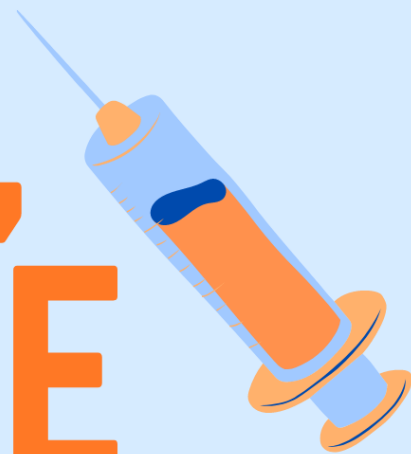


BE WISE, IMMUNIZE



AN INITIATIVE TO INCREASE HPV VACCINATIONS
IN RICHLAND COUNTY, SOUTH CAROLINA



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Introduction: Health Condition, Population, and Setting

Cancer is a disease where abnormal cells divide without control and invade nearby tissues¹. Cervical cancer is a type of cancer that starts in the cervix and can be fatal if not detected early¹⁻³. All women are at risk for cervical cancer, but it most often occurs in women over the age of thirty². Human papillomavirus (HPV) is the most common viral infection of the reproductive tract and is the cause of more than nine out of ten cases of cervical cancer⁴. The HPV vaccine is the most effective way to prevent cervical cancer⁵. Gardasil®9 is the most commonly used HPV vaccine in the United States and can reduce the chance of acquiring cervical cancer by 83%⁶⁻⁸. The HPV vaccine is most effective at preventing cancer when administered before HPV exposure, so it is recommended that the vaccine is started at ages 11-12 to maximize effectiveness⁹⁻¹¹. The HPV vaccine is administered as a two-dose series for children ages fourteen and younger, and all doses of the vaccine must be distributed to maximize protection^{5,12}. Because of the effectiveness of the HPV vaccine in preventing cervical cancer, Be Wise, Immunize aims to increase the rates of the HPV vaccine series among 11–12-year-olds attending public middle schools in Richland County, South Carolina. This program will provide both education about the HPV vaccine in terms of cancer prevention and school-based vaccine clinics at all twenty-two public middle schools in Richland County.

This proposal is submitted by The South Carolina Department of Health and Environmental Control (SCDHEC)¹³. The purpose of this organization is to promote and protect the health of the public and the environment in South Carolina¹³. SCDHEC's services include providing vital health care services, providing health statistics and research, and operating local health departments. As outlined later in this proposal, SCDHEC is partnered with key stakeholders and community members in the target population, which is vital to the success of this program.

a. Quality of Life Issues and Establishing the Need

Women living with cervical cancer often experience physical, psychological, and financial challenges, all of which may lead to a decreased quality of life¹⁴. It is imperative to perform a social assessment with our target population and stakeholders to measure these factors. This assessment will be done through surveys and focus groups. Overall, there are many unique needs for those experiencing cervical cancer¹. Untreated cervical cancer may cause physical symptoms, and treatment often causes women to feel worse before they start to feel better. Treatment for cervical cancer includes chemotherapy and radiation, both of which pose a significant physical toll on the body. Common symptoms of women undergoing treatment for cervical cancer include fatigue, vomiting, pain, shortness of breath, trouble sleeping, loss of appetite, constipation, and diarrhea¹⁵. Women undergoing treatment for late stages of cervical cancer may experience serious complications including vaginal bleeding, frequent urination, severe bleeding, and kidney failure¹⁵. The side effects of treatment may last long after the cancer is gone, and women need support from caregivers and doctors to help manage the side effects of treatment. Notably, the quality of life and survival rate associated with cervical cancer ranges largely with the stage of cancer. The five-year survival rates for the stages of cervical cancer are stage 1 – 80-99%, stage 2 – 60-90%, stage 3 – 30-50%, and stage 4 – 20%⁶.

Cervical cancer can be difficult to discuss for some women because it affects a sex organ and some people may feel uncomfortable discussing their diagnosis¹⁶. HPV is sexually transmitted and the leading cause of cervical cancer. Some individuals feel that there is a stigma surrounding cervical cancer and may feel guilty because others may think their sexual behaviors caused the disease. Living with the stigma surrounding cervical cancer can have a negative

impact on psychological health and make women feel hopeless, embarrassed, ashamed, and isolated¹⁶. While there are many treatment options for cervical cancer, patients often report physical and emotional stress associated with treatment. Chronic disease management may cause anxiety, severe stress, and reduced self-esteem¹⁵. Loss of hope during treatment may also lead to suicidal attempts and lack of willingness for further treatment^{6,15}. Women with cervical cancer also report less enjoyment in sexual activity and less satisfaction with their body image compared to healthy controls. Furthermore, women with cervical cancer often report decreased social, emotional, and cognitive functioning compared to women without cancer^{15,17}. The cost associated with cancer treatment and the inability to work for long periods often creates financial troubles for many women^{15,18}. Treatment costs for cervical cancer in the later stages can be as high as \$118,000 annually¹⁹. Some women choose to not start or complete their treatment plan because of the financial burden, which can increase stress and lead to worsened health problems in the future. It is important women have the opportunity to discuss payment options with their care team¹⁶. As mentioned, all of these factors will be assessed through an in-depth social assessment with our target population.

b. Overview of Health Problem

Cervical cancer is a burdensome disease and poses a significant threat on the national, state, and local levels. Each year there are about 11,000 cases of cervical cancer linked to HPV in the United States⁹. As of 2018, an estimated 293,394 women were living with cervical cancer in the United States. The national death rate for cervical cancer is 2.2 per 100,000 women²⁰.

Furthermore, cervical cancer is an important health issue to address in South Carolina, where rates of cervical cancer are particularly high. South Carolina ranks 19th in the nation for cervical cancer incidence and 12th for cervical cancer mortality^{13,21}. South Carolina has an overall cervical

cancer rate of 7.7 per 100,000 women, which is slightly higher than the national average of 7.4 per 100,000 women⁷. Each year, approximately 170 women in South Carolina are diagnosed with cervical cancer, and sixty-five die from the disease²². In Richland County, South Carolina rates of cervical cancer are estimated to be 8.5-10.2 per 100,000, which is higher than both the state and national averages. Be Wise, Immunize will promote the HPV vaccine in Richland County because of the high prevalence of cervical cancer.

Mortality rates from cervical cancer in South Carolina can largely be explained by low HPV vaccination rates, low knowledge about the risk factors of cervical cancer, lack of early detection, and lack of adherence to follow-up care²³. Focus groups with women in South Carolina found that women's awareness surrounding the risk factors for cervical cancer and HPV was low²³. However, women report that they positively viewed cervical cancer screening as well and the HPV vaccination, especially when they had the opportunity to ask questions to their healthcare provider. Common barriers that women reported for cervical cancer screening included the costs of screening and lack of health insurance²³.

c. Description of Primary Target Population

The target population for Be Wise, Immunize is children aged 11-12 who attend public middle schools in Richland County, South Carolina. Based on the number of students enrolled in 2019, there are approximately 17,442 students eligible to participate in the program. This program aims to increase adherence to the HPV vaccination series for 11-12-year-olds, as this is the most optimal time for vaccine effectiveness. Since children in the target population are under the age of eighteen, guardians must provide consent for their child to be vaccinated. Because of this, the program aims to educate guardians about the benefits of the vaccine as well as recruit them to sign up for the program's vaccine clinics.

It is important to evaluate the unique demographics of the target population. Approximately 415,759 people live in Richland County, South Carolina²⁴. The median household income is \$54,767, and 16.2% of the population lives in poverty²⁴. Additionally, 10.9% of the population does not have health insurance²⁴. It is notable to mention that South Carolina is generally considered a predominately religious state. As of 2019, about 2.5 million out of the 5.15 million people in South Carolina reported being affiliated with a religious entity and regularly attending a religious service²⁵. As of 2021, religious vaccine exemptions in Richland County were 1.41%²⁵. It is important to address the influence of religion when designing this program.

d. Key Stakeholders and Change Agent's Relationship with Program Planners

This intervention will require the involvement of many stakeholders to be successful. With the input of the stakeholders outlined in *Table 1*, the program will be able to mobilize the community. The guardians of children in our target population are particularly important stakeholders. The planning group and stakeholders will meet virtually on the first Wednesday of each month to discuss program planning, progress, evaluation, and concerns. The meeting will be available to all stakeholders. At these meetings, stakeholders will be informed about the progress of the program and will have the opportunity to provide feedback based on individuals' experiences and expertise. The involvement of these stakeholders is vital in the promotion and design of this program. With the guidance of these experts, we will be able to deepen our understanding of our target population which will make the program more efficient and accessible. Additionally, involving these stakeholders in our planning group will give us vital resources in terms of education, financing, access, and medical personnel.

Table 1. Key Stakeholders and Justifications

KEY STAKEHOLDERS	
STAKEHOLDER	JUSTIFICATION FOR STAKEHOLDER INVOLVEMENT
<i>Guardians</i>	To maximize vaccination compliance, guardians must consent for their child to be vaccinated. Guardians may have vaccine hesitancy, and the program staff needs to consider why individuals may be hesitant towards the vaccine. It is also imperative that guardians are aware of how to access the vaccination and have adequate knowledge about the benefits of the vaccine. Guardians can provide insight into the best communication methods to promote the program. This program must consider the viewpoints of guardians in the target population to be successful.
<i>Medical Professionals</i>	Doctors also play an important role in HPV vaccination and are most often responsible for educating guardians. During education about the vaccine, guardians need to be aware of the series of doses of the vaccination ²³ . Providers are responsible for informing guardians about the vaccine protocol and scheduling follow-up sets. It is important to involve providers, as they provide unique insights about guardian's attitudes towards the vaccine, and best methods for vaccine distribution.
<i>School Nurses</i>	School nurses play a similar role as doctors in education about the HPV vaccine. These nurses may also help administer the vaccine at the school clinics.
<i>Community Leaders</i>	Community leaders may also offer unique expertise on the community's capacity and needs. They are often seen as knowledgeable and usually they are the ones getting people out to participate in something.
<i>Religious Entities</i>	Religious entities can have a major influence on an individual's choice to get a vaccination. It is important to involve religious leaders and address their specific concerns surrounding vaccines.
<i>Cancer Patients and Survivors</i>	Those who are living with and have survived cervical cancer have experience with the targeted health issue and offer an important perspective. Input from cancer survivors must also be taken into consideration for the success of this program.
<i>South Carolina DHHS</i>	This organization can assist with assessing the payment options for the HPV vaccine as well as the healthcare personnel to administer the vaccine.
<i>School Personnel</i>	As this program will take place at schools, teachers and principals will need to be involved in the planning process. They can provide information surrounding how to target guardians as well as logistical tasks surrounding the clinics
<i>Local Health Departments</i>	The perspective of local health departments including clinical and administrative staff will be crucial to assess the needs and involve the community in the program.
<i>Insurance Companies</i>	Insurance companies will need to take part in the discussion about the cost of the HPV vaccine and provide guidance about the most efficient ways to the bill.
<i>School District Leadership</i>	Leadership, including the county superintendent, will need to be involved with the development and implementation of the program.

e. Health Goal and Objective and Primary Indicator for Evaluation

The health goal of Be Wise, Immunize is to reduce rates of cervical cancer in Richland, South Carolina. The health objective of the program is to reduce rates of cervical cancer in 30-35-year-olds living in Richland County by 80% by the 25-year evaluation of the program in 2049. The onset of cervical cancer most often occurs after age thirty-five⁴. All participants in the program will be ages 11-12, so the temporal relationship between vaccination and the onset of cervical cancer needs to be evaluated considerably after the vaccine is administered. Thus, the health goal of this program will need to be evaluated approximately in March 2049.

Cervical cancer rates will be obtained through The South Carolina Central Cancer Registry, which is a population-based cancer surveillance system for the state of South Carolina¹⁰. The registry is responsible for collecting, processing, analyzing, and publishing cancer incidence for the state²⁶. Based on the effectiveness of the HPV vaccine preventing cervical cancer, an 80% reduction is an attainable but impactful goal¹³. We recognize that people immigrate and emigrate from the county and that this measure will be an estimate of cervical cancer rates among our target population and not a direct result of this intervention.

SECTION THREE  **Behavioral and Environmental Assessment**

a. Overview of Behavioral and Environmental Risk Factors

Individual behaviors, genetic predispositions, and environmental factors may put individuals at a higher risk for cervical cancer²⁷. Common risk factors for cervical cancer include having HIV, smoking, using birth control pills, giving birth to more than three children, risky sexual behaviors, having untreated chlamydia, being immunocompromised, and not getting the HPV vaccine^{5,28}. The goal of cervical cancer screening is to identify pre-cancer or cervical cancer

at an early stage. Prevention includes the HPV vaccine and safe sexual practices, such as correct and consistent condom use. Screening tests for cervical cancer include HPV testing and pap smears². It is recommended that women aged 21-30 get a pap smear every three years and that women aged 31-65 get both a pap smear every three years and an HPV test every five years^{3,10}. The most impactful protective factor against cervical cancer is getting the HPV vaccine. However, there are many barriers surrounding the HPV vaccine including vaccine hesitancy, lack of education surrounding cancer prevention, and vaccine accessibility²⁹.

b. Justification of Selected Behavior

This program focuses on the behavior of getting both doses of the vaccine. Studies find that 85% of sexually active people will get infected with HPV at some point in their lives, which means approximately 14 million Americans contract the virus each year^{1,2}. While HPV normally clears on its own, it can cause various types of cancer in both men and women. The HPV vaccine decreases the risk of getting HPV infections by at least 83%, which makes it an instrumental tool in the prevention of cervical cancer². To put this into perspective, every year 36,000 cases of cancers in the United States are linked to HPV, and the vaccine could prevent more than 32,000 of those cases². The widespread use of the HPV vaccination can reduce cervical cancer incidence globally by as much as 90%^{30,31}. Improving education and accessibility surrounding the HPV vaccine is crucial to decrease the incidence of cervical cancer in our target population².

c. Behavioral Objective and Primary Indicator for Evaluation

The behavior objective of this program is that 80% of 11-12-year-olds attending public middle schools in Richland County receive the full HPV vaccination (2 doses) by the end of the two-year program (2024). This is a reasonable goal, as other public HPV vaccination promotion programs have been able to increase vaccine coverage to 83.5% of the program's eligible

participants³². The Statewide Immunization Online Network (SIMON) is a vaccine management project used by the South Carolina Immunization Registry³³. The database records all vaccine doses administered in the State of South Carolina^{33,34}. A user agreement with SIMON will be initiated according to Regulation 61-120 to obtain data from SIMON for this program³³. Data will be collected pre-and post-program (August 2022 and March 2024). We recognize that some children will get the vaccine through other healthcare providers and not through the program's clinics. However, using SIMON will allow us to determine how many students were reached through Be Wise, Immunize as well as the total number of children in the target population who received the vaccine series during the program.

d. Justification of Selected Environmental Factor in Population and Setting

The HPV virus is responsible for 70% of all cervical cancer cases². The HPV vaccine is the largest protective factor against cervical cancer, and accessibility to the HPV vaccine is a key environmental factor in the prevention of cervical cancer. Access factors surrounding the vaccine series include the time availability of the vaccine, the distance needed to travel to the vaccination site, and provider availability and education. Opportunities for vaccination at frequently visited areas in communities can drastically increase rates of vaccinations. Notably, HPV vaccinations at schools provide an accessible and cost-effective way in terms of government and insurance spending to access the HPV vaccine³⁵. Success in HPV adolescent immunization initiatives includes promoting the vaccine as cancer prevention, immunizations during school time, and establishing and targeting engaged community members^{36,37}.

Without insurance, the price for the HPV vaccine, Gardasil®9, is \$217.11 per dose. The estimated total cost for both doses is \$434.22. The cost is covered by most health insurance plans in the United States. Those without insurance may also qualify for coverage through federally

funded programs and obtain the vaccine at facilities such as local health departments. Since the vaccine is costly, getting it before the age of fourteen can reduce costs since children will only need two doses instead of three³⁸. An effective behavior-changing strategy regarding the HPV vaccine is to provide education about how the vaccine is a preventative measure against cancer and to provide easy, affordable access to the vaccine³⁷.

e. Environmental Objective and Primary Indicator for Evaluation

The environmental objective of Be Wise, Immunize is to increase vaccination sites for the HPV vaccine through the implementation of school-based clinics in Richland County by 5% by 6-month program benchmark and 10% by the end of the two-year program, which is 2024. This will be measured based on the number of vaccination sites in Richland County at the start of the program, the sixth-month benchmark (March 2023), and the end of the two-year program (February 2024). This data will also be obtained through SIMON, which shows the locations and availability of the HPV vaccine in Richland County^{33,34}. Healthcare facilities will open and close during the duration of the program, so we are measuring this indicator as a percentage increase or decrease of total clinics.

SECTION FOUR  **Ecological & Educational Assessment**

a. Multi-level Influences on Behavior: Predisposing, Enabling and Reinforcing Factors

Many predisposing, enabling, and reinforcing factors are associated with the behavior of getting the HPV vaccine^{36,39}. Predisposing factors include aspects such as knowledge, attitudes, and beliefs⁴⁰. Many personal and religious beliefs may influence the choice to get the vaccine. HPV is transmitted sexually, and some guardians may refuse the vaccine because they think their child is not at risk for a disease that is sexually transmitted. Thus, it is important to reframe the vaccine as a beneficial tool for cancer prevention, especially in religious communities⁴¹.

Similarly, individual attitudes surrounding vaccination and cancer prevention are also important factors to address. Perceived susceptibility and severity may influence the choice of getting the vaccine⁴². Guardians may consider how susceptible their child is to cervical cancer and how severe it will be if they get it⁴². Knowledge is also an important predisposing factor to address which includes knowing about vaccine safety, the recommended age to start the series, and viewing the HPV vaccine as a form of cancer prevention⁴¹.

Enabling factors also play an important role in this behavior. The key constructs of enabling factors include the availability, accessibility, and affordability of the vaccine series⁴⁰. The cost of the HPV vaccine exists at the public policy level and may influence the ability to obtain a vaccine³⁸. The availability of the vaccine includes how many providers offer the vaccine, potential wait times, and availability of appointments for both doses. Accessibility factors include distance needed to travel to get the vaccine, time guardians need to take off work, and missed school time for children. Skills surrounding this behavior on the individual and interpersonal level include the ability to navigate the healthcare system and guardian-to-child communication about vaccine benefits. The reinforcing factors are also important after engaging in the behavior of getting a full vaccine series. It is important that guardians are supportive of their child getting the vaccine. Healthcare providers also play a role in reinforcing the benefits of the HPV vaccine in terms of cancer prevention, and those who see a healthcare provider one to three times a year are more likely to complete the vaccine series compared to those who do not⁴³⁻⁴⁵.

b. Justification of Selected PER Factors in Population and Setting

The predisposing factor of this program is knowledge about the HPV vaccine. Specifically, this program aims to educate guardians about the importance of the vaccine in terms of cervical cancer prevention⁴¹. It is important for guardians to know about the safety of

the vaccine, how it prevents cancer, and the importance of ensuring their child gets both doses of the vaccine³⁶. Guardians are more confident in the HPV vaccine when they are given messages that provide information about the effectiveness of the vaccine in preventing cancer⁴⁶. A combination of in-person informational sessions, the ability to ask questions, and informational materials are effective tools for HPV hesitant guardians^{46,47}.

The selected enabling factor for this program is environmental accessibility at public middle schools in Richland County. School-based vaccine clinics are an evidence-based strategy to promote vaccine uptake³⁷. Distance to providers is a common barrier to obtaining vaccinations, and bringing sites to schools helps reduce this barrier⁴⁸. Additionally, the vaccine clinics will be offered at a variety of times to ensure all students have the opportunity to get vaccinated. Access to health care and vaccination is a key factor in guardians' choice to get their child the vaccine²⁹. Logistical barriers surrounding the HPV vaccine include hassle, time, and transportation, which are negatively correlated with the HPV vaccine uptake^{49,50}. The reinforcing factor of this program is positive reinforcement, which will be accomplished by giving out program t-shirts to children after they receive the second dose of the vaccine. A combination of incentives and reminders has shown to be impactful in previous research about the uptake of the HPV vaccination⁵¹. The t-shirts will provide students with a sense of accomplishment for getting the vaccine and may also influence other students to take part in the program.

c. Ecological & Educational Objectives and Primary Indicators for Evaluation

The educational objective of this program is to increase knowledge about the HPV vaccine by 80% among recruited guardians who have children aged 11-12 attending public schools in Richland County, South Carolina by using an online knowledge quiz adapted from the

The Carolina HPV Immunization Attitudes and Beliefs Scale (CHIAS)⁵². A pre and post-test quiz will be given to guardians before and after they learn about the HPV vaccine at in-person events as well through the program's social media initiatives. To measure knowledge, guardians will take a 4-question quiz before and after they learn about the HPV vaccine. When they click on the social media advertisement online, they will be prompted with the quiz before viewing the advertisement. They will be prompted to take the same quiz after they view the advertisement. A QR code will be provided during in-person educational events and guardians will take the quiz before and after the education session. The quiz asks questions about vaccine awareness, the recommended age to start the series, vaccine availability, and healthcare coverage. The quiz is shown in its entirety in *Supplemental Table 1*.

The aim of the enabling factor of this program is to increase the accessibility of the HPV vaccine through school-based clinics at public middle schools in Richland County, South Carolina. The enabling objective of this program is to provide two vaccine clinic days for doses one and two of the HPV vaccine for all students ages 11-12 at all public middle schools in Richland County from September 2022-February 2024. A process evaluator will be present on vaccine clinic days to ensure the clinics are being conducted as planned. This person will be responsible for ensuring state program records for clinic sites are properly kept to help ensure proper evaluation. The evaluator is responsible for documenting the program start and end time, staff and nurses present, as well as ensuring the program is being carried out as outlined in the program implementation plan. The objective for the reinforcing factor is to provide all children who receive both doses of the HPV vaccine through Be Wise, immunize with a t-shirt immediately after they receive the second dose of the vaccine. The student volunteers will pass out the t-shirts and document which students have received the shirts with a study iPad. The

process evaluator will be responsible for documenting that t-shirts are given to children by checking the volunteer’s t-shirt tracking.

d. Conceptual Model – Be Wise, Immunize

The conceptual model for Be Wise, Immunize is shown below in *Figure 1*.

Figure 1. Conceptual Model

CONCEPTUAL MODEL				
MULTI-LEVEL CATEGORY PRECEDE/PROCEED	THEORY	THEORY CONSTRUCT	BEHAVIOR	HEALTH CONDITION
PREDISPOSING (knowledge about HPV vaccine)	Health Belief Model	Perceived Benefits	Completing both doses of the HPV vaccine	Reduce the prevalence of cervical cancer
ENABLING (access to the vaccine)	Social Cognitive Theory	Behavioral Capability		
REINFORCING (parental support)	Social Cognitive Theory	Positive Reinforcement		

SECTION FIVE **Strategies to Address Influences on Behavior and Environment**

a. Program Delivery

The two major components of this program are (1) educate guardians about the HPV vaccine and recruit them to allow their child to participate in the school-based clinic and (2) the implementation of vaccine clinics at all public middle schools in Richland County, South Carolina. Guardians who are hesitant above giving their child the HPV vaccine can benefit from in-person education sessions in combination with informational materials and the opportunity to

ask questions^{43,47}. Be Wise, Immunize Staff will provide a short, informational session at school-based events such as PTA meetings, school sporting events, dramas, meet and greet, and other extracurricular activities. This will allow guardians the opportunity to be informed about the benefits of the vaccine in terms of cancer prevention as well as have the opportunity to ask questions about the vaccine. Guardians will have the opportunity to pre-register for the clinics at these events. In addition to recruitment at school events, paid Facebook and Instagram ads will be implemented. These advertisements will target guardians in our target population rather than the students. Additionally, the program will be featured in school newsletters and printed flyers will be sent home with students at school. The flyers, as shown in *Supplemental Table 2* will have a QR that will direct guardians to the knowledge quiz and then the sign-up link for the program. The vaccine clinics will be implemented at all twenty-two public middle schools in Richland County, South Carolina in the parking lots of schools. The targeted schools are outlined in *Supplemental Table 3*.

Guardians will also be able to sign their children up on clinic days. There will be two clinics at each school for the first and second doses of the vaccine. This will give all students two opportunities to get each dose. All clinic days will last four hours, and the days will alternate morning and afternoon schedules. The morning clinic will take place from 7 am to 11 am, and the afternoon will take place from 2 pm to 6 pm. This time frame will allow guardians who have not pre-registered to sign up while they drop or pick up their child from school. Specifically, this time frame includes time well before time before and after school starts. Thus, children who arrive at school early or stay late will have ample opportunity to be vaccinated. Guardians will have the opportunity to stay with their child during the vaccination, or they can provide consent for them to get vaccinated without them being present. Guardians of children who receive their

first dose will receive a series of reminder texts about their second dose. The text will serve as both a reminder and a way to reinforce the importance of getting the second dose. These reminder texts will be sent to guardians one month, one week, and one day before the second dose of the vaccine.

b. Program Components and Description

Be Wise, Immunize will be implemented in five phases. The five phases of this program are adapted from the Mobile Immunizations Toolkit, which is an evidence-based framework for school-based vaccination programs⁵³.

**PHASE 1: STAKEHOLDER
ENGAGEMENT AND STAFFING**

Upon receiving funding, DHEC will begin by engaging all program stakeholders starting in February of 2022. This process is outlined in more detail in the *Program Communication Plan*. Facility use agreements will be finalized with the public middle schools in Richland County to ensure clinics can be held in school parking lots. A staff training guide will be developed, and interviews will be conducted for all staff positions (program coordinator and program assistant). Contractual services including three nurses, a graphic designer, a website designer, and a program evaluator will be hired as well. High school students from Richland County high schools will be recruited to help with registration and t-shirt distribution on clinic days. Once these positions are filled, staff will be trained, and volunteers and contractors will be trained by the program staff.

**PHASE 2: PLANNING FOR
EDUCATION, RECRUITMENT,
AND CLINICS**

Planning for education, recruitment, and vaccine clinics will begin in April of 2022, dependent on the time the staff is established and trained. Planning for educational activities will include developing social media, education, and recruitment strategies. The graphic designer will develop social media advertisements. The staff will also work with principals, teachers, sports coaches, and other community leaders to schedule times

for in-person educational opportunities. A short presentation will be designed for in-person educational sessions. The presentation will include slides about vaccine safety and how it works to prevent cancer. It will be less than five minutes long. This will be carried out from April-May of 2022. Next, planning for the vaccine clinics will involve creating a schedule of nurses from DHEC to administer the vaccine. Medical equipment that is non-perishable will be ordered in June, and the perishable items will be ordered as needed for the clinics. A plan will be developed to anticipate the volume of medical supplies and vaccines that will be needed for each clinic day. The staff of the program will work with DHEC to book the transportation of refrigerated vaccines. Other tasks to be completed in this phase include preparing clinic consent forms, developing a communication plan, and ordered traffic and safety equipment.

PHASE 3: EDUCATION AND RECRUITMENT

This program aims to educate guardians about the HPV vaccine and recruit them to consent for their child to get vaccinated during a clinic day. Social media advertisements will begin in July 2022 and continue for the duration of the program. When a guardian clicks on the advertisement, they will be promoted with the 4-question knowledge quiz. Once they complete the quiz, they will be shown a page with information about the HPV vaccine and the school-based clinics. There will also be a sign-up link on this page so they can pre-register their child for the clinic. Then, they will be promoted to the post-quiz, which will allow us to measure knowledge. In-person recruitment will follow the same structure. Before guardians receive the brief educational session, they will scan a QR code which will prompt them to take the same knowledge quiz. Guardians will be allowed to ask questions regarding the vaccine as well as the program. The post-test of the educational



component of this program will also occur immediately after education. Guardians will also be able to sign up at the educational sessions using an iPad.

PHASE 4: CLINIC DAYS

The components for clinic days include set up, vaccinations, evaluations, and breaking down supplies. The clinics will be held from September 1st, 2022 to March 1st, 2022. As mentioned, clinics will take place in four-hour blocks in the mornings and afternoons. Tents will be set up in school parking lots. One tent will be used for sign-ups and t-shirt distributions and one tent will be used for vaccinations. Students who are pre-registered will be directed by program volunteers to the vaccine tent upon arrival. The nurse will confirm the child's identity and administer the vaccine. Guardians who wish to register their child on clinic days will be able to do so at the registration tent. After the nurses administer the vaccine, children will be directed to the check-out table where they will get their t-shirt after the second dose. Volunteers will help assist in checking students in as well as handing out t-shirts as needed. Guardians of children who received the first dose will be sent a text message with a link to sign up for their second dose. A reminder will also be sent out to the guardian before the second appointment, and they will also have the opportunity to book their second appointment during the first clinic.

PHASE 5: FOLLOW-UP AND LONG-TERM EVALUATION

As explained in detail in the *Evaluation Plan*, a process evaluator will be randomly conducting observations during 30% of clinic days. The staff on clinic days will meet after clean-up for an after-action report. All team members will have the opportunity to explain any challenges and the staff will make adjustments as needed. Thank you notes will be sent to all stakeholders. Impact Evaluation will begin on March 2nd, 2024 to assess the total number of clinics conducted through the duration of the program and to see if the program successfully reaches its objectives. As mentioned, the outcome evaluation of the

program will be done by evaluating cervical cancer incidence in our target population 25 years after the program start (approximately February 2049).

c. Theory and Evidence-Based Strategies to Address Influences on Behavior

The Health Belief Model (HBM) is a widely adopted framework to explain why people engage in certain behaviors, and studies have found that HBM constructs, including perceived benefits, are associated with vaccine uptake⁵⁴. The program aims to increase knowledge through social media advertising and in-person educational sessions. Interventions about the safety and efficiency of the vaccine may help vaccine-hesitant guardians⁴⁷. Social media campaigns and endorsements are an effective way to promote and bring awareness to the HPV vaccine⁴³. It is crucial to provide knowledge about the HPV vaccine and to address how anti-vaccination movements influence risk perceptions and on vaccination intentions and behavior⁵⁵.

The Social Cognitive Theory shows that environmental factors have a significant influence on individual behavior⁵⁶. The accessibility of HPV vaccination services may impact the behavior of getting the vaccine, and they are often less available in high-risk communities⁵⁷. The enabling factor of this program is the accessibility of the HPV by providing clinics at public middle schools. Access to healthcare is a health issue, and providing clinics at public middle schools significantly increases accessibility, as children are required to attend middle school. Another construct of the Social Cognitive Theory is positive reinforcement, which refers to the internal and external responses for engaging in a behavior⁵⁶. Incentives are effective with HPV vaccine uptake⁵¹. T-shirts will be given out as a form of positive reinforcement.

d. Implementation Monitoring Plan

The evaluation of the program is vital to measuring overall success. Specifically, it is important to measure the program's dose, reach, and fidelity⁵⁸. A program evaluator will be hired

to conduct the process evaluation of the program. The evaluator will be responsible for monitoring 30% of clinic days, which will be randomly assigned. The reach will be assessed by how many children are recruited for the vaccine clinics as well as how many children receive both doses of the vaccine. This will be measured through data from clinic registration as well as the vaccine database that the nurses will use to log administered vaccines. We will also cross-check with SIMON to ensure we are measuring the total number of students in Richland County who receive the vaccine series. To assess dose, the program evaluator will complete a checklist of clinic day components using an iPad. The evaluator will ensure that all procedures are being followed including the sign-up, check-in, vaccination, check-out, and incentives components. Additionally, the evaluator will document if all materials are being used appropriately as outlined in the implementation plan.

To assess fidelity, the program evaluator will be responsible for randomly attending 30% of clinic days make sure the nurses, volunteers, and students are all following the protocol, work efficiently, and create a pleasant atmosphere for participants. The evaluator will use the data about time management, participation, quality of carried out service, and the overall atmosphere in the clinic to analyze potential problems and to come up with program improvements. Data will be monitored by program staff so they can make changes to the program as needed. The data will be recorded using a study iPad.

e. Timeline of Program Activities

Be Wise, Immunize will take place over two calendar years (February 2022- February 2024). All components of Phase 1 (Engaging Stakeholders) will take place from February -April 2022. Phase 2 (Planning for Education, Recruitment, and Clinics) will start in mid-April 2022 to the end of May 2022. Phase 3 (Education and Program Recruitment) will be from July 2022-

March 2024 and will remain ongoing for the duration of the program to help recruit as many children as possible. However, more time and funds will be devoted to these efforts from July 2022- December 2022. Phase 4 (Vaccine Clinics Days) will take place from September 2022 – August 2024. Phase 5 (Follow-up and Long-Term Evaluation) will take place from August 2024 and again in February 2049. A brief illustration of the timeline is shown below in *Figure 1*, and a Gantt chart of the program timeline with details is outlined in *Supplemental Table 5*.

Figure 1. Program Timeline



SECTION SIX

Administrative and Policy Assessments

a. Overview of Existing and Needed Resources Needed to Implement Program

The budget and budget justification for Be Wise, Immunize is outlined in detail in Appendix A.

b. Probable Barriers to Implementation and Plan for Addressing Barriers

There are barriers to the implementation of this program. First, we must gain access to schools and have guardians attend our educational sessions. The program staff will work closely with principals to identify guardians and coaches that may help us gain access to guardians in our population. To recruit guardians, we will heavily advertise our meetings through school newsletters, the school website, and paid social media advertisements. The program will be advertised on Facebook and Instagram to reach a range of guardians. However, some guardians may not have access to social media and will thus not be exposed to online advertising.

Additionally, printed materials will be sent out at schools to help reach guardians will fewer media involvement. The weather may create less than optimal conditions for an outdoor clinic. Measures in place to help this are sturdy, outdoor tents. It may be difficult to recruit volunteers, but they will be given volunteer credit, free food, and a t-shirt. There may be scheduling conflicts, especially with the nurses. However, there will be multiple nurses who are trained for the program even though only three will be present each clinic day. Lastly, there is a possibility of adverse reactions to the HPV vaccine, so EMS will be contacted before all clinic days.

SECTION SEVEN Summary of Evaluation Plan

a. Evaluation of Health, Behavioral, Ecological & Educational Objectives

It is vital to the success and implementation of the program to evaluate the educational, behavioral, ecological, and educational objectives. The program will be evaluated using a non-experimental design, as there will be no comparison group used during the evaluation. The goal of the program is to reduce the rates of cervical cancer in our targeted county. Specifically, the program aims to reduce rates of cervical cancer in 30-35-year-olds living in Richland County by 80% by the 25-year evaluation of the program in February 2049. Cervical cancer rates will be measured using the South Carolina Cancer Registry. This population-based surveillance system collects and publishes rates of cervical cancer in the state, and is an appropriate source of data to evaluate this objective²⁶. Information will be gathered at the program vaccine clinic start date (September 2022) and again after 25 years (approximately February 2049) to help establish a temporal relationship between the HPV vaccine and the development of cervical cancer. The program assistant will be responsible for this task. As people will immigrate and emigrate, this measure will be an estimate of the change in cancer prevalence in the population.

The behavior objective for Be Wise, Immunize is that 80% of 11-12-year-olds in Richland County receive the full HPV vaccination (2 doses) by the end of the two-year program (March 2024). The Statewide Immunization Online Network (SIMON) is a vaccine registry database that holds the records of all vaccines administered in South Carolina^{33,34}. Data regarding the HPV vaccine rates in our target population will be collected by the program assistant on the program start and end date of the program using SIMON. The environmental objective of Be Wise, Immunize is to increase vaccination sites for the HPV vaccine through the implementation of pop-up clinics in Richland County by 5% by 6 months from the program start date and 10% by the end of the two-year program. SIMON also has information about the locations the HPV vaccine can be administered, which will be utilized to measure this objective^{33,34}. The program assistant will be responsible for this task.

The educational objective of this program is to increase knowledge about the HPV vaccine by 80% among recruited guardians who have children aged 11-12 attending public schools in Richland County, South Carolina. This will be measured through an online knowledge quiz. The quiz measures the guardian's vaccine awareness, the recommended age to start the series, vaccine availability, and healthcare coverage. This short quiz is an adapted version of The Carolina HPV Immunization Attitudes and Beliefs Scale (CHIAS)⁵². This quiz will be given to guardians before and after they learn about the HPV vaccine at in-person events as well as on social media. Data will be stored on Qualtrics and analyzed using Microsoft Excel.

The enabling objective of this program is to provide two vaccine clinic days for doses one and two of the HPV vaccine for all students ages 11-12 at all public middle schools in Richland County from September 2022-March 2024. A process evaluator will be present on 30% of vaccine days to ensure the clinics are being conducted as planned. The evaluator will use an

iPad to document if all of the elements of the program are being conducted. The objective for the reinforcing factor is to provide *all children* who receive both doses of the HPV vaccine through Be Wise, Immunize with a t-shirt immediately after they receive the second dose of the vaccine. Program volunteers will use iPads to document in Microsoft Excel that all participants are given a t-shirt as they exit the program booth.

SECTION EIGHT

Communication Plan

The program will include a robust communication plan to educate and recruit participants. Providing engaging and informative content is imperative for recruiting children into the program. Social media advertisements will be used on Instagram and Facebook with a large emphasis on Facebook, which is the most used social media platform in the United States. One study found that 36% of Americans reported getting their daily news from Facebook⁵⁹. The social media campaign aims to promote the program and teach guardians about the effectiveness of the vaccine in terms of cervical cancer prevention. The program will also be promoted in school newsletters at our targeted schools, which will start one month before the program begins and continue for the duration of the program. The same advertisement used for print flyers, as shown in *Supplemental Figure 1*, will be used in the newsletters. A majority of advertisements and education will be done online and in the school newsletter, but in-person informational sessions are also imperative to the success of the program since some people do not use social media. As mentioned previously, in-person educational sessions will be held at school events such as sporting games, PTA meetings, drama events, meet and greet, etc. At least one staff member and a nurse will be at each educational session. The purpose of these sessions is to both educate guardians and allow them to ask questions.


Virtual meetings with staff members and stakeholders will also be conducted over Zoom on the first Wednesday of each month to help communicate the progress of the program. Attendance from stakeholders is recommended but not required. Virtual meetings will provide an accessible way for all stakeholders to be involved. These meetings will provide staff the opportunity to share the program’s progress and impact and allow stakeholders to address questions and concerns. It is also important to share the results of the program at the local, state, and national levels. Progress of the program will be shared through the program’s social media outlet. Program progress and results will be shared with various departments at DHEC throughout and after the program. After the program ends, findings will be shared with The South Carolina Public Health Association and The Adolescent Immunization Task Force. The results of this program will be presented at conferences, including The American Public Health Association annual conference.

SECTION NINE

Conclusion

Cervical cancer is a disease that can negatively impact women physically, mentally, and financially. However, it can be largely prevented with the HPV vaccine. There is a disproportionately high prevalence of cervical cancer in Richland County, South Carolina and there is a dire need for a prevention-based intervention. Be Wise, Immunize is an evidence-based program that (1) provides education about the vaccine in terms of cancer prevention and (2) significantly increases the accessibility of the vaccine in Richland County. Providing the vaccine at school-based clinics is an innovative and evidence-based strategy to promote vaccine uptake. This program has the potential to significantly decrease the rate of cervical cancer in Richland County, and in turn, prevent life-threatening consequences.

Supplemental Figure 1. Predisposing (Knowledge) Quiz



**BE WISE,
IMMUNIZE!**

dhec

Knowledge Quiz

Please answer these questions to the best of your ability.

How much do you know about the HPV vaccine?

1 2 3 4 5 6 7 8 9 10

I don't know anything I know very much

What is the recommended age range to start the HPV vaccine?

Your answer _____

The vaccine is available for my child to get at their school.

True

False

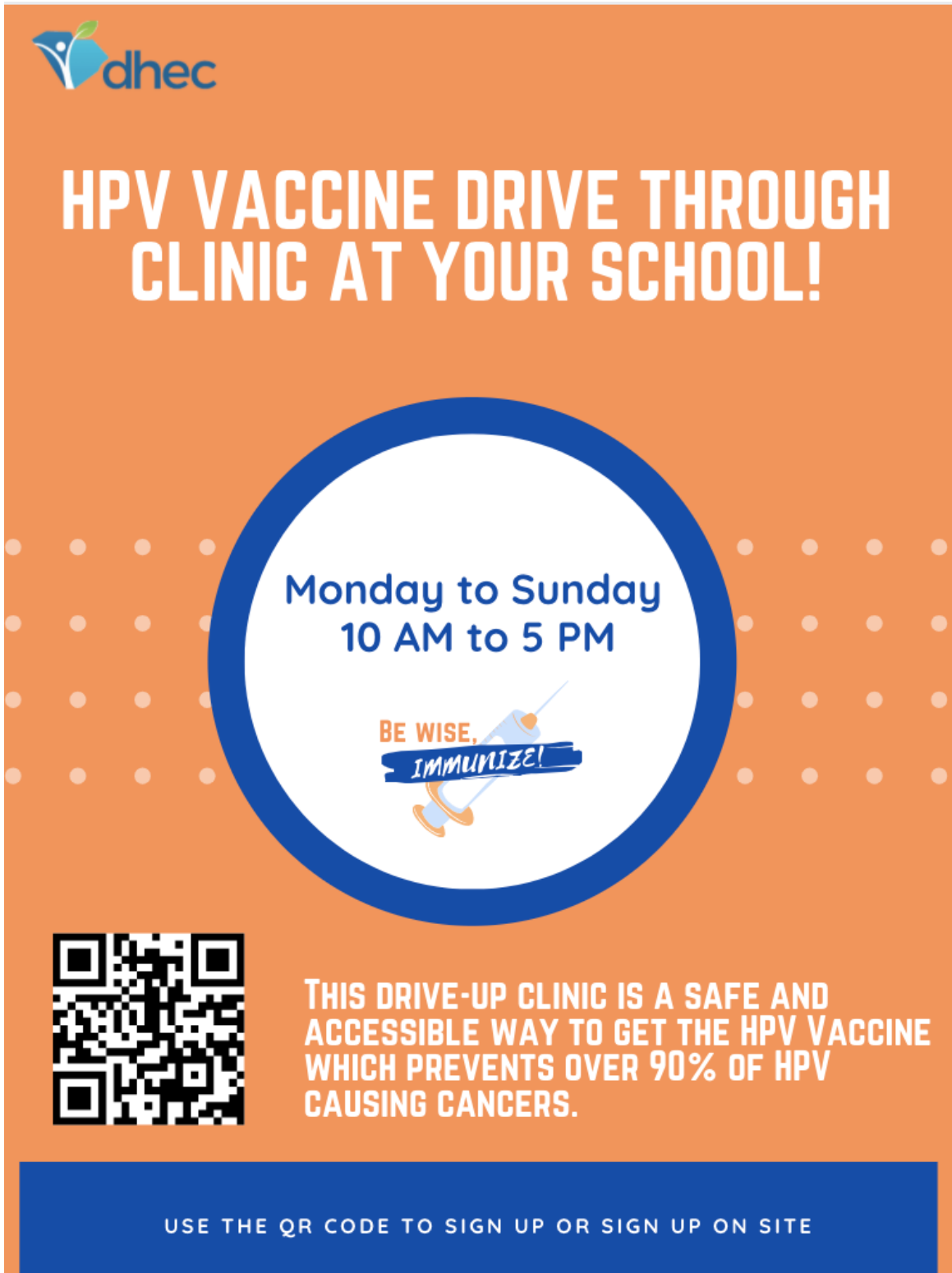
How much do you know about your healthcare coverage of the HPV vaccine

1 2 3 4 5 6 7 8 9 10

I don't know anything I know very much

Submit

Supplemental Figure 2. Sample Flyer




The flyer features an orange background with a white grid of dots. At the top left is the dhec logo, which consists of a stylized blue and green figure next to the text 'dhec'. The main title 'HPV VACCINE DRIVE THROUGH CLINIC AT YOUR SCHOOL!' is written in large, bold, white capital letters. Below this, a large white circle with a blue border contains the text 'Monday to Sunday 10 AM to 5 PM' in blue. Inside the circle is an illustration of a syringe with a blue plunger and orange needle, and a blue banner with the text 'BE WISE, IMMUNIZE!' in white. To the left of the circle is a QR code. To the right of the QR code is the text 'THIS DRIVE-UP CLINIC IS A SAFE AND ACCESSIBLE WAY TO GET THE HPV VACCINE WHICH PREVENTS OVER 90% OF HPV CAUSING CANCERS.' in white. At the bottom, a blue horizontal bar contains the text 'USE THE QR CODE TO SIGN UP OR SIGN UP ON SITE' in white.

dhec

HPV VACCINE DRIVE THROUGH CLINIC AT YOUR SCHOOL!

Monday to Sunday
10 AM to 5 PM

BE WISE,
IMMUNIZE!



THIS DRIVE-UP CLINIC IS A SAFE AND ACCESSIBLE WAY TO GET THE HPV VACCINE WHICH PREVENTS OVER 90% OF HPV CAUSING CANCERS.

USE THE QR CODE TO SIGN UP OR SIGN UP ON SITE

Supplemental Table 3. Targeted Schools for Be Wise, Immunize

TARGETED SCHOOLS		
SCHOOL	SCHOOL ADDRESS	# OF STUDENTS
Chaplin Middle School	11661 Broad River Road Chapin, SC 29036	903
Dutch Fork Middle School	1528 Old Tamah Road Irmo, SC 29063	1034
Chapin Intermediate	1130 Old Lexington Highway Chapin, SC 29036	861
Crossroads Intermediate	6949 St. Andrews Road Columbia, SC 29212	812
Blythewood Middle School	2351 Longtown Road East Blythewood, SC 29016	807
Irmo Middle School	6051 Wescott Road Columbia, SC 29212	916
Crayton Middle School	5000 Clemson Avenue Columbia, SC 29201	1146
Muller Road Middle School	1031 Muller Road Blythewood, SC 29016	1135
Dent Middle School	2721 Decker Boulevard Columbia, SC 29206	1273
Hand Middle School	2600 Wheat Street Columbia, SC 29205	849
E.L. Wright Middle School	2740 Alpine Road Columbia, SC 29223	1348
Longleaf Middle School	1160 Longreen Parkway Columbia, SC 29229	844
Kelly Mill Middle School	1141 Kelly Mill Road Blythewood, SC 29016	986
Summit Parkway Middle School	200 Summit Parkway Columbia, SC 29229	1187
W.G. Sanders Middle School	3455 Pine Belt Road Columbia, SC 29204"	507
W.A. Perry Middle School	2600 Barhamville Road Columbia, SC 29204	350
Alcorn Middle School	5125 Fairfield Road Columbia, SC 29203	375
Southeast Middle School	5125 Fairfield Road Columbia, SC 29203	516
St. Andrews Middle School	1231 Bluefield Road Columbia, SC 29210	717
Hopkins Middle School	1601 Clarkson Road Hopkins, SC 29061	472
Heyward Gibbes Middle School	500 Summerlea Drive Columbia, SC 29203	384

Supplemental Table 4. Project Timeline

BE WISE IMMUNIZE - PROJECT TIMELINE		
TASK TO COMPLETE		DATE
PHASE 1: STAKEHOLDER ENGAGEMENT AND STAFFING		
Engage With Stakeholders	Engage with all stakeholders through online meetings, phone calls, and emails	February 2022 - March 2024
Develop Staff Training Guide	Develop a detailed guide to train program staff and contractors	February 2022 - Early April 2022
Ensure Facility Use Agreements	Meet with school leaders to develop facility use agreements and ensure facilities can be used for clinic days	February 2022 - Early April 2022
Interview Staff	Interview - program coordinator, program assistant, and contractual personnel positions. Ensure that all program staff is qualified.	The first week of April 2022
Hire Staff	Hire all staff positions (program coordinator and program assistant)	Mid-April 2022
Train Staff	Train all staff members and contractual personnel with a staff training guide	Mid-April 2022
Hire Volunteers	Hire and recruit volunteers from local high schools via print flyers and social media	Mid-April 2022
Train Volunteers	Program staff is responsible for training volunteers and developing a volunteer schedule to ensure enough volunteers are present at each vaccine clinic	Mid-April 2022
PHASE 2: PLANNING FOR EDUCATION, RECRUITMENT, AND CLINICS		
Create Promotional Materials, Advertisements, Posters, And Handouts	The graphic designer will be responsible for creating social media and print advertisements for the program using graphic design software	Mid-April 2022
Develop Social Media Advertising Strategies	Develop advertisement schedule for social media campaigns including how much funding will be allocated for each post	Late April 2022
Develop Communication Plan	Develop a detailed communication plan for all staff members, agencies, and partners	Late April 2022
Develop Education Strategies at Schools to Promote the Program	Design a short presentation (less than 5 minutes) in-person events at schools that coordinated with the printed and online educational flyers	Late April 2022
Buy Non-Perishable Supplies for Clinics	Purchase all non-perishable clinic supplies including the fridge, tents, chairs, and office supplies	Late April 2022

Plan for Medical Supplies	Develop strategies to determine the volume of supplies needed for event days	Early May 2022
Purchase Medical Equipment	Purchase non-perishable medical equipment such as band-aids, wastebaskets, and alcohol swabs	Mid May 2022
Plan for transportation of equipment	Book DHEC van to transport fridges with vaccines and ensure staff is assigned for driving shifts	Mid May 2022
Prepare vaccination job action sheets	Determine leadership positions for event day, create schedules, and vaccine lists	Mid May 2022
Order traffic/safety/flow equipment and event signs	Ensure the program has all equipment, electrical capabilities, and signage for traffic safety	Late May 2022
Prepare clinic consent forms	Develop and print consent forms for same-day vaccine sign ups	Late May 2022
PHASE 3: EDUCATION AND PROGRAM RECRUITMENT		
Speak At Schools To Promote The Program	Program staff and nurses will speak at events	July - August 2022
Paid Advertising On Social Media	Social media ads will be paid for and promoted on Facebook and Instagram	July 2022 - March 2024
Send Home Flyers With Children At Targeted Schools	Promotional flyers are delivered to schools and sent home with the target population	August 2022 - December 2022
Knowledge Quiz Data	Continuously monitor the knowledge quiz and create back-ups of survey data weekly.	July - August 2022
PHASE 4: VACCINE CLINIC DAYS		
Review Volunteer List And Send Reminders	Confirm volunteers are available on event day and send text message reminders about volunteer shifts	September 2022 - March 2024
Confirm Arrival And Check-In Process For Staff And Volunteers	Confirm with the site that there are no site restrictions 24 hours before each clinic	September 2022 - March 2024
Prepare All Vaccines	Load vaccines to vehicles and transport them to clinic sites and ensure that they are transported at the proper temperature	September 2022 - March 2024
Notify EMS Of Event	Notify local emergency medical services of the clinic to ensure there will be a rapid, informed response in the event of an emergency	September 2022 - March 2024
Confirm Screeners Have Access To SC Immunization Registry	Confirm that there is internet access and electricity all at sites so that nurses can log vaccines	September 2022 - March 2024
Clinic Prep	Ensure the appropriate number of vaccines are packed for each site and that all needed medical equipment is easily available	September 2022 - March 2024
Clinic Set-Up	Ensure medical guidelines are followed at clinics and set up tents and tables	September 2022 - March 2024

Answer Guardian Questions	Answer any questions that arise from guardians	September 2022 - March 2024
Confirm Child Identity	Confirm child identity and guardian consent to administer the vaccine	September 2022 - March 2024
Vaccinate Registered Children	Nurses administer vaccines to children who have pre-registered and provided guardian consent in advance	September 2022 - March 2024
Register Same Day Sign-Ups	Register children who wish to sign up on clinic days with guardian permission	September 2022 - March 2024
Vaccinate Non-Registered Children	Nurses administer vaccines to all children who have documented consent	September 2022 - March 2024
Set Up Appointments for Dose Two	When the guardian is present, provide the opportunity to sign up for dose two	September 2022 - March 2024
Provide T-shirt	Volunteers will provide all students who get their second dose with a t-shirt	September 2022 - March 2024
Provide Exit-Survey	Guardians will have the opportunity to fill out the exit survey then leaving the clinic	September 2022 - March 2024
Logging Vaccine Doses	All vaccines administered on clinic days will be registered into SIMON by the nurses	September 2022 - March 2024
Process evaluation	Process evaluator is on-site and completes process evaluation at 30% of program sites	September 2022 - March 2024
Complete after-action reports	Complete after-action reports at the end of each vaccine day with staff and volunteers present	August 2022 - March 2024
PHASE 5: FOLLOW-UP AND LONG-TERM EVALUATION		
Facilitate Debrief Sessions	Participate in debriefing sessions with partners at a monthly meeting	August 2022 - March 2024
Send Thank You Emails	Send thank you emails to all staff, volunteers, and partners and express gratitude for program participation	August 2022 - March 2024
Impact Evaluation	Evaluate how many students were vaccinated through the program using data from SIMON	Late March 2024
Outcome Evaluation	Evaluate cervical cancer prevalence in the target population using the South Carolina Cancer Registry	Late March 2024

Supplemental Table 5. Gantt Chart

	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR 2049
Engage stakeholders at monthly advisory meetings	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Develop staff training guide	█	█	█																							
Ensure facility use agreements	█	█	█																							
Interview staff			█																							
Hire staff			█	█	█																					
Train Staff			█	█	█																					
Hire volunteers			█	█	█																					
Train Volunteers			█	█	█																					
Create Promotional Materials, Advertisements, Posters, And Handouts			█																							
Develop Social Media Advertising Strategies			█																							
Develop Communication Plan			█																							
Develop Education Strategies At Schools To Promote The Program				█																						
Buy Non-Perishable Supplies For Clinics				█																						

Plan For Medical Supplies																									
Purchase Medical Equipment																									
Plan For Transportation Of Equipment																									
Prepare Vaccination Job Action Sheets																									
Order Traffic/Safety/Flow Equipment And Event Signs																									
Prepare Clinic Consent Forms																									
Speak At Schools To Promote The Program																									
Paid Advertising On Social Media																									
Send Home Flyers With Children At Targeted Schools																									
Continuously Monitor Knowledge Quiz Data																									
Review Volunteer List And Send Reminders																									
Confirm Arrival And Check-In Process For Staff And Volunteers																									
Prepare All Vaccines																									
Notify EMS Of Event																									
Confirm Screeners Have Access To SC																									

Immunization Registry																										
Clinic Prep																										
Clinic Set-Up																										
Vaccinate Registered Children																										
Register Same Day Sign-Ups																										
Vaccinate Non-Registered Children																										
Process Evaluation																										
Facilitate Debrief Sessions																										
Complete After-Action Reports																										
Send Thank You Emails																										
Impact Evaluation																										
Outcome Evaluation																										

Appendix A.

Budget Justification

The total budget request for Be Wise, Immunize is \$459,177.37. The total cost in year one is \$266,498.85 and the total cost in year two is \$192,678.52. Notably, there will be 88 total clinic days - 4 clinics at each school – 2 morning and 2 afternoon clinics - at each of the 22 public middle schools in Richland County.

Be Wise, Immunize Staff

The total staff costs are \$117,000.00 in year one and \$120,510.00 in year two. The program staff will include a program coordinator as well as a program assistant, with 100% and 65% effort, respectively. There will be a 3% pay increase in year two for both positions. Both staff members will receive 30% fringe benefits in addition to their salaries each year.

- **Program Coordinator** (\$60,000.00 year 1 and \$61,800.00 year 2 + 30% fringe benefits)
 - The program coordinator is responsible for overseeing all aspects of Be, Wise Immunize. This position will require a 40-hour workweek for the 2-year duration of the program. Tasks for the program coordinator include hiring staff, coordinating with stakeholders, overseeing recruitment, managing program education, clinic, implementation, and budget management.
- **Program Assistant** (\$30,000.00 year 1 and \$30,900.00 year two + 30% fringe benefits)
 - The program assistant will aid the program coordinator as needed for the operations of the program. They will also be responsible for coordinating schedules and responsibilities with volunteers, nursing staff, and contractual employees. The program assistant also has program evaluation responsibilities as outlined in the *Evaluation Plan*.

Contractual Services and Volunteers

The contractual positions that will be hired for this program include three nurses, a program evaluator, a website designer, and a graphic designer. The total costs for contractual services are \$23,129.23 in year one and \$31,259.05 in year two.

- **Nurses (3)** (paid hourly at a rate of \$31.17/hour)
 - There will be three registered nurses (RNs) each day at the vaccine clinics. There are 4 clinic days at 22 middle schools. Thus, there are 88 clinic days, 352 clinic hours, and 1056 nurse hours needed. They will be paid the average hourly rate (\$31.17) of RNs in South Carolina. The primary responsibility of the nurses is to administer the HPV vaccine series and to answer guardian and child questions regarding the vaccine. They are also responsible for ensuring the clinic site meets medical standards and registering all administered doses of the vaccine into SIMON.
- **Program Evaluator** (paid hourly at a rate of \$30 in year 1 and \$40 in year 2)
 - The program evaluator is responsible for the process evaluation of the program. Specifically, the evaluator will be present on 30% of clinic days. Duties include documenting all aspects described in the process evaluation using an iPad. This pay structure was developed based on the average hourly pay of experienced program process evaluators.
- **Website Designer** (paid \$7,500 for website design and \$2,500 for maintenance)
 - The website designer will be paid \$7,500 to create the website for the program. The industry standard for creating a website for a non-profit organization ranges from \$5,000 to \$10,000, so \$7,500 is an appropriate allocation for this task. A

total of \$2,500 will be allocated for website maintenance after the website has been developed.

- **Graphic Designer** (paid \$3,000 for initial graphics and \$1000 for any additional needs)
 - The graphic designer will be paid \$3,000 in year 1 to design social media posts, informational flyers, and posters. There is an additional \$1000 allocated for year two for any additional graphic design needed for the duration of the program.
- **Volunteers** (not compensated – receive volunteer hours)
 - Notably, volunteers will be recruited from Richland County high schools. They will be provided snacks as well as volunteer hours for their service. Duties include directing traffic flow, handing out t-shirts, and assisting program staff as needed.

Supplies and Equipment

Total costs for supplies and equipment are \$58,338.42 in year 1 and \$32,909.47 in year 2.

Several items, such as the electronics, will be a one-time purchase in year one. Much of clinic supplies funding for year 2 was increased by 150% for specific items to adjust for more clinic days in year 2.

Equipment

- **Laptops (6)** (one-time purchase in year 1 - \$2,459.94)
 - Six laptops (HP Model 15z-gw000) will be purchased for \$409.99 each at the start of the program. These laptops will be given to the program coordinator, program assistant, the three nurses, and one will be used for check-in procedures on clinic days. These laptops will be used in conjunction with the iPads for all day-to-day administrative tasks, tracking participant sign-ups, and registering all vaccine doses into SIMON.

- **Hotspot** (\$323.91 in year 1 and year 2)
 - A mobile hotspot will be used during the duration of the program. It will cost \$35.99 per month (for 24 months) and will ensure program staff always has internet access, especially during clinic days. This hotspot package will have enough bandwidth for all program devices.
- **iPads (6)** (one-time purchase in year 1 -\$2,399.94)
 - Six iPads (7th version, 10in.) will be purchased for \$399 each at the start of the program. The iPads will be used to sign people up at recruitment events as well as by volunteers on clinic days.

Informational/Educational Days

- **Staff Lunches** (\$6,000 in year 1 and \$3,000 in year 2)
 - A total of \$6,000 is allocated for staff lunches in year 1 and \$3,000 in year two. Lunch is budgeted at \$5.00 per meal. Because of the time allocated to planning, more funds are allocated in year 1. Lunch will be provided to stakeholders as needed.
- **Snacks** (\$10,000 in year 1 and \$5,000 in year 2)
 - Snacks will be given out on informational days; thus, more funds are allocated for year 1. Snacks are budgeted at \$1.10 per snack.
- **Beverages** (\$3,000 in year 1 and \$1,500 in year 2)
 - Beverages will also be given out on informational days; thus, more funds are allocated for year 1. Beverages are budgeted at \$0.50 per beverage.

Clinic Supplies

While this program is not responsible for the cost of the vaccine, it will supply the equipment for mobile vaccination clinics. Notably, the cost of vaccines and transportation trucks will be provided through DHEC funds.

- **American Biotech 5 Cubic ft. Fridge** (one-time purchase in year 1 - \$721.78)
 - A medical-grade fridge will be purchased to store the vaccines. This fridge is large enough to hold enough vaccines for a full clinic day at the appropriate temperature.
- **Large - 20ft. by 40ft. Tent (2)** (one time purchase in year 1 - \$2,746.1)
 - Two large tents will be purchased for clinic days. This will help ensure staff and equipment are protected in the event of unfavorable weather conditions. These tents will be large enough for three large tables for vaccine administration and well as one dedicated to check-in procedures.
- **Chairs (10)** (one-time purchase in year 1 - \$109.80)
 - A total of 10 foldable, white plastic chairs will be purchased on Amazon for \$10.99 each. These chairs will be used by nurses and program participants on clinic days.
- **Sanitizer** (one-time purchase in year 1 - \$305.64)
 - Eighteen large containers of hand (sanitizer \$16.98 each) will be purchased for clinic days. Each container will last approximately one month (18 total months of clinic days).
- **Gloves** (\$949.50 in year 1 and \$1,424.25 in year 2)
 - Surgical gloves will be purchased for \$189.90 for each box (500 gloves per box). Gloves will be used by nurses when administering the vaccine.

- **Medical Masks** (\$949.50 in year 1 and \$1,424.25 in year 2)
 - Surgical medical masks will be purchased for \$798.04 and \$1,197.06 in years 1 and 2 of the program. This quantity of masks will ensure nurses can change masks frequently when administering the vaccine.
- **Rope** (one-time purchase in year 1 - \$49.45)
 - Forty feet of rope will be purchased to create lines for the vaccine clinics.
- **Instructional signs** (one-time purchase in year 1 - \$253.00)
 - Signs for traffic direction and clinic day flow will be purchased in a pack online during year one of the program. A total of 17 signs will be purchased for \$14.88 each.
- **Paper towels** (\$149.90 in year 1 and \$224.85 in year 2)
 - Paper towels will be purchased at a rate of \$14.99 per pack of 8. 10 packs will be purchased in year one and 15 packs in year 2.
- **Sharp Containers** (\$1,209.60 in year 1 and \$1,814.40 in year 2)
 - Sharp containers cost \$6.30 and 192 will be needed in year one and 288 in year two to allow the nurses adequate room to dispose of used needles. Containers need to be disposed of at the end of each clinic day.
- **Walkie-talkies** (one-time purchase in year 1 - \$399.00)
 - A pack of 6 rechargeable walkie-talkies will be purchased for \$399.00 on Amazon. The walkie-talkies will be used for communication among staff and volunteers on clinic days.
- **Snacks and Juice** (\$4,400 in year 1 and \$6,600 in year 2)
 - Snacks and juices will be available for participants after they get vaccinated.

- **Employee Breakfast** (\$4,400 in year 1 and \$6,600 in year 2)
 - Employees and volunteers will be provided with breakfast on clinic days. Approximately \$4.50 is allocated for each person for each clinic day.
- **Wastebaskets** (one-time purchase in year 1 - \$111.96)
 - Wastebaskets will be needed for non-medical supplies on clinic days. Four wastebaskets will be purchased for \$27.99 each.

Office Supplies

We anticipate that more office supplies will be needed in year 1 because of the time spent in program planning. Thus, more funds are allocated for some supplies in year 1.

- **Pens** (\$49.99 in year 1 and \$35.00 in year 2)
 - Pens will be purchased in bulk on amazon for program staff, contractors, and volunteers.
- **Paper** (\$350.99 in year 1 and \$200 in year 2)
 - Paper will be purchased and will be used to print employee manuals, flyers, and other administrative tasks.
- **Ink** (\$549.99 in year 1 and \$500.00 in year 2)
 - Ink will be purchased to print the program materials listed above.
- **Printer- HP LaserJet Pro** (one-time purchase in year 1 - \$449.89)
 - An HP LaserJet Pro MFP Wireless printed will be purchased. This is a professional printer that will be able to print all program materials and advertisements.
- **Photocopies** (\$1,00.00 in year 1 and \$500.00 in year 2)
 - This includes all printing that is not advertising.

Advertising

Significant funds will be dedicated to online advertising promoting the program. Specifically, the program will advertise more frequently in year 1 compared to year 2.

- **Social Media Ads – Facebook** (\$10,000.00 in year 1 and \$5,000 in year 2)
 - Facebook ads will start to run two months before the program start date. The program will run \$1,800 worth of targeted ads in June and \$2,500 worth in July to help promote the program. The rest of the funds will be strategically used for the remainder of the program. Specifically, more funds will be used before clinic days.
- **Social Media Ads – Instagram** (\$5,000 in year 1 and \$2,500 in year 2)
 - A similar advertising structure will be used on Instagram as on Facebook, but at 50% of the funds. This is because we predict that our target population of guardians have a larger presence of Facebook compared to Instagram.
- **Flyers** (\$3,500 in year 1 and \$1,500 in year 2)
 - A promotional flyer will be printed to help advertise to people who do not have a presence on social media.

Other

- **Stickers** (\$3,500 in year 1 and \$1,500 in year 2)
 - Stickers will be given to children after each vaccination. \$3,500 of custom stickers will be purchased and an additional \$1,500 is allocated in case more stickers are needed.
- **T-shirts** (\$3,500 in year 1 and \$1,500 in year 2)

- There are 17,442 students in our target population. Enough t-shirts will be purchased for 80% of this population (13,954 shirts). Shirts will be purchased in bulk for \$4.50 per shirt.

Travel

- **Employee Travel** (\$3,500 in year 1 and \$1,500 in year 2)
 - Employees will be compensated for travel at \$0.58/mile for travel to and from clinics for all clinic days.

BE WISE, IMMUNIZE OPERATING BUDGET (MARCH 2022-MARCH 2024)

BUDGET CATEGORY	YEAR ONE	YEAR TWO
Be Wise, Immunize Staff		
Program Coordinator - Salary - 100% effort	\$60,000.00	\$61,800.00
Program Coordinator - Fringe	\$18,000.00	\$18,540.00
Program Assistant - Salary - 65% effort	\$30,000.00	\$30,900.00
Program Assistant - Fringe	\$11,400.00	\$11,742.00
Subtotal	\$17,000.00	\$120,510.00
Contractual Services		
<u>Contracted Personnel</u>		
Three Nurses - (\$31.17/hour)	\$11,520.43	\$21,395.05
Program Evaluator	\$1,108.80	\$6,864.00
Website Designer	\$7,500.00	\$2,000.00
Graphic Designer	\$3,000.00	\$1,000.00
Subtotal	\$23,129.23	\$31,259.05
Supplies and Equipment		
<u>Equipment</u>		
Laptops (6)	\$2,459.94	\$0.00
hotspot	\$323.91	\$323.91
iPads (6)	\$2,399.94	\$0.00
<u>Informational Days</u>		
Staff Lunches	\$6,000.00	\$3,000.00
Snacks	\$10,000.00	\$5,000.00
Beverages	\$3,000.00	\$1,500.00
<u>Clinic Supplies</u>		
American Biotech 5 cubic ft. fridge	\$721.78	\$0.00
20ft. by 40ft. tent	\$2,746.10	\$0.00
Chairs (10)	\$109.80	\$0.00
Sanitizer	\$305.64	\$0.00

Gloves	\$949.50	\$1,424.25
Medical masks	\$798.04	\$1,197.06
Rope	\$49.45	\$0.00
Instructional signs	\$253.00	\$0.00
Paper towels	\$149.90	\$224.85
Sharp containers	\$1,209.60	\$1,814.40
Walkie talkies (6)	\$399.00	\$0.00
Snacks and juice	\$4,400.00	\$6,600.00
Employee breakfast	\$1,050.00	\$1,590.00
Wastebaskets	\$111.96	\$0.00
Office Supplies		
Pens	\$49.99	\$35.00
Paper	\$350.99	\$200.00
Ink	\$549.99	\$500.00
Printer	\$449.89	\$0.00
Photocopies	\$1,000.00	\$500.00
Advertising		
Social Media Ads - Facebook	\$10,000.00	\$5,000.00
Social Media Ads - Instagram	\$5,000.00	\$2,500.00
Flyers	\$3,500.00	\$1,500.00
Subtotal	\$58,338.42	\$32,909.47
Other		
Stickers	\$250.00	\$500.00
T-shirts	\$62,781.20	\$0.00
Subtotal	\$63,031.20	\$500.00
Travel		
Mileage to/from sites (\$0.58/mile)	\$5,000.00	\$7,500.00
Subtotal	\$5,000.00	\$7,500.00
TOTAL BUDGET REQUEST (YEARLY)	\$266,498.85	\$192,678.52
TOTAL BUDGET REQUEST (TOTAL)		\$459,177.37

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