Improving North Carolina's Capacity to Prevent Cervical Cancer through Community Engagement, a Needs Assessment, and Resource Strengthening

Summary Report

Lara Balian
Adrienne Binder
Catherine Chao
Shannon Clancy
Sarah Mye
Asia-La'Rae Walker

In partnership with Cervical Cancer-Free North Carolina

Alexis Moore, MPH
Preceptor

Noel Brewer, PhD
Faculty Advisor

On our honor, we have neither given nor received any unauthorized aid on this assignment.

II. ABSTRACT

Background: In 2013, Cervical Cancer-Free North Carolina (CCFNC) identified the South Central and Northeast regions of North Carolina (NC) as disproportionately affected by cervical cancer based on epidemiological surveillance data. Women diagnosed with cervical cancer in NC are often minorities, older, recent immigrants, and/or of lower income. Cervical cancer cases also tend to occur in women who have below average screening rates and HPV vaccination uptake. To address this disparity, CCFNC works with a coalition of partners that deliver and promote cervical cancer prevention services. In 2012, CCFNC developed nine evidenced-based recommendations that could improve cervical cancer prevention. As the CCFNC Capstone team, we worked with stakeholders, who provide cervical cancer prevention services, to identify barriers and encourage the adoption of one of the recommended strategies to increase screening rates and HPV vaccination in high-need regions of NC.

Methods: We attended the North Carolina Cervical Cancer Coalition Summit (State Summit) to gather information about the prevailing cervical cancer challenges and stakeholder attitudes towards strategies for improving prevention. We summarized and shared highlights from the event with attendees and coalition members. We then identified and recruited key informants (n=32) from the South Central and Northeast regions of NC using the list of coalition partners and participant referrals. We conducted semi-structured key informant interviews (KIIs) with healthcare providers and educators involved in women's health and immunization to identify challenges and opportunities to improve cervical cancer prevention services in their respective regions. Qualitative data informed the content of the *Cervical Cancer Prevention: Strengthening Health Systems and Programs in South Central North Carolina* regional meeting. Key informants, coalition members, and other cervical cancer prevention stakeholders attended the regional meeting and participated in community action planning to outline strategies and action steps to implement prioritized recommendations. Following the meeting, our team summarized participant strategies and action steps in the community action plan report, which we distributed to attendees of the meetings. We also updated the NC Cervical Cancer Resource Directory and established a process that can be replicated in the future using our phone survey and web form. Lastly, our team developed an online survey in Qualtrics and analyzed responses to determine recommendations for making the Resource Directory more useful to practitioners and promotional strategies to increase use of the Resource Directory.

Results: Participants at the State Summit prioritized two evidence-based recommendations to improve cervical cancer prevention. KIIs identified challenges and opportunities to providing cervical cancer prevention services. They also informed the format and focus of the regional meeting and contributed to its success. At the regional meeting, participants outlined specific strategies and action steps to implement evidence-based recommendations deemed feasible for their organizations. Additionally, our Capstone team identified several barriers that limit use of the Resource Directory, including inaccurate entries, poor Spanish translation, and text with an advanced reading level. Based on these findings and results from the NC Cervical Cancer Resource Directory Survey, the team updated the directory, established a process for revising the directory in the future, and developed specific recommendations for improving utility and awareness of the tool among healthcare professionals.

Discussion: Our Capstone project built upon CCFNC's recommendations to improve cervical cancer prevention by facilitating efforts to implement these recommendations. The project contributed to a deeper understanding of the resources, challenges, and opportunities to providing cervical cancer prevention services in South Central and Northeast NC, as well as identified specific ways to help organizations meet their goals and objectives for cervical cancer prevention. We recommend that CCFNC work with Eastern North Carolina Cancer Coalition (ENCCC) to coordinate a Northeast regional meeting, guided by the information obtained from KIIs, that focuses on community action planning to decrease cervical cancer incidence and mortality.

III. ACKNOWLEDGEMENTS

Our Capstone team graciously recognizes Alexis Moore, MPH, our wonderful preceptor who selflessly stepped in to help guide us through our Capstone journey and consistently encouraged us to strive for excellence. We thank our faculty advisor and Director of Cervical Cancer-Free North Carolina (CCFNC), Noel Brewer, PhD, for his vision and guidance, as well as the passion he brings to addressing cervical cancer. We also acknowledge Megan Hall, MPH, for providing insightful feedback, and the entire CCFNC staff for supporting our Capstone efforts. We thank Kristina Felder, Research Assistant at CCFNC, for her valuable contribution to our projects. Special thanks goes out to the Capstone Teaching Team, Meg Landfried, MPH, Christine Brune, MPH, and Melissa Cox, MPH, for teaching us lifelong professional skills and for being a consistent source of support, guidance, and feedback.

We extend a huge thank you to Suzanne Lea, PhD, Alice Richman, PhD, John Compagna, MD, and Dianah Bradshaw, PhD, for their instrumental roles in the *Cervical Cancer Prevention: Strengthening Health Systems and Programs in South Central North Carolina* regional meeting. We sincerely acknowledge all the clinicians, educators, stakeholders, community partners, and leaders across NC working to reduce the burden of cervical cancer and eliminate the dramatic disparities that exist. We extend special warmth of gratitude to all South Central and Northeast key informants for graciously sharing their time, insights, and wisdom in helping us fulfill the goals of our Capstone project. We also thank Schatzi McCarthy, MAPA, for encouraging us to get involved with cervical cancer initiatives and attracting us to this Capstone project.

All of your help made our Capstone project a fulfilling part of our lives. From the bottom of our hearts, we thank you.

IV. ACRONYMS & PUBLIC HEALTH TERMS

Table 1: Acronyms and Public Health Terms

Abbreviation	Definition
BCCCP	Breast and Cervical Cancer Control Program
CAP	Community Action Plan
CCFNC	Cervical Cancer-Free North Carolina
CDC	Centers for Disease Control and Prevention
EHR	Electronic Health Record
ENCCC	Eastern North Carolina Cancer Coalition
FQHC	Federally Qualified Health Center
HPV	Human Papillomavirus
IRB	Institutional Review Board
KII	Key Informant Interview
NC	North Carolina
Pap test	Papanicolaou test (earlier known as Pap smear)
REACH	Racial and Ethnic Approaches to Community Health
UNC-CH	University of North Carolina at Chapel Hill

Table of Contents

VI. INTRODUCTION

The Capstone Experience

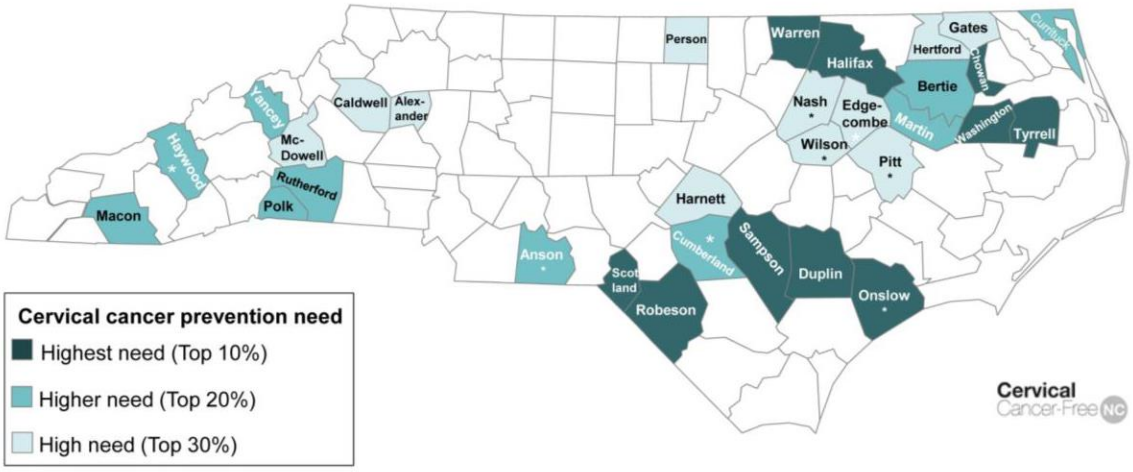
The purpose of this summary report is to provide an overview of our Capstone project with Cervical Cancer-Free North Carolina (CCFNC). Capstone is a fieldwork requirement of the Master of Public Health (MPH) program in the Department of Health Behavior at the Gillings School for Global Public Health at the University of North Carolina at Chapel Hill (UNC-CH). Capstone provides second-year MPH students the opportunity to partner with a community organization to gain practical fieldwork experience in public health through the completion of projects requested by the partner organization. The report begins with an explanation of the benefits of stakeholder engagement, specifically qualitative research and community action planning for improving cervical cancer prevention efforts. The report then discusses the methods used to produce Capstone deliverables for CCFNC, followed by a results section that highlights key findings from the project. The discussion section notes project implications for CCFNC and stakeholders, including project limitations, recommendations, and considerations for sustainability of the overall project.

Cervical Cancer-Free North Carolina

CCFNC is a statewide coalition of government and community partners working together to decrease cervical cancer incidence rates in the state (McCarthy, 2013). CCFNC's office is in the Gillings School of Global Public Health at UNC-CH. The organization conducts projects to improve cervical cancer prevention through health systems and behavior changes. Since many health agencies in North Carolina (NC) have roles in cervical cancer prevention, CCFNC encourages strategies that promote collaboration across organizations to improve Papanicolau (Pap) testing and Human Papillomavirus vaccination (HPV) rates.

In 2013, CCFNC released a report, *Cervical Cancer Prevention in North Carolina: Strengthening Health Programs and Systems*, that identified 30 counties in the state that have a high-need for cervical cancer prevention (Figure 1) (McCarthy, 2013). High-need was determined by cervical cancer incidence and mortality, screening rates among low-income women, and HPV vaccination rates. The report also outlined evidence-based recommendations and strategies for healthcare providers to improve cervical cancer prevention services (screening and HPV vaccination).

Figure 1: NC Counties with High Cervical Cancer Prevention Need (McCarthy, 2013)



In 2013, CCFNC requested a Capstone team to conduct qualitative research in some of the high-need counties to better understand the challenges and opportunities that practitioners face in providing cervical cancer prevention services. We, the CCFNC Capstone team, planned and conducted a regional meeting in Fayetteville, NC based on information from the interviews. Meeting activities built upon evidenced-based recommendations (hereinafter referred to as CCFNC's recommendations) outlined in the report by encouraging regional stakeholders to identify action steps that were feasible to tailor and implement in their organizations to improve cervical cancer outcomes. In tandem with these efforts, our team updated CCFNC's online North Carolina Cervical Cancer Resource Directory, which contains information on affordable cervical cancer screening locations throughout the state, and recommended strategies for improving and promoting the Resource Directory.

Project Objectives and Deliverables

Our Capstone team identified two intended outcomes for the project: 1) stakeholder adoption of recommendations for increasing cervical cancer prevention, and 2) increased stakeholder awareness and use of the Resource Directory (see Appendix A). The long-term impact of our Capstone project is increased cervical cancer screening of women who are rarely or never screening and increased HPV vaccination rates in high-need counties in NC, both of which will contribute to a decreased incidence of cervical cancer and mortality. Our team produced six deliverables (see Appendix B) to achieve the intended outcomes:

1. State summit proceedings report: *Summary of NC Cervical Cancer Coalition Summit*
2. Key informant interviews (KIIs) with community stakeholders in NC counties with high-need for cervical cancer prevention and analysis report
3. Regional meeting in South Central NC
4. Community Action Plan (CAP) report for South Central region
5. Updated online NC Cervical Cancer Resource Directory
6. NC Cervical Cancer Resource Directory Survey and Promotional Recommendations Report

We categorized deliverables one through four as stakeholder engagement designed to achieve the first outcome outlined above. Deliverables five and six relate to NC Cervical Cancer Resource Directory Updates, Improvements, and Promotion, which targeted the second outcome of our project.

VII. BACKGROUND

Cervical cancer is the second most common cancer among women worldwide (Documet et al., 2008). However, unlike other forms of cancer, the physical, emotional, and economic impact of cervical cancer is mostly preventable with routine Pap tests and uptake of the complete human papillomavirus (HPV) vaccination series (Denslow, Knop, Klaus, Brewer, Rao, & Smith, 2012). In order to reduce the incidence and mortality of cervical cancer in North Carolina, CCFNC works with stakeholder groups that are crucial to the delivery and promotion of cervical cancer prevention and screening measures. These stakeholders include administrators, decision-makers, and healthcare providers at county health departments, hospitals, private practices, and community clinics. Additionally, health educators, school nurses, and organizations that engage in cervical cancer prevention advocacy are important stakeholders to CCFNC. Collectively, these stakeholders provide Pap tests, administer the HPV vaccine, and educate individuals about the importance of these prevention practices.

To assist with CCFNC's work, our team has been charged with engaging these stakeholders to identify barriers and opportunities to improving the provision of cervical cancer prevention and screening services in high-need regions of NC. The following section summarizes the current literature discussing the use of stakeholder engagement to reduce the incidence and mortality rates of cervical cancer.

Epidemiological Assessment

HPV, the most common sexually transmitted infection, causes nearly all cases of cervical cancer and if left untreated can be fatal (Garner, 2003; CDC, 2014). In the United States, cervical cancer causes more than 4,000 deaths annually, with nearly 13,000 cases (American Cancer Society, 2011). In NC between 1998

and 2007, there were 3,652 new cases of cervical cancer, or 8.2 cases per 100,000 women, and 1,208 associated deaths, or 2.6 cases per 100,000 women (Denslow et al., 2012). Cervical cancer affects adult women at almost any age; in NC, the average age of diagnosis is 49 years old, with age at diagnosis ranging from 19 to 98. Forty-five percent of cases occurred in 30-49 year olds, while more than half of mortality cases occurred in women over the age of 50, as the risk of death increases with age (Denslow et al., 2012).

Minority, lower income, older, and recent immigrant women in NC have below average rates for screening and HPV vaccine uptake, resulting in disproportionately higher cervical cancer incidences (Documet et al., 2008). According to Denslow et al. (2012), Hispanic and Black women have higher incidence rates (18.3 cases per 100,000 women and 10.6 cases per 100,000 women, respectively) than White women (7.3 cases per 100,000 women). Black women also have the highest mortality rate at 4.5 deaths per 100,000 women, which is greater than both the rates of non-Hispanic White and Hispanic women combined. Minority status is associated with factors such as the lack of economic security and insurance coverage, which in turn can result in lower utilization of cervical cancer prevention and screening services (Denslow et al., 2012).

In addition to race, Denslow et al. (2012) found that cervical cancer burden varies by county in NC, such that counties with lower economic prosperity have higher incidence and mortality rates than higher income counties. This finding aligns with previous research demonstrating the association between poverty and adverse health behaviors, in that the lower the income, the lower the rate of cancer screening (NC Center for Health Statistics, 2008). The high-need counties are primarily located in the South Central and Northeast regions of NC, as well as in the Western part of the state (Denslow et al., 2012). Engaging stakeholders in counties with high cervical cancer prevention need to adopt evidence-based recommendations can improve prevention efforts and reduce cervical cancer cases.

Approaches to Stakeholder Engagement

Involving stakeholders in cervical cancer prevention efforts is beneficial in multiple ways, due in part to their knowledge of community culture, and may result in the improved sustainability of programs by promoting local ownership (Agurto et al., 2005). Additionally, stakeholders are intimately familiar with the

specific barriers to care that underserved populations face. Their support and buy-in is crucial to the implementation of evidenced-based recommendations proposed by outside organizations. According to the National Cancer Institute, stakeholder collaboration can help improve the continuity of care of cervical cancer services, decrease health system fragmentation, and facilitate a more efficient use of resources (Texas Department of State Health Services, 2006). There is also a strong theoretical basis for facilitating collaboration among organizations. One example is the Interorganizational Relations (IOR) Theory, which presumes that "collaboration among community organizations leads to a more comprehensive, coordinated approach to a complex issue than can be achieved by one organization" (Butterfoss, Kegler, & Francisco, 2008, p. 346). Collaboration with stakeholders can be accomplished through the processes of conducting KIIs, hosting regional meetings, and developing CAPs. The decision to engage stakeholders through KIIs and the development of CAPs is based on recommendations from the Diffusion of Innovations Theory (Rogers, 2003). Given that the overall goal of our project is to promote the adoption of evidenced-based strategies for increasing cervical cancer screening and HPV vaccination, the diffusion of innovations theory offers a useful framework for understanding how organizations adopt new practices. The theory proposes that organizations will adopt innovations at different stages and that properties of the innovation such as relative advantage, compatibility, trialability, observability, and complexity influence this rate. Stakeholder engagement helped our team assess the compatibility of cervical cancer prevention strategies with these organizations and highlight their relative advantage.

Key Informant Interviews (KIIs)

KIIs are an important component for building stakeholder engagement in multiple regions, both domestically and internationally, and are essential in reaching target populations (Allen et al., 2010). KIIs also provide insight into stakeholders', community members', and clinicians' perspectives of how community structures impact the uptake of cervical cancer screenings and HPV vaccinations in underserved women and hard to reach populations. In the literature, KIIs are used to involve stakeholders, increase buy-in, and gather information needed to make decisions and recommendations about cervical cancer prevention services that benefit the community (Katz et al., 2007; Documet et al., 2008; Katahoire et al., 2008; Leask et al., 2009).

Katz et al. (2007) and Documet et al. (2008) conducted interviews regarding Pap tests in 17 Ohio Appalachia counties and eight Western Pennsylvania counties. The populations in these counties are demographically similar to NC's underserved female population. To examine the social, economic, and healthcare environments that affect cervical cancer screening, researchers in both studies conducted KIIs with residents, providers, and stakeholders using semi-structured interview guides. Study results revealed that most of the women had limited knowledge of cervical cancer, limited access to healthcare services, and did not receive recommended Pap test (Katz et al., 2007; Documet et al., 2008). These studies were effective in increasing community engagement through KIIs, which helped inform strategies to increase recruiting and retention methods for cervical cancer screening among target populations.

Although there is limited domestic research about the implementation and evaluation of HPV vaccine programs, international data indicates that KIIs are effective in engaging the community and stakeholders in creating HPV vaccination programs and policies. Leask et al. (2009) conducted 24 semi-structured KIIs with program managers and primary care providers to evaluate the early implementation of Australia's national HPV vaccination programs for females, ages 12-26 years old. A study in Uganda by Katahoire et al. (2008) provided another example of how KIIs were successfully used for community engagement surrounding HPV vaccine uptake. This study's ultimate objective was to generate evidence for governmental decision-making and operational planning for the introduction of HPV vaccine in the country. Similar to the cervical cancer screening studies discussed previously, the information obtained from KIIs revealed that HPV vaccination perspectives were effective in developing large stakeholder colloquiums and building community engagement across regions regarding cervical cancer, which in turn can facilitate collaborative efforts to implement evidence-based strategies to increase cervical cancer prevention services (Katahoire et al., 2008; Leask et al., 2009).

Convening Regional Stakeholders

In addition to gaining insight on stakeholder perspectives through KIIs, an emerging method for promoting engagement is the convening of regional stakeholders through meetings and symposiums. Sherris et al. (2005) provided examples of such meetings, including a summit to address cervical cancer in Southeast

Asia that drew representatives from 20 nations. The conference conveyed the importance of cervical cancer as a public health issue and improved cooperation among gynecological oncologists in the region (Sherris et al., 2005). Furthermore, in 2011 the World Health Organization (WHO) hosted a regional meeting on cervical cancer prevention in Europe; deliverables of the meeting included an overview of lessons learned on HPV vaccination from countries that were early adopters and outlined future priorities for prevention (WHO Regional Office for Europe, 2011). Domestically, the Texas Department of State Health Services and the Texas Cancer Council worked with various stakeholders, including nurses, health educators, and researchers, to develop the Texas Cervical Cancer Strategic Plan (Texas Department of State Health Services, 2006). Several meetings, both in-person and via teleconference, facilitated this effort. Additionally, one of the specific objectives listed in the Texas Cervical Cancer Strategic Plan was to increase the number of regional and local cancer networks, to be achieved in part through engaging stakeholders to develop regional/local coalitions. While the previous examples do not include measurable outcomes, we believe that convening regional stakeholders can contribute to a growing commitment to improving cervical cancer prevention in their area through the promotion of inter-organizational collaboration.

Community Action Plans

Similar to the Texas Cervical Cancer Strategic Plan, the development of a CAP is a localized approach for identifying objectives and results from stakeholder engagement. Creating a relevant CAP is facilitated by the stakeholder knowledge and inter-organizational collaboration gained from KIIs and regional meetings, respectively. Several programs designed to address cervical cancer have employed this strategy. For example, the Centers for Disease Control and Prevention's (CDC) Racial and Ethnic Approaches to Community Health (REACH) initiative includes a goal of reducing breast and cervical cancer disparities (Fouad et al., 2004). The Alabama REACH 2010 Project, designed to reduce disparities between African American and White women, involved three sequential stages: coalition building, community needs assessment, and the development of a CAP. The coalition used information from the community needs assessment to inform the development of individual, community systems, and change agent level objectives included in the CAP (Fouad et al., 2004). Boston's REACH 2010 Breast and Cervical Cancer Coalition also

utilized similar methods to inform the development of its own CAP (Bigby, Ko, Johnson, David, & Ferrer, 2003).

A final example of community action planning is from 2000-2004 in Santa Clara County, California among Vietnamese American women (Nguyen et al., 2006). Based on input from coalition members, including the Vietnamese Physician Association of Northern California and the Santa Clara County Public Health Department, the Vietnamese REACH for Health Initiative Coalition developed a six-component CAP to increase Pap testing. Using Harris County, Texas as a comparison group, the quasi-experimental, pre-post evaluation design revealed that although Pap test rates were comparable between the counties initially, Santa Clara County experienced a significant increase in rates after the CAP activities were implemented (77.5% to 84.2%, $p<0.001$). This increase was not seen in the comparison group (73.9% to 70.6%, p=NS) (Nguyen et al., 2006).

Our Approach

Based on the aforementioned evidence, our team used KIIs, regional meetings, and CAPs as ways to engage and collaborate with stakeholders. The literature suggests that these methods are effective at addressing and reducing cervical cancer disparities in vulnerable female populations similar to those in NC. These methods align with CCFNC's mission to improve cervical cancer screening rates and HPV vaccination coverage in high-need counties of NC.

VIII. METHODS

Organization Orientation

In order to complete six deliverables for CCFNC, our team relied on several methodologies and skills. First, our team held several meetings with mentors to become better oriented to CCFNC and its mission, as well as to prepare for the State Summit that occurred in September 2013. During these meetings, mentors provided a context for Capstone deliverables and detailed information on CCFNC's purpose and stakeholders. In addition, Dr. Jennifer Smith, an epidemiological expert in HPV and cervical cancer, provided a presentation regarding cervical cancer pathology and HPV vaccine to our team to further our understanding of this issue. Finally, we read the CCFNC report, *Cervical Cancer Prevention in North Carolina: Strengthening Health Programs and Systems*, that served as the foundation for the State Summit. This report identified high-need

regions in the state and recommended evidence-based actions for strengthening health programs, both of which helped to inform our team's work. Stakeholder engagement also informed our team's work: in phase 1 we engaged with stakeholders to better understand their perspectives, while in phase 2 we focused on guiding stakeholders through an action-planning framework.

Stakeholder Engagement – Phase 1

Following this orientation to CCFNC, our team prepared for the State Summit and created a note taker form to summarize discussions at the meeting and a key informant interview guide to test at the meeting. The note taker form helped organize field notes and allowed us to identify major themes discussed by participants. We documented these findings in the *Summary of NC Cervical Cancer Coalition Summit,* which highlighted recommendations prioritized by participants at the meeting and discussions surrounding the recommendations. CCFNC disseminated the document through direct email to summit attendees, coalition partners, an announcement in the monthly newsletter, and a posting to the CCFNC website.

After completing the pilot test and subsequent modifications to the KII guide, our team submitted an application to the Institutional Review Board (IRB) and was approved to conduct KIIs. We identified and recruited key informants (n=32) from the South Central and Northeast regions of the state by contacting CCFNC stakeholders in high-need regions and asking informants for referrals. Our team contacted members of the NC Cervical Cancer Coalition and other community members referred to us by interview participants, via email and phone, to request participation in a 30-minute phone interview. Between October 2013 and January 2014, our team conducted a total of 25 interviews with 32 individuals in South Central and Northeast NC (see Appendix B and C). All interviews were conducted over the phone in pairs, with one Capstone member leading the interview while the second took field notes. After completing all interviews in both regions, we summarized interview notes and developed topical and sub-topical codes to categorize themes. We analyzed the qualitative data using Atlas.ti software, first coding one interview together to ensure that we agreed on what content applied to each code. We drafted two internal analysis reports (one per region) to document major themes, challenges, and solutions identified from these interviews. The reports informed content for and were presented at the South Central regional meeting in Fayetteville.

Stakeholder Engagement – Phase II

Event planning for the regional meeting also overlapped with the KIIs. First, our team and mentors selected Fayetteville, in the South Central region of NC, and Rocky Mount, in the Northeast region, as meeting locations because of their centrality, concentrated populations, and availability of venues. After choosing these locations, team members identified, contacted, and visited potential venue locations. During this time, mentors and team members became concerned with the feasibility of implementing two regional meetings because of time constraints. After a discussion with the mentors, the meeting in South Central was prioritized because of the area's larger population, and it was decided that the meeting in the Northeast region would be postponed. Once the meeting venue and date were finalized, our team developed an email invitation and distribution list using the North Carolina Institute for Public Health (NCIPH) to handle the online registration for the event.

Occurring simultaneously with event planning, content planning for the event involved several meetings with mentors to develop the meeting agenda, to recruit and coordinate moderators and speakers, and to create materials that facilitate the breakout session activities. These activities were informed by CCFNC's recommendations on how to prevent cervical cancer in NC and by information gathered from the KIIs (McCarthy, 2013). Our team researched models for developing community action plans (CAPs) and adapted the materials to facilitate community action planning activities for the breakout sessions from the Community Tool Box from the University of Kansas (Community Tool Box, 2013). Specifically, we created seven handouts for the meeting: an agenda, two recommendations handouts for the breakout sessions, a CAP worksheet, an educational resources handout, a speaker bio sheet, and an evaluation form. Our team also developed two presentations for the regional meeting. One presentation provided background information on cervical cancer data specific to the South Central region, including relevant findings from the KIIs, while the other shared the prioritized recommendations from the State Summit so that attendees would be familiar with the recommendations prior to the breakout session. Finally, a map of the South Central region was created to illustrate hospitals, cancer centers, Breast and Cervical Cancer Control Program (BCCCP) counties, and Federally Qualified Health Centers (FQHCs) to highlight gaps in available services between counties.

During the regional meeting, a total of 41 participants from 19 organizations shared innovative ideas through small and large group discussions, which facilitated the development of action plans. The meeting's breakout sessions, which focused on cervical cancer screening and HPV vaccination, provided attendees the opportunity to think through the action steps necessary for strategy implementation (e.g. who needs to be involved, approval process, timeframe). One moderator per breakout session facilitated the group discussion, highlighting various strategies for achieving the selected CCFNC recommendations (McCarthy, 2013). Participants recorded their strategies, action steps, and notes from the discussion on the handouts developed by our team, most of which were then collected by us to inform the CAP Report.

The strategies and actions steps documented in the breakout session handouts were compiled into the CAP Report, which served as a collaborative plan to help reduce cervical cancer in South Central NC. We then drafted and finalized the report based on these worksheets, discussions that occurred at the regional meeting, and feedback from the mentor and teaching team. CCFNC emailed the CAP Report to regional meeting attendees to enable them to see the strategies that other stakeholders in their region identified as feasible.

NC Cervical Cancer Resource Directory Updates, Improvements, and Promotion

Concurrent to stakeholder engagement, our team also updated the NC Cervical Cancer Resource Directory. In collaboration with mentors, we determined what additional information would be helpful for providers and women using the Resource Directory. Additional items included what languages the clinic offered translation services for and whether clinic exam tables could accommodate women who were overweight/obese, as such services may facilitate the screening of women rarely or never screened. Our team then developed a phone survey and began calling each clinic listed in the directory. Additional information was collected for approximately 30 clinics. We created a spreadsheet to document the information gained from each conversation. Before each call, any information that was obtained from the clinic websites was recorded in the spreadsheet and verified by phone. Our team also converted the phone survey into a Qualtrics survey for clinics that preferred to answer the questions electronically. We completed edits to the Resource Directory (e.g. correcting broken website links) via coding in WordPress.

While conducting KIIs and updating the Resource Directory, our team conducted formative research for the Promotional Recommendations Report by developing an online survey in Qualtrics. First, our team determined two objectives for the questionnaire: 1) to develop recommendations for making the Resource Directory more useful to practitioners, and 2) to determine promotional strategies that could be used to increase use of the Resource Directory. After our team and mentors provided feedback on multiple iterations of the questionnaire, we emailed the survey to healthcare professionals (n=357) throughout NC with an incentive to enter a drawing to win a $25 Amazon gift card.

For the Promotional Recommendations Report, we reviewed and analyzed the results of the Qualtrics survey to develop strategies to increase awareness and use of the Resource Directory, based on survey respondents' suggestions. A total of 59 participants from 43 counties in NC, representing health departments, primary care clinics, hospitals, insurance companies, academia, non-profit, and local and state government agencies completed the Resource Directory survey. Using these data, we developed eight promotional recommendations for CCFNC, some of which included email campaigns, social media messages, Resource Directory promotion through links on partner organizations' websites, and search engine optimization. This report was finalized after feedback from the mentors and submitted to CCFNC for internal use.

IX. RESULTS

The overall goals of this project were to: 1) promote and encourage the adoption of CCFNC's evidenced-based recommendations for increasing cervical cancer screening and HPV vaccine uptake rates and 2) to increase awareness and use of the NC Cervical Cancer Resource Directory. These outcomes will decrease the incidence and mortality rates of cervical cancer in NC by increasing the number of people who are screened and vaccinated. In the following section, we describe key findings across our project deliverables.

Engaging with Stakeholders to Encourage Participation and Build Support

Consistent and regular stakeholder engagement throughout the course of the project was essential to foster stakeholder buy-in and inform project deliverables. Stakeholder engagement through KIIs and written surveys increased our understanding of cervical cancer prevention challenges and opportunities. Two main

challenges to providing cervical cancer prevention services included physician reluctance to recommend the vaccine and health organizations' limited capacity (e.g. funding, time, staff, equipment). Despite these challenges, participants noted opportunities to improve cervical cancer prevention that included: a) strengthening partnerships, b) using technology such as electronic medical records, c) providing additional training and resources for staff, and d) increasing awareness of cervical cancer prevention services through local media promotion and health education. These findings informed subsequent deliverables (regional meeting and CAP Report).

Prioritizing and Adopting Evidenced-Based Strategies to Improve Cervical Cancer Prevention

At the statewide cervical cancer summit, participants prioritized two of CCFNC's recommendations to improve cervical cancer prevention: 1) encourage providers to recommend HPV vaccine and 2) improve recruitment of women who are rarely or never screened. Months later at the regional meeting, participants outlined specific strategies and action steps to implement these recommendations. For example, some attendees of the meeting identified the strategy of using Electronic Health Records (EHRs) to: 1) remind physicians to discuss HPV vaccination with patients or their parents or 2) identify rarely or never screened women with the action step of programming alerts. Activities at the regional meeting provided stakeholders with a framework for creating sustainable change within their organization. Assessing the actual implementation of these strategies is beyond the scope of this project. Overwhelmingly, participants were very satisfied with the regional meeting and agreed that the event succeeded in meeting the outlined objectives (see Appendix D).

Improving and Promoting the Resource Directory to Increase Use

Our team identified a number of challenges that limit the use of the Resource Directory, namely inaccurate listings, poor Spanish translation, and complicated language. Addressing these issues and revising the layout has the potential to increase the usefulness of the tool. Recommendations for promoting the tool, based on user suggestions and CCFNC resource considerations, include circulating information about the directory through partner health and non-health organizations' newsletters and listervs, using search engine optimization, and providing clinics with CCFNC Resource Directory postcards to distribute. These tactics

have the potential to increase awareness and use of the Resource Directory among healthcare professionals and women seeking free or low-cost screening services.

X. DISCUSSION

Implications for CCFNC

Our Capstone project built upon CCFNC's recommendations to improve cervical cancer prevention by facilitating efforts to implement these recommendations. More specifically, our team assisted in the planning and execution of a regional meeting that can be replicated in other regions of the state. CCFNC can use the format, worksheets, and activities developed by our team to plan future CAP meetings in other high-need regions of the state, such as the Northeast and the West. Similarly, our interview guide and KII analysis reports provide a framework for CCFNC to conduct similar research in other areas of the state. Procedures and materials for updating the Resource Directory can be used periodically to verify the accuracy of records in the directory going forward. Furthermore, the Resource Directory survey results and the Promotional Recommendations Report identify areas for CCFNC to increase the functionality of the Resource Directory and expand awareness and use of the Resource Directory through different promotional strategies.

Implications for Cervical Cancer Prevention

Our Capstone project contributed to a deeper understanding of the resources, challenges, and opportunities to providing cervical cancer prevention services in the South Central and Northeast regions of North Carolina. While the results of our Capstone project are not generalizable, our methods of stakeholder engagement can be used in other regions to facilitate system-level changes. The regional meeting and CAP Report encouraged local organizations working in cervical cancer to strategically implement the CCFNC recommendations that align with their organizations' goals and objectives by identifying feasible action steps given their existing resources. If organizations implement intended action steps with fidelity, we expect that screening and HPV vaccination rates will increase. The regional meeting was also an opportunity for attendees to meet new colleagues involved in cervical cancer prevention work and identify potential partnerships with other organizations serving the same community. In addition, our recommendations to promote the updated Resource Directory may help to address cost barriers to accessing care by linking more women to available low-cost screening services.

Project Limitations

Our KIIs were crucial in planning the regional meeting to develop a CAP that is relevant to the interests and needs regarding cervical cancer prevention in South Central NC. Continued stakeholder engagement through additional interviews, in-person meetings, and county visits would have improved our Capstone project. Supplementary interviews with key stakeholders and greater representation from different types of healthcare professionals (e.g. health directors) would have enhanced our understanding of the structural barriers to cervical cancer prevention. In our interviews, three of the eight high-need counties in the South Central region and five of the 12 counties in the Northeast region were not represented in our research. Broader representation from high-need counties would have contributed to an even deeper understanding of local organizations' resources, challenges, capacity, and opportunities to providing cervical cancer prevention services. The breadth of our Capstone project meant we did not have enough time to build relationships with key stakeholders or community leaders prior to the regional meeting. We also did not have time to follow-up with South Central stakeholders with a second meeting or conference call, which could have allowed for greater collaboration between organizations and enhanced the potential for sustainable action by continuing the momentum generated at the regional meeting.

Recommended Next Steps

Our team recommends that CCFNC support the Eastern North Carolina Cancer Coalition (ENCCC) in hosting a regional meeting in the Northeast region that focuses on community action planning to implement CCFNC's recommendations to improve cervical cancer prevention. CCFNC can use meeting materials developed by our team to create a CAP toolkit that can be disseminated to organizations or coalitions interested in developing CAPs for this purpose. We also suggest that CCFNC regularly update the Resource Directory and implement our recommendations to improve the Resource Directory website. After these improvement recommendations are implemented, we suggest that CCFNC or partner organizations implement feasible strategies to promote the directory, as listed in our Promotional Recommendations Report. We recommend that CCFNC also evaluate the reach of the promotional strategies that it implements to determine their effectiveness in increasing usage of the Resource Directory in high-need counties.

Considerations for Sustainability

An important consideration throughout this project was that CCFNC was in its last year of funding and had been scaling down its operations throughout our Capstone work. The Resource Directory will continue to provide clinics and women with information about where to obtain affordable screening services. Should CCFNC use the procedures our team developed for updating the directory regularly, it will ensure that this resource remains a useful tool. In addition, the CAP Report provided stakeholders with tools to discuss and identify new strategies for cervical cancer prevention. Furthermore, the regional meeting generated momentum among local partners, such as the ENCCC, to engage with CCFNC in planning future regional meetings for cervical cancer prevention. Please see Appendix B for recommendations for sustainability by deliverable.

Professional Impact

Our team gained knowledge about cervical cancer, including the epidemiology, barriers, and opportunities impacting provider efforts to prevent cervical cancer in NC. As we executed our Capstone project, we gained many skills throughout the year that will be useful in our future public health work. The KIIs improved our qualitative data collection and analysis skills. In organizing the regional meeting, we improved skills related to: event planning, facilitating interactive breakout sessions, creating and delivering effective presentations, and stakeholder engagement. We gained experience in questionnaire design and analysis through the development of the Qualtrics survey that informed the Promotional Recommendations Report. Through updating the online Resource Directory, we learned how to use WordPress, a web content management tool. The project also afforded several opportunities to improve our report writing skills for both internal and external documents.

As the scope of our deliverables and timelines changed, we learned that communication, flexibility, and adaptability are crucial to a project's success. A main challenge for us at the beginning of the year was adapting to changes in organizational and project leadership. We learned how to accommodate different management styles and advocate for clarity around project goals and expectations. Our ability to communicate effectively as a team and to establish individual strengths, work styles, preferences, and strategies helped us overcome these challenges and adapt to deliverable changes throughout the year. It also

strengthened our ability to communicate with CCFNC and stakeholders, which was key to managing a project that had several moving pieces at once.

XI. CONCLUSION

Over the past year, we have been charged with engaging stakeholders and developing tools and resources through a variety of means in order to improve the state's healthcare capacity to provide cervical cancer prevention services and reduce the disease's overall incidence and mortality rates in high burden regions of NC. As evident in the literature, collaborating with stakeholders is key to quality improvement and the facilitation of such services. Conducting KIIs, convening regional meetings, and developing CAPs are effective in fostering discussion and action steps to reaching cervical cancer prevention goals. CCFNC used these methods to gain a thorough understanding of the regional cervical cancer prevention landscape and bring stakeholders together. Lastly, with the updates to the Resource Directory and the development of the Promotional Recommendations Report, we expect that more providers, patients, and community members will access important information related to cervical cancer prevention services.

We hope that through our various efforts we make an impact on cervical cancer by helping to increase the capacity of our stakeholder groups to provide cervical cancer prevention services. Only together can we bring the number of women affected by the disease down to zero.

XII. REFERENCES

American Cancer Society. (2011). Cancer facts and figures. No. 500811. www.cancer.org/acs/.../acspc-029771.pdf. Published in 2011. Accessed October 2013.

Agurto, I., Arrossi, S., White, S., Coffey, P., Dzuba, I., Bingham, A., Bradley, J., & Lewis, R. (2005). Involving the community in cervical cancer prevention programs. *International Journal of Gynecology and Obstetrics*, *89*, S38—S45. doi:10.1016/j.ijgo.2005.01.015

Allen, M. L., Culhane-Pera, K. A., Pergament, S. L., & Call, K. T. (2010). Facilitating research faculty participation in CBPR: development of a model based on key informant interviews. *Clinical and translational science*, *3*(5), 233-238.

Bigby, J., Ko, L.K., Johnson, N., David, M. M. A., & Ferrer, B. (2003). A community approach to addressing excess breast and cervical cancer mortality among women of African descent in Boston. *Public Health Reports, 118*, 338-347.

Butterfoss, F.D., Kegler, M.C., & Fransisco, V. T. (2008). Mobilizing organizations for health promotion: Theories of organizational change. In Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.), *Health behavior and health education: Theory, research, and practice.* San Francisco: Jossey-Bass.

Centers for Disease Control and Prevention. (2014). Genital HPV infection – fact sheet. Retrieved from http://www.cdc.gov/std/hpv/stdfact-hpv.htm

Community Tool Box (2013). Developing an action plan. Retrieved from http://ctb.ku.edu/en/table-of-contents/structure/strategic-planning/develop-action-plans/main

Denslow, S.A., Knop, G., Klaus, C., Brewer, N.T., Rao, C., & Smith, J.S. (2012). Burden of invasive cervical cancer in North Carolina. *Preventive Medicine*, 54, 270-276.

Documet, P., Green, H., Adams, J., Weil, L., Stockdale, J., Hyseni, Y. (2008) Perspectives of African American, Amish, Appalachian and Latina Women on Breast and Cervical Cancer Screening: Implications for Cultural Competence. *Journal of Health Care Poor Underserved*, 19(1), 56-74. doi:

Fouad, M. N., Nagy, M. C., Johnson, R.E., Wynn, T. A., Partridge, E. E., & Dignan, M. (2004). The development of a community action plan to reduce breast and cervical cancer disparities between African-American and White women. *Ethnicity & Disease, 14*, S1-53-S1-60.

Garner, E. I. (2003). Cervical cancer: Disparities in screening, treatment, and survival. *Cancer Epidemiology, Biomarkers & Prevention,*12, 242-274s.

Katahoire, R. A., Jitta, J., Kivumbi, G., Murokora, D., Arube, W. J., Siu, G., Arinaitwe, L., Bingham, A., Mugisha, E., Tsu, V. (2008) An assessment of the readiness for introduction of the HPV vaccine in Uganda. *African Journal of Reproductive Health*. 12 (3),

Katz, M. L. (2007). Key Informants' Perspectives Prior to Beginning a Cervical Cancer Study in Ohio Appalachia. *Qualitative Health Research*., 17 (1), 131-141.

Leask, J., Jackson, C., Trevena, L., McCaffery, K., Brotherton, J. (2009). Implementation of the Australian HPV vaccination program for adult women: Qualitative key informant interviews. *Vaccine*, 27(40), 5505, 5505-5512

McCarthy, S. H. (2013). Cervical cancer prevention in North Carolina: Strengthening health programs and systems. Retrieved from http://www.cervicalcancerfreecoalition.org/wp-content/uploads/Cervical-Cancer-Prevention-in-NC-Strengthening-Health-Programs-and-Syste....pdf

North Carolina Center for Health Statistics. (2008). Cancer in North Carolina. 2008 Report:

Cancer and income with a special report on cancer, income, and racial differences. http://ucrf.unc.edu/publications/cancer_report_2008.pdf.

Nguyen, T., McPhee, S., Bui-Tong, N., Luong, T., Ha-Iaconis, T., Nguyen, T., Lam, H. (2006). Community-based participatory research increases cervical cancer screening among Vietnamese-Americans. *Journal of Health Care for the Poor and Underserved*, *17*, 31–54. *DOI: 10.1353/hpu.2006.0078*

Rogers, M. (2003). *Knowledge, technological catch-up and economic growth*. Edward Elgar Publishing.

Texas Department of State Health Services (2006). *Texas Cervical Cancer Strategic Plan*. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&ved=0CCoQFjAA&url=http%3A%2F%2Fwww.dshs.state.tx.us%2Fbcccs%2FPDF%2Fcervical-cancer-strategic-plan.pdf&ei=PZVwUs6THNPHsASYu4C4Bw&usg=AFQjCNETO2Rz_M3SAgbtXmKf0bWehnZTYg&sig2=ZxJqgDRpfKNDqf06JKmHJQ

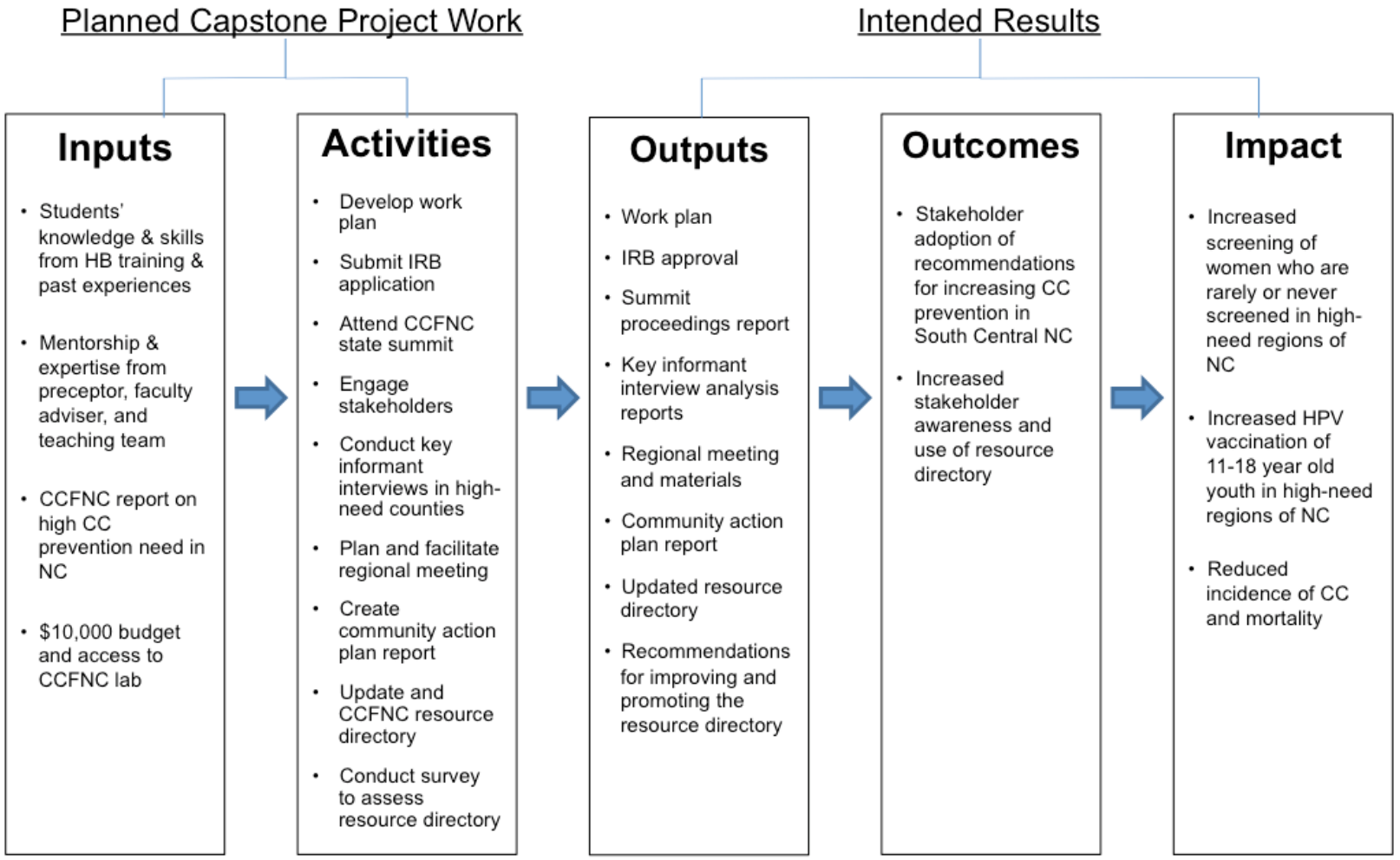
Sherris, J., Agurto, T. I., Arrossi, S. Dzuba, I. Gaffikin, L. Herdman, C. Limpaphayom, K., & Luciani, S.

(2005). Advocating for cervical cancer prevention. *International Journal of Gynecology and Obstetrics, 89*, S46—S54. doi:10.1016/j.ijgo.2005.01.010

WHO Regional Office for Europe (September 12, 2011). *Scope and purpose*. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0018/152235/Cancer_mtg_scope_and_purpose.pdf

XIII. APPENDIX A: LOGIC MODEL

Figure 1: CCFNC Capstone Logic Model



Acronym Key:
CCFNC (Cervical Cancer-Free NC)
CC (Cervical Cancer)

XIV. APPENDIX B: CCFNC Capstone Deliverables

Deliverable 1: Statewide Summit Meeting Materials & Summary of Proceedings	
Format:	Meeting minutes, 3-4 page report, and 1 page executive summary.
Purpose:	To engage and support NC coalition partners and community stakeholder groups (e.g. NC County Health Directors) in considering enhanced strategic and sustainable action against cervical cancer that is consistent with their organizations' public health mission and easily integrated into their current program operations.
Intended Audience(s):	NC County Health Directors and other health department employees, immunization staff, pharmaceutical companies' representatives, medical professionals, CCFNC coalition members, and health educators throughout the state.
Activities:	1. Review CCFNC's status and policy report on the state of cervical cancer prevention in North Carolina 2. Develop note taking form for summit proceedings a. Review note taking forms from other conferences b. Draft note taking form for summit c. Finalize note taking form 3. Attend the statewide summit, take notes on proceedings 4. Write summary of statewide summit proceedings to inform participants and community stakeholders of meeting recommendations, action steps, and key commitments a. Compile meeting notes b. Draft summary of proceedings c. Finalize summary of proceedings
Recommendations for CCFNC:	• Continue to disseminate Summit Proceedings Report to stakeholders • Post the report on the Cervical Cancer-Free Coalition website • Reference and distribute report whenever representatives attend an event

Deliverable 2. Key Informant Interviews (KIIs) with Community Stakeholders in Areas of NC with a High Cervical Cancer Prevention Need (Northeast & South Central Regions)	
Format:	(1) 6-8 question Interview guide; (2) 30-60 interviews by phone or in-person; (3) Compiled interview case notes report to inform regional meetings; (4) 1-2 page report outlining the key themes from interviews per high-need region
Purpose:	To identify needs, resources, capacity (e.g. funding, staff, organizational capacity, current services offered), and barriers (e.g. transportation, language barriers, insurance status) to providing cervical cancer prevention services for organizations and individuals in high-need regions.
Intended Audience(s):	NC County Health Directors and other health department employees, immunization staff, medical professionals, CCFNC coalition members, and health educators from high-need regions.

Activities:	1. Submit IRB-exemption application for KIIs 2. Develop KII guide a. Draft research and interview questions for ~30-45 minute interviews b. Pilot interview guide at Statewide Summit Meeting c. Revise interview guide d. Finalize interview guide 3. Identify and recruit KII participants a. Use existing CCFNC directory of community stakeholders to compile a list of interview informants to be recruited (purposive and snowball sampling) b. Consult with mentor team to identify additional key thought leaders in the field c. Contact key informants via email and phone to participate in interviews d. Schedule interviews with key informants 4. Conduct 30-60 (or until saturation) KIIs (both phone and in-person) in pairs using case notes method 5. Analyze KII findings and write a 1-2 page KII report of analysis per region a. Review case notes regular to identify emerging themes and new questions to ask respondents b. Develop codebook of topical and overarching themes c. Code interview notes and create summaries d. Draft a 1-2 page KII report (summary of themes and issues) for South Central Region e. Draft a 1-2 page KII report (summary of themes and issues) for Northeast Region f. Submit final KII reports for South Central and Northeast regions
Recommendations for CCFNC:	• Use the report to inform future regional meetings in the South Central or Northeast regions • Use the report to inform or identify areas for additional research in high-need regions

Deliverable 3: Updated Online Resource Directory	
Format:	Web-based resource directory
Purpose:	To update this online directory so that it accurately reflects the latest community partner and clinic information, as well as up-to-date cervical cancer screening guidelines around HPV co-testing.
Intended Audience(s):	Medical and social service providers, as well as women ages 25-70 who are rarely screened for cervical cancer (more than 3 years since the last pap smear), uninsured or under-insured women ages 21-70 in need of information about and locations for pap smears, and uninsured or under-insured adolescents aged 11-18 years of age who have not completed HPV dose administration in North Carolina.
Activities:	1. Update online Resource Directory a. Create spreadsheet to track changes made to the directory. b. Update clinic information on spreadsheet i. Create phone survey ii. Call clinics to confirm information and inquire about transportation, accommodations for obese women, translation services, etc. iii. Adapt phone survey into a Qualtrics survey to be sent to clinics that prefer to communicate information electronically iv. Distribute survey to those clinics that request it 2. Add material about new cervical cancer screening guidelines that include HPV co-testing a. Review the website (screening page) and compare the language on the

	site with the new screening guidelines b. Propose the language and location of a link from the screening page to another webpage to explain the new guidelines c. Finalize website language and send to CCFNC
Recommendations:	• Use developed process to update Resource Directory annually • Review and update content on website annually

Deliverable 4. South Central Regional Meeting	
Format:	Meeting in a high-need region of the state (Fayetteville, NC), electronic invitations for meeting, meeting agenda, Excel list of attendees, and narrative synthesis of meeting proceedings with action steps. 25-40 people attending the regional meeting (3-4 hours)
Purpose:	Work with community stakeholders to create a community action plan to facilitate the implementation of recommendations listed in the *Cervical Cancer Prevention in North Carolina: Strengthening Health Programs and Systems* report.
Intended Audience(s):	NC County Health Directors and other health department employees, immunization staff, medical professionals, CCFNC coalition members, and health educators from South Central region.
Activities:	1. Plan regional meeting logistics a. In consultation with preceptor and key informants, identify meeting dates and locations i. Create a mileage and driving chart for potential regional meeting areas and locations b. Develop final budget for regional meeting and send to preceptor for review c. Secure meeting logistics i. Identify and contact potential venue locations availability, capability, and prices ii. Visit potential venues to assess space iii. Coordinate with venue contact to develop Event order iv. Finalize and sign event order and submit to UNC accounting for payment d. Coordinate with North Carolina Institute for Public Health (NCIPH) to handle registration i. Draft and finalize scope of work for registration tasks and submit to NCIPH ii. Submit registration materials (Names, email addresses of invitees, invitation text) to NCIPH 2. Develop regional meeting materials a. Draft meeting materials for the regional meeting, including: i. Meeting agenda outline • Identify and confirm speakers ii. CCFNC recommendation handout iii. Community action plan template/worksheets iv. Map showing counties with BCCCP, Medicaid providers, hospitals, and cancer centers from South Central Region v. Speaker bios vi. Meeting evaluation form b. Finalize meeting materials and submit to NCIPH and create meeting folders for attendees 3. Convene South Central Regional Meeting a. Present factual information about cervical cancer in South Central region from KIIs and CCFNC research and solicit feedback from attendees on how to strengthen community resources b. Guide participants in group activities and discussions to identify feasible

	and sustainable activities that could be implemented within their organizations c. Present information about new Breast and Cervical Cancer Control Program (BCCCP) guidelines d. Identify action steps that stakeholders can build into their current program plans using a minimal investment of financial or staff resources e. Take meeting notes
Recommendations for CCFNC:	• Identify a partner organization such as the Eastern North Carolina Cancer Coalition and encourage them to organize a regional meeting in the Northeast region • Share meeting materials to facilitate future meetings in different locations

Deliverable 5. South Central Region Community Action Plan (CAP) Report	
Format:	Narrative Report (1 page executive summary + 3 page discussion, combined with deliverable 4)
Purpose:	1. To summarize meeting proceedings and action steps to implement cervical cancer prevention strategies 2. To make appropriate recommendations for stakeholder action and next steps
Intended Audience(s):	Attendees of the regional meeting and CCFNC
Activities:	1. Create an outline for the CAP Report a. Draft outline b. Discuss in working meeting with mentors c. Finalize outline 2. Write CAP Report a. Send first draft to mentors b. Incorporate mentor feedback and send second draft to mentors c. Submit final CAP report to CCFNC for dissemination
Recommendations for CCFNC:	• Follow-up with attendees via email; invite them to share their thoughts about the CAP report and progress in implementing strategies and actions steps • Include attendees' responses in CCFNC newsletter

Deliverable 6. NC Cervical Cancer Resource Directory Promotional Recommendations Report	
Format:	Internal document (1-2 pages) outlining recommendations for objectives, target audience, activities, and timeline.
Purpose:	To recommend strategies to improve, widely disseminate, and encourage usage of the NC Cervical Cancer Resource Directory
Intended Audience(s):	CCFNC
Activities:	1. Conduct formative research for communication and outreach a. Design 5-10 minute online survey to assess awareness of resource directory, improvements that can be made, and promotional strategies (e.g., media outlet identification) b. Create and test Qualtrics survey c. Disseminate survey to CCFNC coalition members and other stakeholder groups d. Send reminder email about survey e. Close survey 2. Write Communication and Outreach Recommendations Report a. Review and analyze results from survey to help inform communication and outreach recommendations and to inform updates to the resource directory b. Outline communication and recommendations report c. Draft communication and outreach recommendations report and

	send to mentors d. Incorporate feedback from mentors and finalize report 3. Finalize and submit communication and outreach recommendations report
Recommendations for CCFNC:	• Implement website improvements from the report • Select and implement at least one method for promoting the Resource Directory from the report • Consider how to evaluate the effectiveness and reach of promotion method(s) it decides to implement such as changes in web awareness among target audiences and changes in web traffic.

XV. APPENDIX C: KII Participants

Table 2: South Central KII Participants by County

County	Organization (# of participants)
Anson	Health department (1)
Cumberland	Health department (3)
Harnett	Health department (1)
Robeson	Health department (2); Southeastern Regional Medical Center (1)
Scotland	Health department (1)
Regional	BCCCP (5), American Cancer Society (2), NCDPH (1)

Table 3: Northeast KII Participants by County

County	Organization (# of participants)
Edgecombe	Health Department (2)
Halifax	Gregory B. Davis Foundation (3); Rural Health Group (1)
Martin- Tyrell-Washington	Health Department (2)
Nash	Health Department (2)
Pitt	Pitt Public Health Center (1); East Carolina University (1)
Warren	Health Department (2)
Wilson	Health Department (1)

XVI. APPENDIX D: Regional Meeting Attendance and Participant Evaluation

Table 4: South Central Regional Meeting Attendance by Organization

Organization	Number	Organization	Number
Cumberland Co Health Dept	10	Robeson Co Health Dept	2
American Cancer Society	3	Wade Family Medical Center	2
Carolina Collaborative Community Care	2	Beaufort Co Health Dept	1
DHHS DPH	2	Cape Fear Valley Health System	1
East Carolina University	2	Community Care for Sandhills	1
Harnett Co Health Dept	2	Duplin Co Health Dept	1
Merck & Co Inc	2	Robeson Co Health Dept	1
NC BCCCP	2	Robeson Health Care Corporation	1
North Carolina Central University	2	WAMC Adolescent Clinic	1
Planned Parenthood of Central NC	2	Womack Army Medical Center	1

Table 5: South Central Regional Meeting Attendance by County

County	Number
Beaufort	1
Cumberland	20
Duplin	1
Durham	2
Harnett	3
Pitt	2
Robeson	4
Scotland	1
Wake	3
Non-county	4

Table 6: Participant Satisfaction with Regional Meeting (n=36)

	Not satisfied	Somewhat satisfied	Satisfied	Very satisfied	N/A
Handling of registration	0	0	3	33	0
Meeting rooms	0	6	13	17	0
Presentation: CC in SC NC	0	1	7	28	0
Presentation: Evidenced Based Action	0	1	8	27	0
Breakout sessions	0	0	5	31	0
Networking opportunities	0	0	5	29	2
Packet materials	0	0	10	25	1
Lunch	0	0	3	16	17

Table 7: Participant Assessment of Meeting Utility (n=31)

	Strongly disagree	Disagree	Agree	Strongly agree
I'm glad we met in person	0	1	6	24
This meeting changed the way I think about cervical cancer prevention	0	2	17	12
This meeting will help me improve my organization's approach to cervical cancer prevention	0	0	13	18