve as the educational component of the intervention, there will be a clinical quality improvement component as well as a mentorship program that will utilize a partnership between local community colleges and universities, and high schools in both counties. Regardless of inconsistent outcomes regarding contraceptive use and age of initiation of sexual activity, youth development behavior interventions with community service elements lead to significant decreases in the rates of self-reported sexual activity and the pregnancy among participating teens[36]. Using the *Teen Outreach Program (TOP)* model and curriculum, students will participate in a mentorship and youth development program designed to prevent risky adolescent behavior. *TOP* is a nine-month program that has been evaluated for male and females of all races and ethnicities[37]. Similar to *RTR*, *TOP* is also currently administered in Buncombe County under the name *Project EMPOWER*. However, this

program was determined to be appropriate for the target population before *Project EMPOWER* was known to be an adaptation of the same evidence-based intervention.

After its initial evaluation, *TOP* participants had lower levels of poor academic behavior as reflected by suspension, dropout, and course failure, as well as lower rates of teen pregnancy and risky sexual behavior when compared to non-participants[3,23]. *TOP* was designed embrace meaningful discussions and reflection on participant-designed service learning projects[3]. In a more recent evaluation of over 1,500 high schools students, participants had 53% of the risk of teen pregnancy, and only 60% of the risk of course failure when compared to non-participants[23].

In this initiative, the model will build relationships between high school students in their sophomore, junior, and senior years and students from surrounding institutions of high education, including community colleges, like Asheville-Buncombe Technical Community College (AB Tech) and Blue Ridge Community College, in addition to local universities, like Lenoir-Rhyne University and the University of North Carolina-Asheville. While the same instructors from the *RTR* component will be primary facilitators for *TOP,* college students will serve as co-facilitators and mentors for the high school students in community and civic engagement activities. Service activities will aim to build leadership skills, improve efficacy around applying and attending college, as well as increase knowledge of how to maintain physical and mental health in high school and higher education. Student-mentor teams will assess community needs in order to plan and implement a targeted service project. This process will occur over the course of a full school year with service taking place throughout the community, in locations like hospitals and homeless shelters. Students will have the opportunity to learn from the

experiences of other community members, gain experience that will prepare them for college and/or career, and give the opportunity to build trusting relationships with their mentors.

Clinical Improvement

In combination with the above two elements, there will also be a quality improvement change within clinical practices that are addressing adolescent health in Buncombe and Henderson Counties. While there are no known providers specializing solely in adolescent health in either county, there are many pediatricians and general practitioners serving the adolescent community. Using the model of the successful Buncombe County-based Pediatric Care Collaborative, adolescent health care providers will be encouraged to work together in partnership to address concerns of adolescent sexual health and risky behaviors. Developing standardized protocol to first build a trusting relationship through respect for the adolescents' right to health and privacy, even from their parents before going on to assess levels of sexual activity, discuss options for birth controls and sexually transmitted infection prevention, and promote conversations about sexual health and sexual decision-making with their parents. Using this model, providers will have the opportunity to develop strategies to implement evidence-based medicine and evidence-supported care, such as the promotion and use of LARC in GYC model.

Healthcare providers have a unique role where, with the right practices, they can build trust with the teen and the parents in order to promote and improve understanding of the importance of having the knowledge of safe sexual practices and the ability for parent-teen communication about physical and emotional relationships. Without

standardization of adolescent care throughout the region, adolescents may not have sexual health addressed in a clinical practice until they move to an adult primary care physician at as late as 21 years old[38]. This age may be too late to address sexual health before initiation of sexual activity with nearly 50% of North Carolina high school students self-reporting initiation of sex during or prior to high school[10]. Using the Pediatric Care Collaborative approach, a network of healthcare providers will be formed specifically to address adolescent health, creating a safe place for teens to address health and a system for referrals when teens of need are identified through other components of the program. This will ensure that as many teens as possible are receiving necessary preventive health services before risky sexual behaviors take place.

It will be essential for everyone involved in the initiative, including the trained instructors, mentors, and healthcare providers to be sensitive to the concerns of parents and to be educated in trauma-informed and culturally-sensitive practices and care. Buncombe County has an established Adverse Childhood Experiences (ACEs) Subcommittee that partners with regional entities to provide education and training on ACEs and the Community Resiliency Model. The Community Resiliency Model is a theoretical framework and social process that focuses on how communities and individuals adapt and respond to adverse experiences and toxic stress[39]. The Community Resiliency Model has been shown to be effective in training communities to have trauma-informed practices[39] and will be an important part of implementing all components of the initiative.

MAHEC has an existing department addressing the need for diversity and inclusion in the local workforce, including a component that connects with local teens.

This department address the needs of people of different cultures, races, ethnicities, and sexual orientation with an emphasis on respect and sensitivity of others. Using meaningful practices informed from trainings by the Department of Diversity Education, all partners involved in implementation will be culturally component when implementing any part of this initiative.

Community Advisory Board

Planning, implementation, and evaluation of the multi-level initiative will require representatives from the primary organizations and institutions involved in the initiative to collaborate in a Community Advisory Board (CAB). Workgroups will branch off the CAB in order to address each of the three specific intervention components before coming together to work on the overall initiative. There is potential for key stakeholders from outside of the CAB to participate in these workgroups, as their meetings will be held separately from the overall CAB meeting.

Staff of the MAHEC Department of Regional Services will facilitate all CAB meetings. Mission Health, MAHEC Obstetrics and Gynecology, MAHEC Family Practice, and other adolescent health care providers will be included to represent clinical perspectives on adolescent health and sexual activity. Buncombe County Schools, Henderson County Schools, as well as area colleges and universities, will represent day-to-day interaction with teens as well as the youth behavioral and leadership development approach in the mentorship program. In addition to the county school systems, foster youth programs, like those of Goodwill Industries of Northwest North Carolina, as well as alternative high school programs will be required to represent populations of teens that are absent or hard-to-reach in traditional high schools.

Community organizations like Mt. Zion Community Development Corporation and the YWCA, as well as government-led bodies, like Buncombe County Health and Human Services (BCHHS), Henderson County Department of Public Health (HCDPH), and Henderson County Department of Social Services (HCDSS), will represent community outreach and potentially play roles in program implementation within the initiative. In addition, organizations like YouthOUTright WNC, will be represented to ensure that all discussions and actions related to this initiative will be inclusive of all teens. YouthOUTright WNC is an advocacy and leadership organization of lesbian, gay bisexual, transgender, and questioning (LGBTQ) youth that is active throughout the region.

Last, but not least, it will be important to have teens and families represented within the CAB. As members of the public, teens and parents or guardians of teens will be recruited through high schools and alternative youth organizations. More specifically, teens will be recruited to participate in a Teen Advisory Board (TAB), where a safe, controlled environment will be provided for students to reflect on their own needs and expectations of the initiative without pressure from adults. At least one teen from this group will represent the TAB at the CAB meetings. Teens of various demographics and characteristics will be encouraged to participate in advisory meetings. They will be recruited through promotion of the TAB and CAB in the schools and foster group involved, as well as teen groups throughout the county. This will include encouraging teen parents to have a voice through recruit in groups like MotherLove, the teen parenting group implemented through the Buncombe County YWCA.

Parents will be invited to participate in community meetings prior to the start of each semester through a mass mailing containing information on the initiative as well as the opt-out parental consent form. The community meeting will provide an environment for parent questions and concerns to be addressed. The “opt-out” form will require parents to fill out and return the form to the school or health department in order to express that their child will not be participating. Although there may be some negative reactions to this format, the mailing and community meeting will be conducted to maximize the amount of information given to parents and to allow multiple opportunities for parent comments. These meetings will provide an opportunity for motivated parents, both for and against the initiative, to be invited to participate in the CAB. While recruiting both parents and teens, it will be crucial to have teens participate who do not know the parents or adults who are participating on a level that may alter the comfortable level of speaking within the group.

The Community Advisory Board will also act as a means of sustainability of the initiative. Involving groups like the Buncombe County Schools Foundation and the Henderson County Schools Foundation, as well as county government representatives, will be essential to have a well-rounded approach in addressing community needs. At the same time, these two Foundations and the county government have funding to allot to programs like this one if they see enough value to justify investment. Involving representatives in the CAB will allow each entity to see the effectiveness and evaluation of the program on a regular basis, and give an inside edge to ensure that the initiative is meeting expectations of potential future funders.

Potential Challenges

This initiative was designed with the difficulties of receiving parental consent in mind. Utilizing previously accepted programs will decrease the risk of parent opposition to the initiative. In addition, prior to the beginning of each school year, there will be at least one meeting held at each implementation site for parents to become informed about the initiative and its importance, and voice any questions and concerns. Although information and consent forms will be mailed to each family of involved students, there will also be printed information and an opportunity to sign consent forms at this meeting and at orientation for students.

While there is hesitance about the sufficiency of any intervention in addressing its goal, this initiative is multi-level to ensure that as many actions are taken as possible to prevent negative health outcomes while maintaining a positive and safe environment for teens. With multiple components, the goal of the initiative will be to keep students engaged in the community and interested in improving and maintaining their health. Continuous quality improvement will be informed by feedback from participants to confirm that their needs and interests are being met. In the situation where a student becomes pregnant, there will be an existing network of support and resources ready for referral. This network will be developed between CAB members and other community partners.

Motivation and acceptance by school teachers who are involved in implementing the initiative and incorporating components into their courses may also be a challenge. With a school currently involved in both *RTR* and *TOP*, teachers will be brought together to address concerns and learn from the experiences of those that have

previously been involved in implementation. Having firsthand experiences will be valuable involved in multiple areas of the initiative to prevent many challenges that have already occurred in prior implementation.

PERFORMANCE MEASURES AND EVALUATION

Results-based accountability (RBA) is an evaluation framework that starts with the goal, or result, and uses data, discussion, and decision-making to drive the development of the means to reach that goal[40]. Using results-based accountability, the anticipated result is driven by specific community indicators that reflect progress, and program and performance measures that show success on the ground. The overall result of this intervention is: "Young people make informed, safe, and healthy life choices." Community indicators of effectiveness will include decreases in the teen pregnancy rates and sexually transmitted infection incidence rates, as well as improved high school graduation rate, and improved college enrollment rates. Other factors, like full-time employment rates, may also be important to track. A driver diagram for the initiative showing the relationship between results, community indicators, and actions and strategies is included in Appendix I.

For the programs within our initiative, performance measures will be used to track *how much* we are doing, *how well* we are doing it, and *who* we are making an impact on with our program. Both *RTR* and *TOP* have existing pre- and post-surveys that already already built-in to the curriculum in order to track the impact of the program. The surveys used for this assessment include demographic information as well as the date and site location in order to collect information that will describe our target population and allow us to determine inherent differences between the environment and

the teens at each location. These surveys will be used in both the participant population, but also at comparison high schools that will be determined by BCS and HCPS. These schools will be chosen based on administration willingness to participate, as well as demographic factors to match the participant and comparison populations as closely as possible. While populations should be demographically similar, choosing a school geographically distant, but in the same county district may be ideal in order to prevent contamination of the comparison group due to communication between students from each school. Using a comparison school will allow the initiative to be evaluated, not only against the baseline information, but also to assess if the impact of the intervention could be skewed from other factors in the county. If this situation occurs,

Throughout each program, measures will be taken to track *how much* is being done by recording the number of participants during each session, factors about the level of participant interaction and participation, as well as notes about what topics were covered in each meeting. There will be a checklist and feedback form for each interaction to monitor the implementation of the mentorship component. Observations will be made by staff from BCHHS and HCDPH to monitor fidelity, lesson plans, and educator/facilitator conduct. There will also be an evaluation survey administered at the end of each semester in order to measure satisfaction and commitment to the initiative. These measures will be taken to inform continuous quality improvement throughout the implementation of the initiative.

The changes in clinical services will be evaluated through data will be collected by health care practices that are providing care to adolescents. This data will be

collected via the Pediatric Care Collaborative, or a similar entity, and should include, but not necessarily be limited to, measures such as:

- Number/percent of adolescents, ages 12-18, that are counseled on sexual health
- Number/percent of adolescents, ages 12-18, that are counseled on contraception, including LARC
- Number of prescription written for contraceptives to teens, aged 14-18, including specific types of contraception
- Number/percent of adolescents who present with concerns about sexual health and/or pregnancy.

The performance measures for the clinic will reflect communication between the doctor or other care provider and the teen. There will be questions assessing the amount of trust and comfort the teen has in their healthcare provider, the frequency of healthcare appointments and visits, as well as their knowledge of birth control methods in relation to their sexual activity. It will be important to have these measures outside of the doctor's office so the teen does not feel pressured to give positive feedback to the doctor.

Similar fidelity monitoring will occur within the Pediatric Care Collaborative as with the school-based components of the initiative. Checklists and feedback forms will be used to ensure standardized approach and measure satisfaction of care. There will be no observation or any other identifying information collected from the clinical care portion of the study in order comply with the Health Information Patient Protection Act.

Engaging partners in planning and evaluation

Additional performance measures for individual programs as well as community strategies will be identified during bi-weekly meetings between the partners implementing each part of the intervention. Workgroups with partners specific to each of the three components of the intervention will be educated in results-based accountability by employees of MAHEC and the UNCA Health and Wellness Center. With an understanding of the evaluation framework, community partners will gain the capacity to develop performance measures that are appropriate for their specific populations, while communication with the workgroup will bring partners together to construct common performance measures to provide the ability to collectively assess the impact of interventions between schools and other *RTR* sites, between clinical practices, and between mentorship groups.

Engaging community partners in the planning and evaluation process will keep them motivated around preventing teen pregnancy while also maintaining a consistent approach to the initiative across all implementation sites. These meetings will also be used to assess current national, state, and local survey questions regarding teen sexual health and pregnancy prevention. Currently, the CDC assesses teen health and risk behaviors using the Youth Risk Behavior Surveillance System (YRBSS)[41]. Initial feedback about measures is not that they need to be replaced or that additions should be made, but the measures should be re-written to be more inclusive of all teen sexual experiences, as safe sex behaviors are important for all sexual contact. As of 2015, nearly all sexual health questions ask specific about sexual intercourse.

Obstacles in data collection may arise from lack of commitment by community partners, inconsistency in collection throughout the community, and the potential for bias if individuals invested in the intervention are collecting the data. Recruitment and commitment of community partners will be addressed in meetings facilitated by MAHEC staff. The purpose of these meetings is to motivate community organizations around the goal of the intervention, build relationships between partners, identify successes in community work, and give partners the opportunity to participate and have input in the planning and implementation of the intervention. Keeping partners actively engaged in working towards our results will be essential to maintaining commitment and participation by the community.

Community mobilization will be critical in the planning, implementation, and evaluation processes to truly address the needs of the community. The Strategies Guided by Best Practices from Advocates of Youth[42] will be used to engage community leaders, develop a documented strategic plan, and maintain a shared vision across all partners. Furthermore, the planning, implementation, and evaluation processes will be guided by the RAND Corporation's Getting to Outcomes™[43] in order to structure discussion and actions focused on our end goals. These frameworks align with the structure of RBA as an evaluation framework and are anticipated to enhance the effectiveness of the implementation and evaluation of the initiative.

Inconsistency in data collection and bias due to interviewer buy-in will be avoided by utilizing MAHEC as a backbone organization to provide data collection training and technical assistance throughout implementation and evaluation processes as well as to

regulate data collection processes by helping partners identify who should be collecting data and actively checking with partners and/or data collectors to monitor progress.

Short-, intermediate- and long-term outcomes, shown on the Logic Model in Appendix II, will be measured using annual school-based health assessments in both the participating and comparison schools, as well as national surveys and county community health assessments. The comparison between participating and non-participating students will be crucial in measuring the success of the program. There will also be evaluation of the timeline (e.g. *RTR* more effective in the fall than the spring) as well as the implementation sites. These factors will allow the initiative to be tailored to each specific implementation site and aid improving the quality of the program.

Sustainability will rely on the success of impacting our long-term outcomes: reducing the teen pregnancy rate, increasing the rate of college enrollment and/or high school graduation, and increasing the number of adolescents with a specific source of ongoing healthcare. These will be assessed through school data, census data, health assessment, and electronic medical record data on an annual basis to track successes of the initiative.

Both implementation of the initiative and data collection are legal under North Carolina Statutes with appropriate parental consent. In fact, North Carolina General Statute (NCGS) 115C-81 mandates that all schools provide comprehensive health education, including safe sex methods of preventing pregnancy and sexually transmitted disease[44]. In addition, NCGS 115-105 states that the school must track data regarding academic achievement, including drop-out rates and course failure, for school and population improvement purposes[45]. These laws support the implementation of our

initiative, including the data collection, as well as our overall goal of improving the specified negative outcomes.

CAPACITY AND EXPERIENCE OF THE APPLICANT ORGANIZATION

The mission of the Mountain Area Health Education Center is "to train the next generation of healthcare professionals for Western North Carolina (WNC) through quality healthcare, innovative education, and best practice models that can be replicated nationally[27]." The organization has an atmosphere of excellence and passion in caring for the health and wellbeing of the people of the region. As an Area Health Education Center (AHEC), MAHEC works diligently to be a leader in not only healthcare, but also education and innovation in serving WNC. MAHEC's main campus, located in Buncombe County, North Carolina, houses family medicine, obstetrics and gynecology, dental, and geriatric specialists, as well as the Rural Health Program of the University of North Carolina School of Medicine, an extensive network of internships, clinical rotations and residencies for a variety of health professional students, and continuing education for regional providers[27]. Outside of direct education, MAHEC has a Center for Health Aging, Center for Quality Improvement, and Center for Research, all committed to using evidence-based programming and initiatives, innovation around quality patient-centered clinical care and health systems delivery, and truly advocating for the health of the communities of WNC.

Evidence-based public health and evidence-based medicine are considered essential parts of MAHEC's care model. Embracing the patient-centered medical home (PCMH) model, health practitioners and public health professionals have the perfect opportunity to implement and promote evidence-based initiatives. For example, MAHEC

health care providers use a team-based, evidence-based approach to case management for high-risk sickle cell patients. This model not only treats patients with this specific condition, but it has also been adapted to manage cases of other chronic illnesses, like some cancers, as well as a variety of populations, ranging from young children to elderly. MAHEC has also partnered with BCHHS to implement many evidence-based public health programs. “Triple-P,” the Positive Parenting Program, is an evidence-based public health program that has been extremely successful in improving parenting practices throughout the region by utilizing a multi-disciplinary team to educate and support parents of children aged 0-12. Through their Division of Continuing Education, MAHEC clinicians are educated in public health practices and tie both evidence-based medicine and evidence-based public health in to their work and their team approach in order to provide the best care possible to the people of Western North Carolina.

This strong, innovative clinical environment allows MAHEC providers to work to constantly to improve their practices to provide the best possible care for their patients. In addition to using previously developed, evidence-based strategies, many MAHEC health professionals have already tied innovative practices in to their own work. For example, Dr. Josh Gettinger, MD, works to develop novel connections between behavioral health care and primary care. Dr. Daniel Frayne, MD, has worked with the Family Medicine Education Consortium, Inc. to develop and implement a model for interconception care to be incorporated into well-child visits after childbirth. Melinda Ramage, FNP, and Melissa Baker, MPH, co-lead a team developing a Community-Centered Health Home in underserved, hard-to-reach areas of Buncombe County to

prevent social determinants of health, like poor housing, lack of food access, and high-risk behaviors from interfering with healthy pregnancies. As leaders and innovators in health care, MAHEC health professionals have demonstrated the ability to rally other practitioners in efforts to improve health as partners in their field. These relationships will be effective in bringing practitioners together to work towards a common goal. Between their motivation to provide evidence-based programs and their desire to develop innovative models and strategies in partnering with their patients for health, family practitioners from within MAHEC will be leaders in bringing the pediatric and family practitioners of Buncombe and Henderson County together to advocate for the health of teens in the region. Utilizing the atmosphere of learning, leadership, and best practices at MAHEC will facilitate the success of each of the three components of the teen pregnancy initiative. Strong, clinical leadership will be essential in addressing the health concerns of this population; the Division of Regional Services has the resources to rally community partners and bring not only all of MAHEC, but the entire region to be committed to improving the health of adolescents in Buncombe and Henderson Counties through pregnancy prevention, college-readiness, and superior adolescent health practices.

While importance of the clinicians cannot be overstated, the most important asset of MAHEC in implementing a TPPI is the Health Improvement Team. Within the last five years, MAHEC has expanded their Division of Regional Services to include not only regional continuing education, but also community outreach programs and public health specialists. The Health Improvement Team relocated to MAHEC upon a partnership between MAHEC and BCHHS that was formed in 2013. These public health

professionals use data collection and analytic skills to gather information and assess the state of the communities surrounding MAHEC. Identifying gaps and addressing priority health issues is their focus as they facilitate community leaders in efforts to improve health in the region.

The Health Improvement Specialists are trained in Results-based Accountability (RBA), the evaluation framework that will be used to assess and evaluate our initiative, in developing and analyzing performance measures and data for continuous quality improvement in community programs and initiatives. Currently using the framework to organize and monitor the Community Health Improvement Process (CHIP), the Health Information Specialist will include this initiative as a strategy addressing the results towards which they are currently working: “All children and youth are healthy, thriving, and successful” and “All babies are healthy.” This team has an existing partnership with the Mt. Zion Community Development Corporation in administering the RTR curriculum in specific schools within the Asheville City School District. In this partnership, Mt. Zion provides educators trained in the curriculum to administer RTR in high schools, or train high school staff to administer the curriculum themselves. MAHEC is the backbone for this program, providing technical assistance, data collection and analysis, and facilitating the design and implementation of an evaluation process. The work that MAHEC and Mt. Zion are doing in teen pregnancy prevention demonstrates the ability of each organization to work together in leading and managing the program with hundreds of participants. The expertise and resources that the Health Improvement Specialists will bring to this initiative, and expansion of the current evidence-based program, will be irreplaceable in the planning and evaluation of effectiveness.

Mt. Zion is just one partner within with a network of more than 100 partners that the Health Improvement Team has built over the past five years. Each month, the team facilitates discusses within the CHIP Advisory Board, the Woman's Health and Safety Coalition, and the ACEs Subcommittee, and many more collaborative groups that focus on a variety of health issues since the last community health assessment (CHA) in 2012. The Health Improvement Specialists have exceptional skill in facilitative leadership and technical assistance, as well as an existing network of partners. These factors demonstrate not only their ability to provide backbone from which the TPPI can build, but also their aligned missions. Working through challenges with partners and community members, this team has overcome adversity in leading others to understand the health needs of the region, the value of a collective vision and common language, and the importance of evaluation and accountability.

PARTNERSHIP & COLLABORATION

Strong, existing partnerships will be the basis of the implementation of this multi-level approach to teen pregnancy prevention. MAHEC and BCHHS partner on a variety of community-focused programs, like the ACEs Subcommittee, Innovative Approaches, and Community-Center Health Home Grant, in addition to the CHA and CHIP processes. This collaborative brings clinical and public health practice together to provide the best care possible for the people of Buncombe County. The MAHEC Health Improvement Team will facilitate communication between partners, including but not limited to the Community Advisory Board, both in and outside of CAB meetings. In order to represent each level of the approach, MAHEC and BCHHS will collaborate with partners from school systems, community organizations, and clinical practice.

Buncombe County Schools and Henderson County Schools will be key partners as the target area falls within their districts. Specifically, T.C. Roberson High School and West Henderson High School boundaries contain the initial target area of the TPPI. These high schools will be a primary point of access to our target population, however, if the initiative is successful, both County School Systems will be essential in accessing rural, young population throughout each county. The schools will be the home site of the administration of the evidence-based teen pregnancy curriculum, *RTR*, as well as the mentorship program.

As mentioned previously, *RTR* will be administered by Mt. Zion, the community development organization currently administering *RTR* in Asheville City Schools. The resources of Mt. Zion do not allow for the curriculum to be taught throughout the county. The initiative will aid in the expansion of the reach of the Teen Pregnancy Prevention outreach of Mt. Zion by supporting the existing program and providing funds for additional educators at T.C. Roberson and West Hendersonville High Schools. MAHEC has established a partnership with Mt. Zion to process pre- and post-tests, collect any other data, and analyze all information in order to evaluate and track the progress of the program to fulfill Mt. Zion's need for more thorough evaluation. The necessary resources will be provided through this grant to bring a training instructor to rural Buncombe County and neighboring rural Henderson County to administer the curriculum. Buncombe County is at an advantage in teen pregnancy prevention as it is one of 38 counties (out of a total 100 NC counties) that receive Title V funding for teen pregnancy prevention. Henderson County does not have an established, evaluated

TPPI. Their health improvement process will benefit from the implementation of not only *RTR*, but the whole multi-level intervention in reducing the teen pregnancy rate.

Pediatricians and family practitioners throughout both counties will be the third entity essential for successful implementation of the multi-level approach. The Western North Carolina Pediatric Care Collaborative is a group of pediatric health care providers that both collaborate and hold themselves accountable for their patients and the communities of WNC. The Collaborative was started with a partnership between pediatric practices, Community Care of Western North Carolina, and MAHEC with the goal of patient-centered medical home designation. Their overlying goal is to standardize care in a way that allows children in the most rural areas of the region have access and quality of care equitable to those children that reside in more urban areas, like Asheville and Hendersonville. Currently funded by Mission Health's Community Benefits Grant and Community Care of Western North Carolina, the WNC Pediatric Care Collaborative has successfully improved care practices around obesity and asthma, as demonstrated by data included in the Buncombe County Community Health Improvement Plan. Their efforts include data collection through the electronic medical records system and analysis by partners in health improvement at MAHEC.

Partnering with the WNC Pediatric Care Collaborative will allow the initiative to include both public health and direct clinical care. Standardizing care to incorporate sexual health into all adolescent wellness visits will allow teens to develop invaluable patient-doctor trust, and help both doctors and teens reach a level of comfort in discussing reproductive and sexual health, contraceptive and STI prevention methods.

Using their current model, the Care Collaborative will serve to develop, implement, and collect data from the standardized approach to adolescent health.

A final important partner in this TPPI are students, faculty and staff of local community colleges and universities, including AB Tech, Montreat College, Warren Wilson College, Blue Ridge Community College, Brevard College, Lenior-Rhyne University and the University of North Carolina-Asheville, among other private education providers. As a partner, community college students will represent day-to-day interaction with teens as well as the youth behavioral and leadership development approach in the mentorship program. Leadership from the schools will sit on the CAB, at least one staff or faculty member will be part of the coordination and direction of the program at the ground level, and students will act as valuable mentors and role models for the high school students with which they will be paired.

In addition to the county school systems, foster youth programs, like those of Goodwill Industries of Northwest North Carolina, as well as alternative high schools in the region of the census tract will be required to represent populations of teens that may be absent from local high schools. Community organizations like the YWCA and YMCA of both Buncombe and Henderson Counties, as well as government-led bodies, like Buncombe County Health and Human Services (BCHHS), Henderson County Department of Public Health (HCDPH), and Henderson County Department of Social Services (HCDSS), are entities that are knowledgeable about the status of health and wellbeing in the communities they serve, including our target population. They will be key voices in the CAB and provide valuable knowledge and existing means of data collection, analysis, and evaluation.

Last, but not least, teens and families are the most important partners in approaching teen pregnancy prevention. As members of the community served, teens and parents or guardians of teens will be recruited through high schools and alternative youth organizations to represent a vision that members and leadership in organization may be lacking. These community members will lend perspective on the experiences of teens in Buncombe and Henderson County and will give valuable incite into the feasible and success of the initiative.

PROJECT MANAGEMENT

MAHEC will be the coordinating organization providing technical assistance, and facilitating communication between leadership roles within the network of partners. Fred Castillo, the Director of Regional Services, will serve as the Principal Investigator in the initiative. He will be responsible for reviewing all reports and potential publications regarding the success and improvement of the program. The Project Director, Deidre Coon, will work from MAHEC to facilitate communication and meetings for the CAB as well as between all partners. She will also be responsible for data analysis and evaluation, but will receive data and participation information after it is collected by the County Project Coordinator within each county.

A County Project Coordinator will be employed by each county public health entity, BCHHS and HCDPH. They will be the primary contacts for the community partners in that region. As a liaison between the Project Director and partners implementing the evidence-based programs, the County Project Coordinator will be responsible for collecting data and feedback from both staff and participants, as well as facilitating any county-level communication or meetings. The Project Director and the

Project Coordinators will collaborate to provide guidance, technical assistance, and necessary expertise for classroom educators and facilitators, trainers, and others involved in the initiative, as well as manage the evaluation and assessment process throughout implementation.

The participants' primary point of contact will be with classroom educators and facilitators. Gym and/or health teachers from BCS and HCPS will be trained in each curriculum in order to fill these roles with someone the students will be familiar and comfortable with in the school environment. These educators will administer the *RTR* curriculum to freshman students and the *TOP* curriculum to upperclassmen. In addition to their role as an educator, they will also facilitate the community engagement component of *TOP*, but coordinating the efforts of college student mentors that will act as co-facilitators and leaders in the program.

Not only are the classroom educators and facilitators the first point of contact for the students, but they also will be responsible for raw data collection in order to evaluate the program. The educators and facilitators at each school will be collecting data through administering the pre- and post-surveys surveys, and occasionally from qualitative feedback through facilitated student discussions in collaboration with representatives from BCHHS and HCDPH. The County Project Coordinator will collect survey data and observe the work and interactions of both the classroom educators and facilitators, as well as the college mentors on a regular basis.

In addition to valuation will require necessary review throughout the implementation period as well as assessments throughout the grant period and beyond. Classroom educators and facilitators will record measures (e.g. number of students

present) and utilize provided checklists to accomplish all goals for each session (e.g. topics to cover, activities to complete). include both participant surveys, as well as reviews and checklists completed by the educators during and after each class or meeting. All observations and data will be analyzed and evaluated by the Project Director and Principal Investigator.

Karen Mayer is the TPPI Outreach Worker at Mt. Zion Community Development that currently works with *RTR* and *TOP* in the Asheville City Schools. Her experience administering each curriculum gives her the knowledge and skills to become the trainer for the educators at other schools. Karen will become the TPPI Outreach Coordinator for this initiative that will not only train others to administer the curriculum, while maintaining her role in Asheville City High School. Her time commitment will be limited to short 3- to 4- day trainings in the summer months, but she will also serve as an expert in the curriculum when necessary for classroom educators and facilitator, or CAB member questions and concerns. During years 2 and 3 of the grant period, she will not provide the full training each year unless necessary for new educators, but will consistently provide a condensed 1-day annual refresher.

For the third component of the intiative, Christopher Thomas, MD, pediatrician at Asheville Pediatrics, will facilitate a workgroup of pediatricians, family physicians and other teen health providers to develop a standard of care for adolescent reproductive health. Once developed, the practitioners will be trained in proper electronic medical recording to ensure data for accountability and evaluation is collected. Christopher is currently the leader of the WNC Pediatric Care Collaborative, is committed to providing adequate care for children and youth of all ages, including adolescents.

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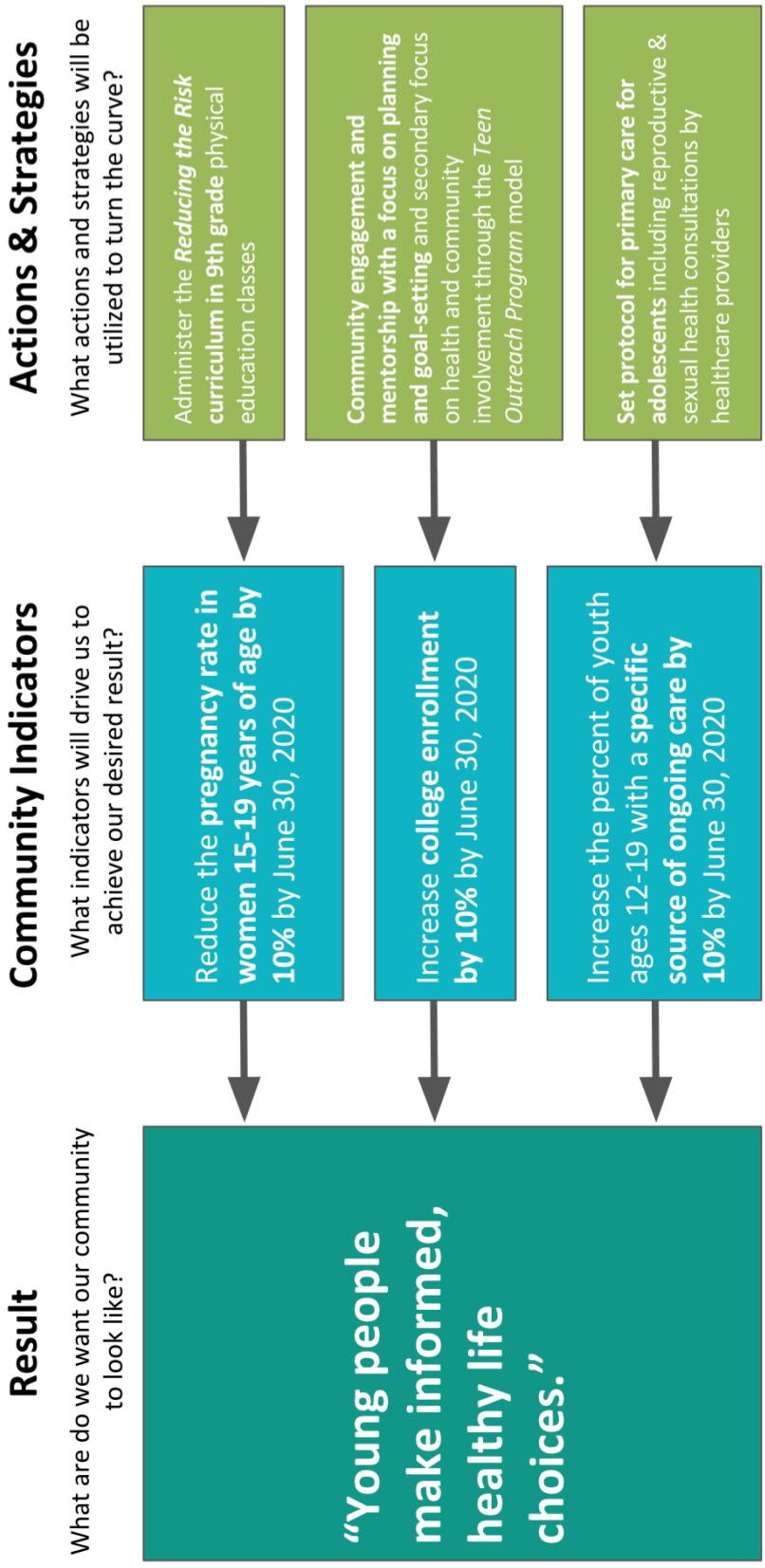
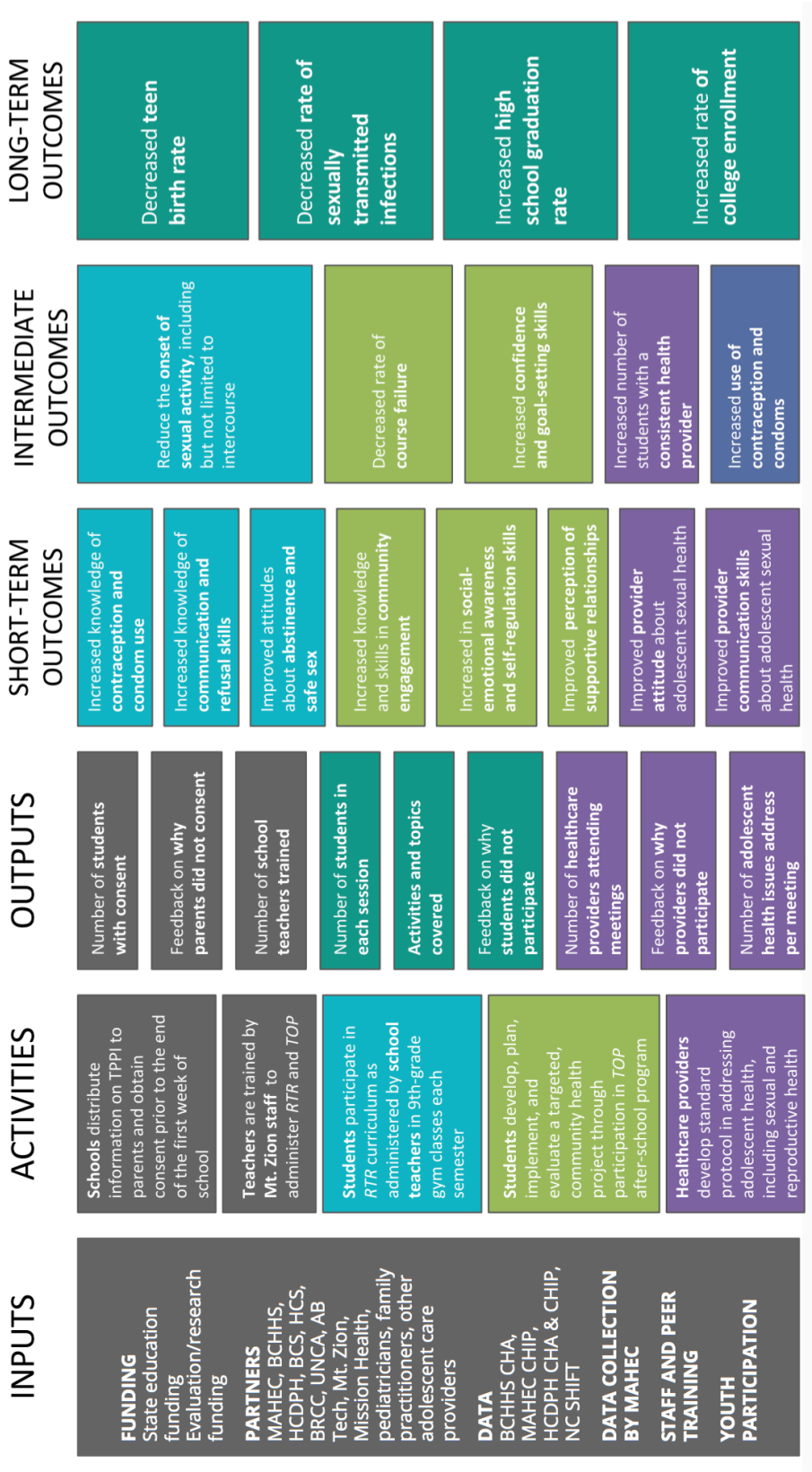
Appendix I: Driver Diagram



Appendix II: Logic Model



Appendix III: Work Plan

Teen Pregnancy Prevention Initiative Work Plan **Grantee Name: Mountain Area Health Educator Center (MAHEC)** **Funds Requested: $500,000 per year; $1.5 million per grant period**
RESULT: "Young people make informed, healthy life choices."
LONG-TERM IMPACT 1: Reduced rate of adolescent risky sexual behaviors in Buncombe County and Henderson County, North Carolina, as demonstrated by rates of teen pregnancy, teen births, and STI incidence.
LONG-TERM IMPACT 2: Increase the percent of high school graduates seeking higher education through universities, community colleges, trades school, etc.
PROJECT PERIOD OBJECTIVE 1: Initiate collecting surveillance data, engaging community leaders, and training of educators and facilitators to create a baseline summary of program-related health status measures and community engagement in tailoring the program approach to target populations by recruiting at least 80% of initial community partnerships and parental contact.
ANNUAL OBJECTIVE 1.1: Assess teen sexual behaviors and attitudes about sexual behaviors, as well as measures of academic achievement for **baseline data** by adding or improving at least 5 questions to community and national surveys, and surveying at least 75% of the target population by September 2018
ACTION 1.1.1: Advocate for the addition of at least 5 questions to the North Carolina **Youth Risk Behavior Survey** to adequately address adolescent health concerns, including sexual health. **RESPONSIBLE PERSON/AGENCY:** HCDPH, MAHEC, Mission Health, WNC Healthy Impact **TIMELINE:** To be included in the statewide survey that occurs every 2 years, starting in 2019
ACTION 1.1.2: Add at least 5 questions to the **current community health assessment process** to address adolescent health concerns. **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, MAHEC, Mission Health, WNC Healthy Impact **TIMELINE:** To be included in the community health assessment that occurs every 3 years, starting in 2018
ACTION 1.1.3: Assess high school population health by **surveying students** annually. **RESPONSIBLE PERSON/AGENCY:** BCS, HCPS, MAHEC TIMELINE: Survey administered in high schools starting in April 2017
ANNUAL OBJECTIVE 1.2: Actively engage at least 75% of targeted community partners in a **Community Advisory Board** by March 31, 2018
ACTION 1.2.1: Promote Community Advisory Board to existing partners of MAHEC and Mission Health in both Buncombe and Henderson Counties. **RESPONSIBLE PERSON/AGENCY:** MAHEC, Mission Health **TIMELINE:** Promoted from March and April 2017 during monthly meetings

ACTION 1.2.2: Promote initiative and Community Advisory Board to community via email, social media, and printed flyers. **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, BCS, HCPS **TIMELINE:** March-April 2017
ANNUAL OBJECTIVE 1.3: Develop implementation plan, including specified roles, for each implementation site.
ACTION 1.3.1: Hold bi-weekly meetings for workgroups consisting of partners specific to each implementation site. **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, BCS, HCPS, Goodwill, Mt. Zion **TIMELINE:** May-July 2017
ACTION 1.3.2: Produce a uniform template for implementation plan. **RESPONSIBLE PERSON/AGENCY:** Deidre Coon, MAHEC **TIMELINE:** May-June 2017
ANNUAL OBJECTIVE 1.4: Train Karen Mayer to be qualified in training others to facilitate *Reducing the Risk® (RTR)* and *Teen Outreach Program® (TOP)* by June 2017
ACTION 1.4.1: Attend Training of Trainers (TOT) for *RTR* **RESPONSIBLE PERSON/AGENCY:** Karen Mayer, Mt. Zion **TIMELINE:** May 2017
ACTION 1.4.2: Attend Training of Trainers (TOT) for *TOP* **RESPONSIBLE PERSON/AGENCY:** Karen Mayer, Mt. Zion **TIMELINE:** June 2017
ANNUAL OBJECTIVE 1.5: Train 10 classroom educators/facilitators in by July 2017
ACTION 1.5.1: Hold a 3-day *RTR* training at Mt. Zion for classroom educators/facilitators, County Project Coordinators, and the Project Director **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, Mt. Zion, BCS, HCPS **TIMELINE:** July 2017
PROGRAM OBJECTIVE 2: Reduce the **pregnancy and birth rate** in women 19 years of age and younger by 10% by March 31, 2020.
ANNUAL OBJECTIVE 2.1: Gain parental support and consent for at least 80% of the population at each of the 5 implementation sites
ACTION 2.1.1: Hold parent information meeting to provide information about the initative to parents and teens and review consent forms with parents and other caregivers **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, BCS, HCPS, Goodwill, teens, parents **TIMELINE:** Aug. & Jan. 2017, Aug. & Jan. 2018, Aug. 2019
ACTION 2.1.2: Mail information packets containing an opt-out consent form to parents of all incoming freshman and/or 14-year-old program participants **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, BCS, HCPS, Goodwill, teens, parents **TIMELINE:** July 2017, 2018, 2019

ANNUAL OBJECTIVE 2.2: Administer at least 16 session of the *RTR* curriculum to at least 80% of the target population at 5 implementation sites
ACTION 2.2.1: Administer at least 16 sessions of *RTR* at T.C. Roberson High School and Community High School in Buncombe County, West Henderson High School and Balfour Education Center in Henderson County, and Goodwill Ministries **RESPONSIBLE PERSON/AGENCY:** BCS, HCPS, Goodwill **TIMELINE:** Aug.-Dec. 2017, Jan.-May 2018, Aug.-Dec. 2018, Jan.-May 2019, Aug.-Dec. 2019
ACTION 2.2.2: Conduct pre-surveys before each initiation of the *RTR* curriculum **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, BCS, HCPS, Goodwill **TIMELINE:** Aug. 2017
ACTION 2.2.3: Conduct weekly observations of *RTR* sessions **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, BCS, HCPS, Goodwill **TIMELINE:** Aug.-Dec. 2017
ACTION 2.2.4: Conduct post-surveys after the completion of the *RTR* curriculum **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, BCS, HCPS, Goodwill **TIMELINE:** Dec. 2017
PROGRAM OBJECTIVE 3: Increase the **high school graduation rate** of students at T.C. Roberson and West Henderson High Schools by 15% by March 31, 2020.
ANNUAL OBJECTIVE 3.1: Gain parental support and consent for at least 80% of the population at each of the 5 implementation sites
ACTION 3.1.1: Hold parent information meeting to provide information about the initative to parents and teens and review consent forms with parents and other caregivers **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, BCS, HCPS, Goodwill, teens, parents **TIMELINE:** Aug. 2017, 2018, 2019
ACTION 3.1.2: Mail information packets containing an opt-out consent form to parents of all sophomores, juniors, and seniors and/or program participants over 14-years-old **RESPONSIBLE PERSON/AGENCY:** MAHEC, BCHHS, HCDPH, BCS, HCPS, Goodwill, teens, parents **TIMELINE:** July 2017, 2018, 2019
ANNUAL OBJECTIVE 3.2: Administer at least 35 session of the *TOP* curriculum to at least 80% of the target population at 5 implementation sites
ACTION 3.2.1: Administer at least 35 sessions of *TOP* at T.C. Roberson High School and Community High School in Buncombe County, West Henderson High School and Balfour Education Center in Henderson County, and Goodwill Ministries **RESPONSIBLE PERSON/AGENCY:** BCS, HCPS, Goodwill **TIMELINE:** Aug. 2017-May 2018, Aug. 2018-May 2019, Aug. 2019-Mar. 2020
ACTION 3.2.2: Conduct pre-surveys before each initiation of the *TOP* curriculum **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, BCS, HCPS, Goodwill **TIMELINE:** Aug. 2017

ACTION 3.2.3: Conduct weekly observations of *TOP* sessions **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, BCS, HCPS, Goodwill **TIMELINE:** Aug.-Dec. 2017
ACTION 3.2.4: Conduct post-surveys after the completion of the *TOP*curriculum **RESPONSIBLE PERSON/AGENCY:** BCHHS, HCDPH, BCS, HCPS, Goodwill **TIMELINE:** Dec. 2017
PROGRAM OBJECTIVE 4: Increase the percent of youth ages 14-19 with a **specific source of ongoing health care**, including sexual health, by 15% by March 31, 2020.
ANNUAL OBJECTIVE 4.1: Develop a standard protocol to use when addressing adolescent sexual health by Dec. 2017
ACTION 4.1.1: Convene biweekly to evaluate health status data and determine approach to addressing adolescent health **RESPONSIBLE PERSON/AGENCY:** MAHEC, Mission Health, Pediatric Care Collaborative, Family practitioners, OB/GYN, pediatricians, parents, teens **TIMELINE:** Sept.-Oct. 2017
ACTION 4.1.2: Develop a standardized approach to adolescent sexual health to use in all practices and clinics that serve the adolescent population **RESPONSIBLE PERSON/AGENCY:** MAHEC, Mission Health, Pediatric Care Collaborative, Family practitioners, OB/GYN, pediatricians, parents, teens **TIMELINE:** Nov.-Dec. 2017
ANNUAL OBJECTIVE 4.2: Implement new approch to adolescent sexual health in at least 90% of practices and clinics that serve the adolescent population by April 2018
ACTION 4.2.1: Add and/or edit appropriate fields in the electronic medical record (EMR) to account for new protocol **RESPONSIBLE PERSON/AGENCY:** MAHEC, Mission Health, Pediatric Care Collaborative, Family practitioners, OB/GYN, pediatricians **TIMELINE:** Jan.-Feb. 2018
ACTION 4.2.2: Train all healthcare professionals and their staff on new protocol and associated EMR recording **RESPONSIBLE PERSON/AGENCY:** MAHEC, Mission Health, Pediatric Care Collaborative, Family practitioners, OB/GYN, pediatricians **TIMELINE:** Mar. 2017

Appendix IV: Reducing the Risk Pre-/Post-Survey

Date: ___ / ____ / _____ **Participant ID** ___ ___ ___ __ **Program ID** ___ ___ ___ **Please Circle:** Pre-Test Post-Test

Teen Pregnancy Prevention Survey

Do not write your name on this survey. The questions that follow will ask about your sexual knowledge, attitudes and behavior. Please answer all questions honestly. The information you give will not be shared with anyone else.

1. Gender: ☐ Male ☐ Female

2. Age _____

3. Grade in school:

☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12

4. Race/Ethnicity (please check all that apply):

☐ African American/Black ☐ American Indian

☐ Asian ☐ White/Caucasian

☐ Latino/Hispanic ☐ Other _____

Please mark whether you think these statements are True or False.	**True**	**False**
5. A girl who is having sex can get pregnant if she forgets to take her birth control pills for a few days in a row.		
6. Birth control pills can help prevent sexually transmitted infections (STIs), including HIV/AIDS.		
7. To be extra safe, it is good to use two condoms at once.		
8. A girl can get pregnant the first few times she has sex.		
9. The only 100% sure way to prevent pregnancy is to not have sex.		
10. STIs usually go away without treatment.		
11. Having sex with more people increases your chance of getting an STI - including HIV/AIDS.		
12. In North Carolina, anyone under 18 can get condoms or other birth control methods without parental permission.		

13. Which of the following methods of birth control is the **most** effective for preventing pregnancy?
    a. Condom
    b. IUD (intra-uterine device) or Implant
    c. Birth control pills
    d. Withdrawal ("pulling out")

14. Which of the following methods of birth control is the **least** effective for preventing pregnancy?
    a. Condom
    b. IUD (intra-uterine device) or Implant
    c. Birth control pills
    d. Withdrawal ("pulling out")

Please mark how strongly you agree or disagree with these statements.	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
15. Condoms break easily, even when used correctly.				
16. If my partner did not want to use a condom, I would be able to refuse sex.				
17. I am confident I could use a condom correctly.				
18. It is too embarrassing to buy condoms in a store.				
19. I know where to get birth control (i.e., condoms, "the pill").				
20. If used correctly every time, condoms are good at preventing pregnancy.				
21. If used correctly every time, condoms are good at preventing many STIs, including HIV/AIDS.				

22. How are likely are you to have sex in the next year?
    a. Definitely will
    b. Probably will
    c. Not sure if I will or not
    d. Probably won't
    e. Definitely won't

23. Have you ever had sex?
    a. Yes → Please answer questions 24-28
    b. No → Please answer questions 29-31

Only answer questions 24-28 if you have had sex!

24. How old were you when you had sex the first time? _____

25. Have you had sex during the past three months? Yes No

26. Have you ever been pregnant or gotten a girl pregnant? Yes No I Don't Know

27. How often do you or your partner use a birth control method when you have sexual intercourse?
    a. None of the time
    b. Some of the time
    c. Most of the time
    d. All of the time

28. The last time you had sex, what method(s) did you or your partner use to prevent pregnancy? *Circle all that apply*.
    a. None
    b. Condoms
    c. Birth control pills
    d. "The shot" (Depo), "the ring" or "the patch"
    e. An IUD or Implant
    f. Withdrawal ("pulling out")
    g. Other (Please name) _____

Only answer questions 29-31 if you have NOT had sexual intercourse!

Listed below are some of the reasons you might have for NOT having sexual intercourse. Please mark how much you agree or disagree with these statements.

I have not had sex because . . .	Strongly Agree	Agree	Disagree	Strongly Disagree
29. I do not want to get an STI.				
30. I don't want to get pregnant or get my partner pregnant.				
31. If I get pregnant or get my partner pregnant, it would make my future plans harder to reach.				

Appendix V: Teen Outreach Program ® Pre-Survey

W Y M A N

Club Name Today's Date (month/day/year)

TEEN OUTREACH PROGRAM® PRE SURVEY

Participant ID

1. **Gender:** ☐ Male ☐ Female ☐ Transgender ☐ I prefer not to answer

2. What grade are you in school this year?

☐ 6th grade ☐ 7th grade ☐ 8th grade
☐ 9th grade ☐ 10th grade ☐ 11th grade ☐ 12th grade

3. What is your race or ethnicity?

☐ Black or African-American ☐ Asian or Pacific Islander ☐ Native American / Alaskan Native
☐ White, non-Hispanic ☐ Multi-ethnic ☐ I prefer not to answer
☐ Hispanic / Latino ☐ Other:_____

4. During most of the time you were growing up, with whom did you live?

☐ Mother and father ☐ Father only ☐ Guardian
☐ Mother and stepfather ☐ Mother only ☐ Other:_____
☐ Father and stepmother

5. What is the highest grade that each of your parents completed? (Give your best guess if you are not sure.)

Mother:	**Father:**
☐ Less than high school	☐ Less than high school
☐ High school graduate	☐ High school graduate
☐ Some college	☐ Some college
☐ College graduate or higher	☐ College graduate or higher
☐ I don't know	☐ I don't know

6. Here are some things young people do...

Please select either **Yes** or **No**. If the answer to a question is yes, please answer how many.
Example: if you were suspended from school twice last year, select **Yes** and type **2** for "How many times?".

During the last school year, did you...

	Yes	**No**	**If yes, how many times?**
a. Fail any courses for the whole year?	☐	☐	_____
b. Get any failing grades on your report card?	☐	☐	_____
c. Get suspended from school?	☐	☐	_____
d. Cut classes without permission?	☐	☐	_____

Have you ever...

	Yes	**No**	**If yes, how many times?**
e. Been pregnant or caused a pregnancy?	☐	☐	_____
f. Had a baby or fathered a baby?	☐	☐	_____

WYMAN **TEEN OUTREACH PROGRAM® PRE SURVEY**

7. Please tell us how you feel about each of the following…How much do you agree with these statements as they apply to you personally?

	NO!, Not At All!	No, not too much	Yes, somewhat	YES! Very Much!
a. I can work out my problems if I try hard enough.	☐	☐	☐	☐
b. It's easy for me to stick to my plans and accomplish my goals.	☐	☐	☐	☐
c. I can usually handle whatever comes my way.	☐	☐	☐	☐
d. I like to see other people happy.	☐	☐	☐	☐
e. Most people can be trusted.	☐	☐	☐	☐
f. There is some good in everybody.	☐	☐	☐	☐

Thank you for participating in TOP® and for completing this survey.

Appendix VI: Teen Outreach Program ® Post-Survey

W Y M A N

Club Name Today's Date (month/day/year)

Participant ID

TEEN OUTREACH PROGRAM® POST SURVEY

1. Will you be in school next year?

- ☐ Yes, I will be in the same grade I was in this year
- ☐ Yes, I will be in the next grade compared to the grade I was in this year (ex. moving from 9th to 10th grade)
- ☐ Yes, I am graduating high school and going on to college or vocational school
- ☐ No, I am graduating high school but not continuing in school
- ☐ No, I am not graduating high school and will not be in school at all

2. Here are some things young people do...

Please select either **Yes** or **No**. If the answer to a question is yes, please answer how many.
Example: if you were suspended from school twice last year, select **Yes** and type **2** for "How many times?".

During this school year, did you or will you...

	Yes	No	If yes, how many times?
a. Fail any courses for the whole year?	☐	☐	_____
b. Get any failing grades on your report card?	☐	☐	_____
c. Get suspended from school?	☐	☐	_____
d. Cut classes without permission?	☐	☐	_____
e. Get pregnant or cause a pregnancy?	☐	☐	_____
f. Have a baby or father a baby?	☐	☐	_____

3. Please tell us how you feel about each of the following…How much do you agree with these statements as they apply to you personally?

	NO!, Not At All!	No, not too much	Yes, somewhat	YES! Very Much!
a. I can work out my problems if I try hard enough.	☐	☐	☐	☐
b. It's easy for me to stick to my plans and accomplish my goals.	☐	☐	☐	☐
c. I can usually handle whatever comes my way.	☐	☐	☐	☐
d. I like to see other people happy.	☐	☐	☐	☐
e. Most people can be trusted.	☐	☐	☐	☐
f. There is some good in everybody.	☐	☐	☐	☐

W Y M A N **TEEN OUTREACH PROGRAM® POST SURVEY**

3. Please respond to the following questions about how you feel about Teen Outreach.

	NO!, Not At All!	No, not too much	Yes, somewhat	YES! Very Much!
a. When I am at TOP®, I can say what I think and talk about my life.	☐	☐	☐	☐
b. I feel safe (physically) during TOP® sessions.	☐	☐	☐	☐
c. TOP® facilitators care about me.	☐	☐	☐	☐
d. TOP® facilitators understand me.	☐	☐	☐	☐
e. TOP® facilitators support and accept me.	☐	☐	☐	☐
f. I feel like I belong at TOP®; it's a positive group of teens for me.	☐	☐	☐	☐
g. I enjoyed the Community Service part of TOP®.	☐	☐	☐	☐
h. I learned how to deal with challenges during my Community Service projects.	☐	☐	☐	☐
i. I helped plan my Community Service projects.	☐	☐	☐	☐
j. The Community Service projects helped me make a positive difference in the lives of others.	☐	☐	☐	☐
k. I learned new skills during my Community Service projects.	☐	☐	☐	☐

Thank you for participating in TOP® and for completing this survey.

Appendix VII: Budget

April 1, 2017 - March 31, 2020

YEAR 1: April 1, 2017 - March 31, 2018

	Effort	Salary		Fringe	Total
Fred Castillo, Principal Investigator, MAHEC	2.00%	$100,000	$2,000	$634	$2,634
Deidre Coon, Program Director, MAHEC	100.00%	$44,000	$44,000	$19,782	$63,782
County Program Coordinator, BCHHS	20.00%	$40,000	$8,000	$3,786	$11,786
County Program Coordinator, HCDPH	20.00%	$40,000	$8,000	$3,786	$11,786
Karen Mayer, TPPI Outreach Trainer, Mt.Zion	12.00%	$35,000	$4,200	$2,144	$6,344
BCS Facilitator (Roberson)	20.00%	$40,000	$8,000	$1,708	$9,708
BCS Facilitator (Roberson)	20.00%	$40,000	$8,000	$1,708	$9,708
BCS Facilitator (Roberson)	20.00%	$40,000	$8,000	$1,708	$9,708
BCS Facilitator (Roberson)	20.00%	$40,000	$8,000	$1,708	$9,708
BCS Facilitator (Community)	10.00%	$40,000	$4,000	$854	$4,854
HCPS Facilitator (West Henderson)	20.00%	$40,000	$8,000	$1,708	$9,708
HCPS Facilitator (West Henderson)	20.00%	$40,000	$8,000	$1,708	$9,708
HCPS Facilitator (West Henderson)	20.00%	$40,000	$8,000	$1,708	$9,708
HCPS Facilitator (Balfour)	10.00%	$40,000	$4,000	$854	$4,854
Goodwill Facilitator	10.00%	$32,000	$3,200	$783	$3,983
Travel & Trainings					$3,000
Graphic Design & Videography					$20,000
Program Scholarships					$0
Parent Involvement					$1,700
Program Supplies & Logistics					$84,000
Provider Incentives					$90,000
Facilities & Administrative Costs					$113,004
Total					$489,684

YEAR 2: April 1, 2018 - March 31, 2019

	Effort	Salary		Fringe	Total
Fred Castillo, Principal Investigator, MAHEC	2.00%	$100,929	$2,019	$638	$2,656
Deidre Coon, Program Director, MAHEC	100.00%	$44,409	$44,409	$19,869	$64,278
County Program Coordinator, BCHHS	20.00%	$40,372	$8,074	$3,802	$11,877
County Program Coordinator, HCDPH	20.00%	$40,372	$8,074	$3,802	$11,877
Karen Mayer, TPPI Outreach Trainer, Mt.Zion	5.00%	$35,325	$1,766	$897	$2,663
BCS Facilitator (Roberson)	20.00%	$40,372	$8,074	$1,715	$9,789
BCS Facilitator (Roberson)	20.00%	$40,372	$8,074	$1,715	$9,789
BCS Facilitator (Roberson)	20.00%	$40,372	$8,074	$1,715	$9,789
BCS Facilitator (Roberson)	20.00%	$40,372	$8,074	$1,715	$9,789
BCS Facilitator (Community)	10.00%	$40,372	$4,037	$857	$4,894
HCPS Facilitator (West Henderson)	10.00%	$40,372	$4,037	$857	$4,894
HCPS Facilitator (West Henderson)	20.00%	$40,372	$8,074	$1,715	$9,789
HCPS Facilitator (West Henderson)	20.00%	$40,372	$8,074	$1,715	$9,789
HCPS Facilitator (Balfour)	20.00%	$40,372	$8,074	$1,715	$9,789
Goodwill Facilitator	10.00%	$32,297	$3,230	$786	$4,016
Travel & Trainings					$13,000
Graphic Design & Videography					$1,000
Program Scholarships					$20,000
Parent Involvement					$1,700
Program Supplies & Logistics					$81,000
Provider Incentives					$90,000
Facilities & Administrative Costs					$114,713
Total					$497,090

YEAR 3: April 1, 2019 - March 31, 2020

	Effort	Salary		Fringe	Total
Fred Castillo, Principal Investigator, MAHEC	2.00%	$101,867	$2,037	$642	$2,679
Deidre Coon, Program Director, MAHEC	100.00%	$44,821	$44,821	$19,956	$64,778
County Program Coordinator, BCHHS	20.00%	$40,747	$8,149	$3,818	$11,967
County Program Coordinator, HCDPH	20.00%	$40,747	$8,149	$3,818	$11,967
Karen Mayer, TPPI Outreach Trainer, Mt.Zion	5.00%	$35,653	$1,783	$900	$2,683
BCS Facilitator (Roberson)	20.00%	$40,747	$8,149	$1,721	$9,871
BCS Facilitator (Roberson)	20.00%	$40,747	$8,149	$1,721	$9,871
BCS Facilitator (Roberson)	20.00%	$40,747	$8,149	$1,721	$9,871
BCS Facilitator (Roberson)	20.00%	$40,747	$8,149	$1,721	$9,871
BCS Facilitator (Community)	10.00%	$40,747	$4,075	$861	$4,935
HCPS Facilitator (West Henderson)	20.00%	$40,747	$8,149	$1,721	$9,871
HCPS Facilitator (West Henderson)	20.00%	$40,747	$8,149	$1,721	$9,871
HCPS Facilitator (West Henderson)	20.00%	$40,747	$8,149	$1,721	$9,871
HCPS Facilitator (Balfour)	10.00%	$40,747	$4,075	$861	$4,935
Goodwill Facilitator	10.00%	$32,597	$3,260	$788	$4,048
Travel & Trainings					$13,000
Graphic Design & Videography					$1,000
Program Scholarships					$20,000
Parent Involvement					$1,700
Program Supplies & Logistics					$81,000
Provider Incentives					$90,000
Facilities & Administrative Costs					$115,136
Total					$498,924

GRAND TOTAL	**$1,485,698**

	YR1	YR2	YR3
Travel - total	3000	13000	13000
Mileage	1000	1000	1000
Overnight	2000	2000	2000
Trainings/Conferences		10000	10000
Graphic Design & Videography	20,000	1,000	1,000
Scholarships (Incentives)	0	20000	20000
Competitive College Mentor Scholarship		5000	5000
Competitive Participant Scholarship		15000	15000
Parent Meetings	1700	1700	1700
Rooms	1000	1000	1000
Childcare	200	200	200
Food	500	500	500
Programs	84000	81000	81000
Trainer	3000	0	0
Reducing the Risk	5000	5000	5000
Teen Outreach Program	50000	50000	50000
TOP travel (Estimated $1000x26 groups)	26000	26000	26000

Appendix VIII: Budget Justification

Total budget: $500,000 per year; $1.5 million

Key Personnel:

Fred Castillo, RN, DNP, Prinicipal Investigator (0.02 FTE)

Dr. Fred Castillo is the Director of the Division of Regional Services at the Mountain Area Health Education Center. Previously, he worked as a cardiac nurse, nurse practitioner, and Director of Cardiac Emergencies at Mission Health. He also is the President of the Western North Carolina Diversity Engagement Coaltion and sits on the boards of many community organizations and initiatives including Buncombe County Health and Human Services and the Minority Medical Mentoring Program. His experiences have built a skillset that includes both evidence-based medicine and public health practices, as well as facilitation, leadership, and collaboration experience that will be essential to the success of this project. Dr. Castelblanco will provide general oversight and direction as needed, ensuring that goals are met and resources are fully available to those involved in this project. Dr. Castelblanco's effort in this role will be funded by

Deidre Coon, MPH, Project Director (FTE)

Mrs. Deidre Coon has held a variety of roles as a public health professional in the Western North Carolina region. Currently, Deidre coordinates the data collection and analysis measures related to the Community Health Improvement Plan (CHIP) result "All Babies Are Healthy." She is also assists with the facilitiation of the CHIP Advisory Committee. Deidre will coordinate the three components of the intervention, plan meetings with the Community Advisory Board, and other community partners, as well as monitor and actively collect and analyze data for evaluation purposes. Deidre has a strong public health background, supplemented with training in facilitative leadership and Results-Based Accountability. Her contributions will be in maintaining valuable connections between partners and coordinating evaluation measures.

County Project Coordinator (1 coordinator each at BCHHS and HCDPH at 0.2 FTE each)

Two County Project Coordinators, one at Buncombe County Health and Human Services and one at Henderson County Department for Public Health, will be hired or internally assigned. Each coordinator will be responsible for facilitating communication between partners and stakeholders of the program within the respective county, as well as collecting data from all parties involved in teen participation, parental consent and updates, and community satisfaction with the initiative. All data and communication will be guided by the overall Project Director, Deidre Coon, at the Mountain Area Health Education Center. This position will be filled by someone with a Masters of Public Health degree with experience in collaboration and management. Applicants without a Masters degree, but with significant experience, are also welcome to apply.

Karen Mayer, Teen Pregnancy Prevention Initiative Outreach Trainer (0.1 FTE)
Ms. Karen Mayer has 5 years of experience administering and evaluating teen pregnancy prevention initiatives in the Asheville City School District. Karen's knowledge will be irreplaceable in training classroom educators & facilitators to administer the *Reducing the Risk* curriculum and utilize the *Teen Outreach Program* model. Karen will not only train classroom educators & facilitators, but will also serve as the supervisor and key contact for information, additional training, or general questions about each evidence-based curriculum. Karen's experience with parental consent and concerns will be valuable not only in training, but also if situations arise where another voice or expert is necessary.

Classroom educators & facilitators
(3 facilitators at T.C. Roberson High School at 0.2 FTE each; 1 facilitator at Community High School at 0.1 FTE; 2 facilitators at West Henderson High School at 0.2 FTE each; 1 facilitator at Balfour Education Center at 0.1 FTE; 1 facilitator at Goodwill Ministries at 0.1 FTE)
Classroom educators and facilitators will be trained in both *Reducing the Risk* and the *Teen Outreach Program* in the first year of the grant period. Physical education and/or health education teachers will fill this role in high schools and a current foster group coordinator will fill this role at Goodwill Ministries. These facilitators will be the primary contact for participants, both in administration and collection of feedback in surveys and group discussions. They will be responsible for adequately educating students, providing support, and facilitating activities as guided by *RTR* and *TOP* publications, as well as communicating data for evaluation and any other feedback to County Project Coordinators and the Project Director.

Travel and Conferences
The Program Director will attend the annual Project Director's Meeting in Washington, D.C. during all three years of the grant period. Additional travel costs during years 2 and 3 will be spent on funding 2-3 staff members to attend annual Regional Trainings, also in Washington, D.C.

Graphic Design & Videography
A video and graphic design firm will be contracted to develop target promotional materials and potentially adapted curriculum materials for each of the three components of the program. The design costs in year 1 will include the development of materials. Updates to existing materials will be funded in years 2 and 3.

Program Scholarships
Rather than providing direct incentives for participation, those students involved in the initiative will be qualified to apply for a competitive scholarship funded in years 2 and 3 of the grant period. As participation relies on involvement in all components of the initiative, students will need to participate through the end of the *TOP* program in the second year in order to qualify. Funds will also be available for the college mentors volunteering in the initiative in the form of a competitive scholarship.

Parent Involvement
It will be necessary to involve parents in community meetings to ensure acceptance and quality of the initiative. Parents are a key stakeholder, as consent will be necessary for student participation. Meetings will be held once a semester to communicate progress and success, explain components of the initiative, and promote each of the three components, include the adolescent healthcare providers, to the parents. Meetings will be held in the high schools to ensure an easily accessible forum for parents. Food and non-alcoholic beverages, as well as childcare, will be provided at each meeting.

Program Supplies & Logistics
Current *RTR* and *TOP* supplies will be purchased for each year of the grant period. Costs are based on prices provided by ETR (*RTR)* and the Wyman Center (*TOP*). Additional costs were added for travel during *TOP* as students will need to be transported from the high school to other areas of the community during the community engagement part of the program. Transportation will be provided by school buses in the respective school districts.

Provider Incentives
Healthcare providers involved in the Pediatric Care Collaborative's efforts will receive a small annual incentive for participating in the development and implementation of new adolescent health guidelines. Although these funds are minimal, they will provide some compensation for participation in meetings and collaboration to ensure widespread, consistent implementation of this component of the initiative.

Indirect (Facilities and Administration) Costs
Indirect costs were calculated with the accepted 30% value.