Breast and Cervical Cancer Control Program (BCCCP) and Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN): Improving Health Outcomes

by

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ABSTRACT

Disease management has become an important tool for improving health outcomes. The high mortality rates due to breast cancer and cardiovascular disease (CVD) are preventable with early detection, screening, and lifestyle changes. However, access to these healthcare services is a large determinate of their outcome. Uninsured and underserved women are clearly at a disadvantage when seeking medical care, therefore contributing to the ongoing healthcare disparities.

Most women who die of cervical cancer never had annual Papanicolaou (Pap) tests, had false-negative results, or did not receive proper follow-up (Cupaiuolo, 2011). As a result, The Breast and Cervical Cancer Mortality Prevention Act of 1990 (Public Law 101-354) established the Centers for Disease Control and Prevention’s National Breast and Cervical Cancer Early Detection Program (NBCCEDP), which later became the Breast and Cervical Cancer Control Program (BCCCP) (Breast and Cervical Cancer Mortality Prevention Act of 1990). Both BCCCP and Well Integrated Screening and Evaluation for WOMen Across the Nation (WISEWOMAN) are funded by the Centers for Disease Control and Prevention (CDC). BCCCP provides low income, uninsured, and underserved women access to timely breast and cervical cancer screenings, while WISEWOMAN provides chronic disease risk factor screenings such as blood pressure, cholesterol, glucose/diabetes, body mass index and smoking lifestyle intervention assessments and referral services in an effort to prevent cardiovascular disease (CVD) for women enrolled in BCCCP.

The objective of this paper is to examine the BCCCP and WISEWOMAN programs provided by the North Carolina Division of Public Health (NC DPH),
Department of Human Health Services, the implementation of the WISEWOMAN program using lifestyle interventions, and the role of the Public Health Nurse to improve the effectiveness of the BCCCP and WISEWOMAN programs. Socioeconomic factors which prevent early screening for cancer and healthy living will be discussed. Finally, an analysis of the future recommendations for the continued successes of the BCCCP and WISEWOMAN programs will be addressed.

**Key Words:** BCCCP, WISEWOMAN, Cancer
ACKNOWLEDGMENTS

I would like to give honor and acknowledge my grandparents. During the completion of this project, I reflect on my grandfathers’ first grade education and illiteracy, along with my grandmothers’ unfulfilled dream to become a registered nurse. I am truly humbled and blessed to have the opportunity for higher education and fulfill their dreams. I dedicate this paper to Mr. and Mrs. Zettie Steed, Sr.

It gives me great pleasure to acknowledge the support and counsel of my advisor, Susan Randolph. Ms. Randolph has dedicated herself to educate her students on the role of the public health nurse within the U.S. healthcare system and has given me great insight on the future of public health nursing. Without her unwavering patience and guidance, the completion of this paper would not be possible and I am truly appreciative.

I am thankful for my preceptor, Jessica Pyjas, the former North Carolina Division of Public Health Cancer Prevention and Control Branch WISEWOMAN Interventionist and Linda Rascoe, the former Director of the North Carolina Division of Public Health Cancer Prevention and Control Branch, as well as the staff of the North Carolina Division of Public Health Cancer Prevention and Control Branch. Their direction and expertise has created a focus for my Master’s Paper and the knowledge to further delve on the subject of the Breast Cancer and Cervical Control Program and WISEWOMAN project.

Lastly, I offer my regards and blessings to all who has for supported me in any respect during the completion of this project.
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CHAPTER I
INTRODUCTION

Cancer and heart disease are the leading causes of death for women in the United States (U.S.) respectively but are preventable with adequate screening and treatment. There is a large deficit in the prevention and treatment of the abovementioned medical conditions between women who have access to healthcare and the underserved population of women. Uninsured and underserved woman are clearly at a disadvantage when seeking medical care, therefore contributing to the ongoing disparities found in healthcare. Most women who die of cervical cancer never had annual Papanicolaou (Pap) tests, had false-negative results, or did not receive proper follow-up (Cupaiuolo, 2011). As a result, The Breast and Cervical Cancer Mortality Prevention Act of 1990 (Public Law 101-354) established the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) within the Centers for Disease Control and Prevention, which later became known as The Breast and Cervical Cancer Control Program (BCCCP) (Breast and Cervical Cancer Mortality Prevention Act of 1990).

Breast Cancer

In 2011, an estimated 230,480 new cases of invasive breast cancer in the U.S. will be diagnosed among women, as well as an estimated 57,650 additional cases of in situ breast cancer (Table 1.1) (American Cancer Society [ACS], 2011b). In 2011, approximately 39,520 women in the U.S. are expected to die from breast cancer (Table 1.1) (ACS, 2011b). Compared to 2009, an estimated 192,370 new cases of invasive
TABLE 1.1

ESTIMATED NEW FEMALE BREAST CANCER CASES AND DEATHS

BY AGE, US, 2011*

<table>
<thead>
<tr>
<th>Age</th>
<th>In Situ Cases</th>
<th>Invasive Cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 40</td>
<td>1,780</td>
<td>11,330</td>
<td>1,160</td>
</tr>
<tr>
<td>Under 50</td>
<td>14,240</td>
<td>50,430</td>
<td>5,240</td>
</tr>
<tr>
<td>50-64</td>
<td>23,360</td>
<td>81,970</td>
<td>11,620</td>
</tr>
<tr>
<td>65+</td>
<td>20,050</td>
<td>98,080</td>
<td>22,660</td>
</tr>
<tr>
<td>All ages</td>
<td>57,650</td>
<td>230,480</td>
<td>39,520</td>
</tr>
</tbody>
</table>

*Rounded to the nearest 10.

Source: Total estimated cases are based on 1995-2007 incidence rates from 46 states as reported by the North American Association for Central Cancer Registries. Total estimated deaths are based on data from US Mortality Data, 1969-2007, National Center for Health Statistics, Centers for Disease Control and Prevention.

Source: American Cancer Society, 2011b
breast cancer were diagnosed among women which demonstrate a large increase in
the number of new cases estimated for 2011 (ACS, 2009). Approximately 40,170
women were expected to die from breast cancer in 2009 which shows a slight decrease
in the estimate of deaths from breast cancer in 2011 (ACS, 2009).

Race is also a significant indicator in the morbidity and mortality for breast
cancer. “African American women have the lowest survival rate of any racial or ethnic
group, indicating that they have the greatest probability of dying of breast cancer” (ACS,
2011b, p. 10). The survival disparity found in African American women is attributed to
both later stage at detection and poorer stage-specific survival (ACS, 2011b).
Furthermore, African American women have a more aggressive tumor characteristic of
breast cancer, making the outcome for survival poor if not detected early (ACS, 2011a).

The ACS recommends yearly mammograms starting at age 40 and clinical
breast examinations as part of a periodic (regular) health examination by a health
professional every three years for women in their 20s and 30s (ACS, 2011a). Women
are also encouraged to perform self-breast examinations monthly. The ACS screening
recommendations are the best way to diagnosis breast cancer early and increase the
likelihood of survival.

Cervical Cancer

According to the ACS (2011c), about 12,170 new cases of invasive cervical
cancer will be diagnosed in the U.S. and about 4,220 women will die from cervical
cancer. The Pap test is useful for detecting cervical cancer early upon which it can often
be cured. Thus the ACS recommendations include:
• All women should begin Pap testing about 3 years after they begin having vaginal sex, but no later than age 21.
• Testing should be done every year with the regular Pap test or every 2 years using the newer liquid-based Pap test. (ACS, 2011d, p. 7)

Heart Disease

According to the American Heart Association (AHA), CVD, which includes heart disease, hypertension, and stroke, is the number one killer of women (AHA, 2012). Among all U.S. women who die each year, one in four dies of heart disease (United States Department of Health and Human Services [DHHS], 2009). Prevention of heart disease is closely related to understanding and lowering the risk factors for heart disease. The Centers for Disease Control and Prevention (CDC) recommends following a healthy lifestyle of eating a balanced diet, staying active, being smoke-free, and getting regular check-ups as the best weapons to prevent heart disease (CDC, 2011g).

The above mentioned statistics for breast cancer, cervical cancer, and heart disease in women illustrate access to health care is essential for the screening and treatment of these medical conditions. Following the recommendations for the early detection of breast and cervical cancer, and heart disease improves the likelihood that these conditions can be either prevented or diagnosed at an early stage and treated successfully.

Socioeconomic Determinants of Health

Women of low socioeconomic status are less likely to be screened and receive treatment for cancer and CVD. There is also a higher prevalence of CVD risk factors such as obesity and hypertension for women of lower socioeconomic status.
Underinsured and uninsured women with low incomes have limited access to health services and are more likely to be physically inactive and have poor nutrition (Kochanek, Murphy, Anderson, & Scott, 2004).

Socioeconomic determinants of health that affect the adherence to annual screening programs include racial and ethnic minority groups, women of lower socioeconomic statuses, women with low education attainment, cultural beliefs, and mistrust of the medical system (Ackerson & Gretebeck, 2007). Minority groups have higher rates of poverty and these populations of women are known to have limited access to healthcare. Hence, they are seldom screened for breast and cervical cancer as well as CVD risk factors. Ackerson and Gretebeck (2007) found specific factors that influence annual screening adherence:

- Women with a high school education or less were unlikely to be screened,
- Women with low income levels were unlikely to be screened,
- As women increase in age, the likelihood to be screened decreases, and
- Women having to pay excessive out of pockets costs were unlikely to be screened. (p. 8)

Unfortunately, these extrinsic factors are difficult to change.

However, intrinsic factors form barriers towards routine screening. According to Ackerson and Gretebeck (2007), beliefs about cervical cancer influenced Pap smear testing practices. For example, cervical screening practices were viewed negatively by Hispanic women because of their beliefs that a cancer diagnosis is the result of bad luck. Hispanic women also tended to believe those who participate in risky sexual activities require Pap smears but women not engaging in these activities do not require
Ackerson and Gretebeck (2007) also discuss additional cultural beliefs held by both Hispanic and African American women such as: “the treatment for cancer is worse than the disease, cutting into cancer makes it spread, a bump or a bruise can cause cancer, or there is very little a person can do to reduce their risk of cancer” (p. 12). These types of attitudes can be reversed with appropriate interventions and education by public health professionals, e.g., the public health nurse.

Oftentimes, underserved populations have a mistrust of healthcare professionals in the medical system. A study funded by the Susan G. Komen for the Cure was conducted to examine levels of medical mistrust and assess the impact on whether the participants received recommended breast cancer screenings (Michigan State University, 2009). “Nearly 70% of minority women agree that healthcare organizations sometimes deceive or mislead patients which have become a barrier for breast cancer screenings” (Michigan State University, 2009, p. 1). Further findings of the study reveal:

- African-American women were found to have higher levels of mistrust; 39 percent strongly agreed that healthcare organizations don’t keep information private, compared to 15 percent for Hispanic women and 9 percent for Arab-American women;
- 44 percent of women who had never received a clinical breast exam agreed that healthcare organizations have sometimes done harmful experiments on patients without their knowledge; and
64 percent of women who had not received a breast exam in the past 12 months agreed with the statement that they sometimes wonder if healthcare organizations really know what they are doing. (p. 1)

When there is mistrust of the healthcare system, women are less likely to engage in preventative screening practices and are more likely to suffer from conditions such as breast cancer. It is imperative that preventative healthcare strategies are sensitive to the economic and cultural context of women’s lives. The dilemma exists of how women with limited access to healthcare achieve similar outcomes of those who are able to access the health services needed for the prevention and management of breast and cervical cancers as well as heart disease. Furthermore, it is important to meet the needs of this population because of the existing disparities.

This paper will examine the cancer and CVD screening and lifestyle interventions (LSI) programs funded by the CDC and implemented by the state of North Carolina. Socioeconomic factors preventing early screening for cancer and healthy behaviors will be discussed. The role of the Public Health Nurse to improve the effectiveness of these screening programs will be considered, including an analysis of the future recommendations for the continued successes of the screening programs for underserved women.
CHAPTER II

IMPLEMENTATION OF THE BCCCP AND WISEWOMAN PROGRAMS

Routine cancer screening is necessary to meet the Healthy People 2020 goals for the elimination of death and suffering due to cancer. Breast and cervical cancer are almost curable if detected at an early stage. Deaths from breast and cervical cancers occur disproportionately among women who are uninsured or underinsured and could be avoided if cancer screening rates increased among women at risk. Accessing preventative healthcare can be a challenge for underserved and uninsured women. Will, Farris, Sanders, Stockmyer, and Finklestein (2004) state that approximately 1 in 5 working age women lack health insurance. The American College of Physicians-American Society of Internal Medicine (2000) describe the lack of health insurance as a barrier to receiving important preventative care. One mechanism for increasing access to healthcare for vulnerable populations is by instituting funding programs for screening programs.

Breast and Cervical Cancer Mortality Prevention Act of 1990

Prior to the 1990s, there were limited programs designed to meet the needs of financially disadvantaged women. To address these issues, the Breast and Cervical Cancer Mortality Prevention Act of 1990 was enacted. The Breast and Cervical Cancer Mortality Prevention Act of 1990 guided the creation of the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) which helped low-income, uninsured, and underinsured women gain access to breast and cervical cancer screening and diagnostic services. Services such as clinical breast examinations, mammograms, Pap
tests, pelvic examinations, diagnostic testing if results are abnormal, and referrals for
treatment were provided through the NBCCEDP (CDC, 2011a).

According to Lawson, Henson, Bobo, and Kaejer (2000),

Mammography is the most effective method of detecting breast cancer in its
earliest and most treatable stage, while effective control of cervical cancer
depends primarily on early detection of precancerous lesions through use of the
Pap test, followed by timely evaluation and treatment. (pp. 5, 7)

Additionally, when heart disease was identified as the number one killer among women,
Congress authorized WISEWOMAN in 1993 to extend the preventative health services
offered to participants of the NBCCEDP (Vaid, Wigington, Borbely, Ferry, & Manheim,
2011). This allowed for the expansion of services from an existing federal program to
address cardiovascular health concerns. The funding for BCCCP and WISEWOMAN
are managed by the CDC which develops cooperative agreements with state agencies
to implement and monitor its own screening program. Each program grantee is
responsible for establishing network providers who are willing to serve low income
women with a reimbursement structure capped at Medicare rates. The success of this
program not only lies with the network providers but also with the relationships
established with BCCCP and WISEWOMAN sponsored programs and partners such as
the American Heart Association and the American Cancer Society. Through federal,
state, territorial, and tribal governments, in collaboration with national and community-
based organizations, underserved and uninsured women have access to healthcare via
implementation of the BCCCP and WISEWOMAN screening programs.
BCCCP and WISEWOMAN Eligibility and Implementation Guidelines

While the implementation of BCCCP and WISEWOMAN improves health outcomes of the underserved and uninsured women, many challenges and constraints exist. An eligibility criterion had to be determined while keeping within the confines of the limited funds available. Women who rarely or never received breast or cervical cancer screening were deemed the priority target population. The CDC specified that BCCCP place a high priority on women aged 50 and older as only 57% of mammograms were provided to women aged 50 and older for vulnerable populations in the early 1990s (Lawson et al., 2000). Due to revisions in Medicare coverage for preventative services, new scientific research, and recommendation changes per ACS, the policy for BCCCP required at least 75% of mammograms be provided to women aged 50 and older who are not eligible to receive Medicare Part B benefits or who are unable to pay the premium to enroll in Medicare Part B (Lawson et al., 2000). With 25% of funding for mammograms remaining, providers were able to allocate funds to meet screening needs of women aged 40-49 years.

Initially, when BCCCP was implemented, the guidelines for cervical screenings were consistent with the ACS guidelines which stated women aged 18 years and older were eligible for an annual Pap test and pelvic examination. However, due to the recent controversy over the recommendations for Pap screening intervals, the screening policy was reexamined. New scientific evidence suggests after a woman has had three consecutive annual examinations with normal findings, the Pap test can be performed less frequently. Based on these new recommendations, it was concluded that the
screening interval can be changed to every 3 years after a participant demonstrated three consecutive annual examinations with normal findings (Lawson et al., 2000).

The most recent eligibility for BCCCP per the CDC is as follows (North Carolina Department of Human Health Services, 2011c):

- Women aged 40 - 64 for breast/cervical cancer screening and for diagnostic follow-up of breast/cervical abnormalities, or
- Women aged 18 - 39 who have been identified with a cervical abnormality through the Family Planning program (Title X), and
- Women must be uninsured or underinsured for these tests and have an income < 250% of federal poverty level (p. 1) (see Table 2.1).

*Women who are enrolled in a managed care program, a health maintenance organization, or Medicare Part B are not eligible for the BCCCP.*

**BCCCP Funding and Patient Navigation**

A vital, but costly BCCCP component is to ensure all women with abnormal screening results, precancerous breast or cervical lesions, or a diagnosis of cancer receive timely and appropriate follow up care. Therefore, federal funds for BCCCP cannot be used for treatment of breast or cervical cancer because of the concern funds designated for screening services would be depleted. BCCCP participants with abnormal screening results requiring treatment for breast or cervical cancer are encouraged to apply for BCCCP Medicaid or any other BCCCP sponsored programs to secure the resources needed to receive treatment. Another mechanism to ensure BCCCP patients are able to gain access for treatment and follow-up for abnormal
### TABLE 2.1

**2012 CANCER PREVENTION AND CONTROL BRANCH FEDERAL POVERTY LEVEL GUIDELINES**

**FISCAL YEAR 2011-2012**

<table>
<thead>
<tr>
<th>Persons in Family Unit</th>
<th>Federal Poverty Guidelines*</th>
<th>BCCCP &amp; WISEWOMAN</th>
<th>Cancer Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$10,890</td>
<td>$27,225</td>
<td>$2,269</td>
</tr>
<tr>
<td>2</td>
<td>$14,710</td>
<td>$36,775</td>
<td>$3,065</td>
</tr>
<tr>
<td>3</td>
<td>$18,530</td>
<td>$46,320</td>
<td>$3,860</td>
</tr>
<tr>
<td>4</td>
<td>$22,350</td>
<td>$55,785</td>
<td>$4,656</td>
</tr>
<tr>
<td>5</td>
<td>$26,170</td>
<td>$65,425</td>
<td>$5,432</td>
</tr>
<tr>
<td>6</td>
<td>$29,990</td>
<td>$74,975</td>
<td>$6,248</td>
</tr>
<tr>
<td>7</td>
<td>$33,810</td>
<td>$84,525</td>
<td>$7,044</td>
</tr>
<tr>
<td>8</td>
<td>$37,630</td>
<td>$94,075</td>
<td>$7,840</td>
</tr>
<tr>
<td>for each additional person, add</td>
<td>$3,820</td>
<td>$9,550</td>
<td>$779</td>
</tr>
</tbody>
</table>

*Federal Poverty Guidelines* is defined as the annual income level at or below which families are considered to be living in poverty.

Source: North Carolina Department of Human Health Services, 2011c
screening results is through patient navigation. This concept was conceived by Harold P. Freeman, MD who envisioned assisting underserved women in navigating and in times, “circumnavigating the hospital and human services bureaucracies to accomplish the follow-up and diagnosis of an abnormal finding on cancer screening tests and the treatment of cancer” (Robinson-White, Conroy, Slavish, & Rosenzweig, 2010, p. 128). Patient navigation has been successful in assisting patients through a complex cancer healthcare system. Patient navigator models such as lay health advisors and professional case managers serve as personal advocates to facilitate with the movement of patients through the standard of care practices. Figure 2.1 gives an example of the patient navigator responsibilities during an initial trial run of patient navigation for the Urban Latino African American Cancer disparities project (Steinberg et al., 2006). The activities further emphasize the role of the patient navigator as a patient advocate and an intercessor for the network provider. For the BCCCP patient, the local BCCCP Coordinator serves as a voice and is deemed an effective tool to address the barriers to care encountered by underserved women.

**North Carolina BCCCP**

North Carolina was the 12th state to receive funding for the BCCCP and initiated its statewide program in January 1993 (Holden, Moore, & Holliday, 1998). NC BCCCP seeks to (1) increase breast and cervical cancer screening and follow-up; (2) improve knowledge, attitudes, and practices of breast and cervical cancer; (3) improve breast and cervical cancer clinical detection practices and procedures; and (4) monitor the determinants of breast and cervical cancer incidence and mortality (North Carolina Department of Human Health Services [DHHS], 2009). In NC, the BCCCP is delivered
FIGURE 2.1

ULAAC DISPARITIES PROJECT PATIENT NAVIGATOR ROLE DESCRIPTION

Main Responsibilities

The navigator’s primary function is guiding cancer patients through the healthcare system by assisting with access issues, developing relationships with service providers, and tracking interventions and outcomes.

Patient Navigator Activities Include

• Initiate communication with patients referred by primary physician or by oncology specialist.
• Identify each patient’s unique logistical and emotional needs (barriers to care) and coordinate with professional staff to develop effective solutions.
• Guide patients through the healthcare system; help patients arrive at scheduled appointments on time and prepared.
• Connect patients to community and social support services.
• Facilitate interaction and communication with healthcare staff and providers.
• Provide health education as needed to patients.
• Help patients use the ULAAC Learning Library to access language-specific materials.
• Identify personnel in departments involved in the care of cancer patients (ie, physicians, nurses, radiology staff, social services staff, radiation oncology staff, medical oncology staff) and develop relationships with them.
• Assist cancer patients in finding ways to pay for their healthcare.
• Assist with arranging for patient transportation where needed.
• Build information-sharing relationships with other patient navigators.
• Track interventions and outcomes on Navigator Intake and S.O.A.P. forms.
• Attend bimonthly staff/support meetings.
• Use interventions and strategies that are appropriate to the individual and the population, ie, taking into account culture, language, age, gender.
• Provide support through active, empathic listening.

Source: Steinberg et al., 2006
primarily through the local health department (LHD) and is monitored by the NC DPH. The initial focus of the newly developed screening program was to use local level facilities such as the LHD to encourage women to obtain screenings. The target number for recruiting patients from each county is derived from population based data and the county’s ability to serve the women based on its resources. Hence, it is expected for LHDs in Mecklenburg and Wake counties to recruit more patients compared to the less populated counties of Eastern North Carolina. Because each community has its own needs, the LHD is permitted to implement the program to meet the needs of the county and choose its own strategies to recruit women into the BCCCP with guidance from the NC DPH.

BCCCP is not only designed to provide screening for breast and cervical cancer but to also offer diagnostic testing, surveillance and follow-up, case management, public education and outreach, professional education and training, quality assurance of screening tests, coalition and partnership development, and program evaluation. These dynamic components of the BCCCP program drive its mission to reduce the burden of cancer for women without access to healthcare. This multifaceted approach allows BCCCP to take a meaningful stance on the ongoing cancer disparities that underprivileged women face.

**Partnerships**

Des Marais et al. (2011) claim women not accessing needed medical services are an inherently difficult population to reach, thus relationships with organizations serving underserved women must be established. NC BCCCP and WISEWOMAN partners include (CDC, 2011a):
The Eastern North Carolina Stroke Network,
El Pueblo, Inc.,
National Black Leadership Initiative on Cancer,
National Cancer Institute,
North Carolina Central University,
North Carolina Central Cancer Registry,
North Carolina Comprehensive Cancer Program,
North Carolina Women’s Health Branch,
Susan G. Komen Breast Cancer Foundation, and
UNC Center for Health Promotion & Disease Prevention.

The NC BCCCP and the WISEWOMAN Project work with national organizations, state health agencies, and other key groups to develop, implement, and promote effective cancer and heart disease prevention and control practices (CDC, 2011a). Furthermore, the NC BCCCP and the NC WISEWOMAN Project focus on support from community resources and linking patients with local discounted or free resources available to them. Partnerships with the NC Women’s Health Branch, The Eastern North Carolina Stroke Network, and El Pueblo, Inc. can also assist the NC BCCCP and the NC WISEWOMAN Project to locate untapped populations of underserved women for referral purposes.

**BCCCP Recruitment Strategies**

Recruitment strategies are an important indicator of success for each county that implements the BCCCP screening program. A quarterly recruitment survey is administered to all BCCCP providers via email, which can be faxed or completed online.
This collects information on the type and amount of outreach each county is doing per quarter. The NC BCCCP continues to revise, implement, and evaluate new recruitment strategies. Des Marais et al. (2011) describes the barriers to screening, voiced by underserved women in NC as cost, difficulty finding low cost providers, long waits for cost services, and the lack of Spanish language services. Finding avenues to break these barriers is a large component of recruitment as well as educating women about the importance of screening and explaining the services available. As a pilot state for the BCCCP program, NC needed to obtain data about the recruiting methods, the impact of the health education given to BCCCP participants, the type of staff dedicated to BCCCP (e.g., nurse, health educator, or administrator), as well as the percentage of time each LHD devoted to the BCCCP. The most successful means for recruiting BCCCP participants in NC was through media, housing authority newsletters, word of mouth from participants, as well as in person at the health department and Department of Social Services. For example, the NC DPH launched a media campaign in April 2011 through June 2011 that involved print and broadcast publications in Eastern NC to raise the public awareness of cancer prevention and early detection of breast and cervical cancer (NC DHHS, 2011b). LHDs that have study staff can develop comprehensive non-traditional methods of recruitment such as media campaigns that reach otherwise unidentified members of the community in need of BCCCP services.

**WISEWOMAN**

The opportunity to target other chronic disease among women, including heart disease, the leading cause of death among women, was approved by Congress in 1993. The WISEWOMAN Project, funded by the CDC within its Division for Heart
Disease and Stroke Prevention (DHDP), was formed to address CVD risk factors such as elevated cholesterol, high blood pressure, obesity, sedentary lifestyle, diabetes, and smoking, (CDC, 2011d). WISEWOMAN consists of 21 programs in 20 states (2 programs in Alaska) and provides screening for heart disease, stroke risk factors, and lifestyle interventions for many low-income, uninsured, or under-insured women aged 40–64 years. The most recent eligibility for WISEWOMAN per the CDC is as follows (CDC, 2011d):

- Women who are at least 40 years old and not older than 64 years old, and
- Women already participating in the National Breast and Cervical Cancer Early Detection Program (NBCCEDP), i.e., BCCCP, and
- Women who are either uninsured or underinsured, and
- Women who are at or below 250% of the federal poverty guidelines.

**NC WISEWOMAN**

Following the success of the BCCCP, NC was selected to serve as a pilot for WISEWOMAN in 1995 with the intent to reduce the risk factors for CVD by modifying unhealthy behaviors through lifestyle interventions. Thirty three LHDs were invited to develop and test a diet/physical activity intervention to reduce CVD risk among financially disadvantaged women participating in the NC BCCCP. WISEWOMAN provides outreach for CVD risk factor screening and refers participants to free or low-cost community-based nutrition, physical activity, and tobacco cessation resources. WISEWOMAN also encourages and guides participants to modify behaviors, and conducts lifestyle interventions (LSIs) promoting physical activity and a healthy diet.
The use of LSIs is the key theme for behavior modification in the WISEWOMAN Program. The NC WISEWOMAN Project utilizes *A New Leaf… Choices for Healthy Living*, a structured nutrition and physical activity assessment and counseling program for cardiovascular disease risk reduction among low-income individuals (UNC Center for Health Promotion and Disease Prevention, n.d.). This 60 page manual is written at a sixth-grade reading level in a user friendly format. It includes numerous graphics and visuals which emphasizes practical strategies for making changes in dietary and physical activity behaviors and highlights:

- dietary habits common in the Southeastern US, and features an 88-page cookbook with low-fat “southern-style recipes, and
- a physical activity section tailored to middle-aged and older women who lack easy access to exercise facilities (UNC Center for Health Promotion and Disease Prevention, n.d).

LSIs can be done in person, over the phone or through mail if the patient mails a response card back stating she received the information and understood it. LSIs can be one on one or in a group class as long as it includes information from *A New Leaf… Choices for Healthy Living*.

**Evidenced-Based Practices for Successful Interventions**

The response to the LSIs given to WISEWOMAN participants as a result of behavioral modification is indicative of specific interventions that are seemingly effective. The NC WISEWOMAN Project focuses more on support from community resources and linking patients with local discounted or free resources available to them.
The following components are deemed the best practices for providing LSIs (UNC Center for Health Promotion and Disease Prevention, n.d).

1. Use small achievable steps.
   
   *Rationale:* Individuals are able to change medication and lifestyle regimens when the changes are broken down into multiple small steps that can be easily accomplished. *New Leaf* counseling strategies focus on helping participants make changes one step at a time.

2. Include social support.
   
   *Rationale:* Family and friends can play a key role in lifestyle change. The *New Leaf* program includes materials offering suggestions on how to provide constructive support that participants can give to family and friends.

3. Offer individual tailoring.
   
   *Rationale:* *New Leaf* uses risk assessments for each lifestyle behavior addressed by the program. The individualized risk assessment allows WISEWOMAN providers to efficiently identify problem areas and barriers to change, as well as identify areas where program participants are doing well. In this way, WISEWOMAN Coordinators can focus on participants areas of greatest need and offer encouragement for positive behaviors.

4. Increase self-efficacy.
   
   *Rationale:* The counseling strategies in *New Leaf* are designed to increase participants confidence in making lifestyle changes. Practical suggestions for gradual change over time, along with monitoring and rewarding small steps
toward change, help participants achieve their goals which boost their confidence.

5. Promote self-monitoring and reinforcement.

*Rationale:* The *New Leaf* risk assessments are designed to be used by the WISEWOMAN coordinators and health educators as flow sheets to document participants’ goals, monitor progress, and reward successes.

6. Encourage collaborative goal-setting.

*Rationale:* *New Leaf* materials encourage WISEWOMAN providers and participants to view goal-setting as a collaborative process. WISEWOMAN providers can help participants start with the goals that are achievable. Success in achieving these initial goals, in turn, builds participants’ confidence and self-efficacy when more challenging goals are set.

7. Assess readiness for change.

*Rationale:* The *New Leaf* risk assessments identify participants’ current practices and attitudes, helping the WISEWOMAN staff focus on the areas where participants are most ready and willing to make changes.

**Health Belief Model**

Theories of social and behavioral change guide the development of health promotion and illness prevention interventions. The ability to change one’s behavior is depicted in the Health Belief Model (HBM) (Figure 2.2). The HBM is comprised of six constructs that provides a useful framework for designing both short-term and long-term behavior change strategies (The National Cancer Institute, 2006).
## FIGURE 2.2

**HEALTH BELIEF MODEL**

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Potential Change Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived susceptibility</td>
<td>Beliefs about the chances of getting a condition</td>
<td>• Define what populations(s) are at risk and their levels of risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tailor risk information based on an individual's characteristics or behaviors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Help the individual develop an accurate perception of his or her own risk</td>
</tr>
<tr>
<td>Perceived severity</td>
<td>Beliefs about the seriousness of a condition and its consequences</td>
<td>• Specify the consequences of a condition and recommended action</td>
</tr>
<tr>
<td>Perceived benefits</td>
<td>Beliefs about the effectiveness of taking action to reduce risk or seriousness</td>
<td>• Explain how, where, and when to take action and what the potential positive results will be</td>
</tr>
<tr>
<td>Perceived barriers</td>
<td>Beliefs about the material and psychological costs of taking action</td>
<td>• Offer reassurance, incentives, and assistance; correct misinformation</td>
</tr>
<tr>
<td>Cues to action</td>
<td>Factors that activate “readiness to change”</td>
<td>• Provide “how to” information, promote awareness, and employ reminder systems</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Confidence in one's ability to take action</td>
<td>• Provide training and guidance in performing action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use progressive goal setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Give verbal reinforcement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Demonstrate desired behaviors</td>
</tr>
</tbody>
</table>

Source: National Cancer Institute, 2006
The six concepts are:

1. Belief of being susceptible to the condition (*perceived susceptibility*),
2. Belief the condition has serious consequences (*perceived severity*),
3. Belief taking action will reduce the susceptibility to the condition or its severity (*perceived benefits*),
4. Belief the costs of taking action (*perceived barriers*) are outweighed by the benefits,
5. Exposure to factors that prompt action (e.g., a television ad or a reminder from one’s physician to get a mammogram) (*cue to action*), and
6. Confident in the ability to successfully perform an action (*self-efficacy*)

(The National Cancer Institute, 2006).

Together, the six concepts of the HBM provide a useful framework for designing both short-term and long-term behavior change strategies.

The readiness to change assessed in WISEWOMAN participants is also largely based on the HBM. WISEWOMAN participants must first be knowledgeable about their individual risk for CVD to begin the perception of having an increased risk of the medical conditions. Then, they are more likely to adopt behaviors that reduce their risk, such as smoking cessation, weight loss, and medication compliance. However, the population of women without access to health care is likely to have a knowledge deficit about CVD risk factors, thus not perceiving themselves to be at risk. As a result, this population of women is unlikely to modify their behavior for a healthier lifestyle.
Socio-Ecological Model

Utilization of the Socio-Ecological Model of health promotion is pertinent for the implementation of a prevention screening program. The Social-Ecological Model (Figure 2.3) consists of five levels of influence on health and health behavior: individual, interpersonal, organizational, community, and public policy, which provides a comprehensive framework for understanding and modifying the range of social and environmental factors that affect cardiovascular health. Each level of the Socio-Ecological model is defined below, (UNC Center for Health Promotion and Disease Prevention, n.d).

Individual Level

The individual level represents the effect of a screening program for the underserved and uninsured woman. This level perpetuates the need for and the access to affordable breast and cervical cancer screening.

Interpersonal Level

The interpersonal level represents the activities needed to facilitate behavior change. This includes network providers making screening recommendations to patients, patients receiving reminders about the need of screening, and patient navigators helping to remove logistical and other barriers to screening.

Organization Level

The organizational level represents the breast and cervical cancer prevention activities implemented at the organizational level. This can include adopting encouraging the coverage and expansion of benefits, promoting the use of client and provider reminder systems, and providing provider assessment/feedback.
FIGURE 2.3
SOCIO-ECOLOGICAL MODEL

Source: CDC, 2011c
Community Level

The community level represents the breast and cervical cancer prevention activities implemented at the community level. Examples of interventions at this level are conducting public awareness and educational campaigns, working with coalitions and collaborative to promote breast and cervical cancer screening, as well as working with local health departments to expand breast and cervical cancer screening.

Policy Level

The last level represents the facilitation of individual behavior through breast and cervical cancer prevention at the policy level. Supporting legislative changes for mandatory insurance coverage and reduced co-pays for breast and cervical cancer screenings illustrates a policy level intervention.

The development of WISEWOMAN interventions were derived from the Socio-Ecological Model. “Early data suggest that LHDs with study staff who could serve as a health educator incorporated at least 4 levels of the Socio-Ecological Model as intervention strategies” (Holden et al., 1998, p. 12). Figure 2.4 describes some of the interventions and the associated level of the socio-ecological framework initiated by a LHD using an early implemented NC BCCCP curriculum.

Holden et al. (1998) also discuss the impact of employing multilevel health education interventions such as organizing public education activities (e.g., health fairs and community education programs) to reach the target populations. LHDs that have staff members with principles in health education training utilized this proficiency to develop comprehensive health education activities, thus influencing the success of the BCCCP.
## FIGURE 2.4
EXAMPLE OF INCORPORATING THE LEVELS OF THE SOCIO-ECOLOGICAL MODEL FOR BCCCP LHD INTERVENTIONS

<table>
<thead>
<tr>
<th>Level</th>
<th>Selected factors affecting use of mammography</th>
<th>Targets of intervention</th>
<th>Intervention strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrapersonal</td>
<td>• Knowledge, attitudes, beliefs, intentions re: breast cancer and mammography (e.g., low perceived susceptibility, fear of radiation)</td>
<td>Women’s knowledge, attitudes, beliefs, intentions</td>
<td>OutReach (one-on-one contacts with Lay Health Advisors)</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>• Knowledge, attitudes, beliefs of family, friends, neighbors, acquaintances (e.g., low social support for preventive behavior)</td>
<td>Network norms and social influences</td>
<td>OutReach (one-on-one and group contacts with Lay Health Advisors)</td>
</tr>
</tbody>
</table>
| Institutional | • Providers’ screening and referral practices  
• Agency protocols and procedures for screening and follow-up                                             | Organizational "culture" and practices                        | InReach (provider education and training, new or revised clinic systems, revised referral patterns) |
| Community     | • Mechanisms for interagency collaboration  
• Prominence of breast cancer on "public agenda"  
• Access of community members to decision-making bodies                                                   | Interagency collaborative practices; mediating structures; public officials | OutReach, InReach, Access (interagency meetings, education of public officials, creation of Community Advisory Groups) |
| Policy        | • For-profit orientation of radiology centers  
• Quality control measures and accreditation status                                                           | Decision-makers, policies                                    | Access, OutReach (special screening days, lowered costs, mammography campaigns)         |

Source: Earp, Altpeter, Mayne, Viadro, & O'Malley, 1995
Ultimately, recruitment strategies and interventions are developed based on the needs assessment of the community. Each specific community needs assessment plays a significant role because the factors affecting health behavior are illustrated and each community can determine the appropriate level of recruitment strategies and interventions to be the most effective. Since the implementation of BCCCP, approximately 102 local health agencies work in cooperation with physicians, hospitals, and other health care facilities to provide services to eligible North Carolina women.
CHAPTER III
EVALUATION OF THE BCCCP AND WISEWOMAN PROGRAMS

The NBCCEDP has seen great successes since its inception in 1990. The NBCCEDP-funded programs have served more than 3.9 million women, provided more than 9.8 million breast and cervical cancer screening examinations, and diagnosed more than 52,694 breast cancers, 2,856 invasive cervical cancers, and 136,837 premalignant cervical lesions, of which 41% are high-grade (CDC, 2011a). The National Cancer Institute defines high grade lesions as severe abnormalities that have a higher likelihood of progressing to cancer (National Cancer Institute, 2010).

Figure 3.1 illustrates the progress BCCCP has made to address the U.S. Department of Health and Human Services' Healthy People 2020 goals. “Between January 2006 and December 2010, the breast cancer death rate was reduced by 20% and the cervical cancer death rate was reduced to 2 deaths per 100,000 women” (CDC, 2011a, p. 1).

WISEWOMAN, has also found success since its implementation. Nationally, as of 2000, “WISEWOMAN has provided more than 77,500 health screenings and nearly 135,000 lifestyle intervention sessions to these women” (CDC, 2011e, p. 1). “Approximately 61% of women screened participated in at least one lifestyle intervention session” (CDC, 2011e, p. 1). Furthermore, “5,336 new cases of high blood pressure, 5,773 new cases of high cholesterol, and 791 new cases of high blood sugar were identified” (CDC, 2011e, p. 1). Participants who were identified with CVD risk factors such as high cholesterol, high blood pressure, and diabetes were then referred to
Figure 3.1
WOMEN SCREENED THROUGH THE NBCCEDP, BY YEAR

January 2006 to December 2010

National Aggregate

Source: CDC, 2011a
healthcare professionals for follow-up evaluations.

The CDC also reports that the use of LSIs for behavior modification has encouraged WISEWOMAN participants to maintain their weight for 1 year, decrease their blood pressure (both systolic and diastolic levels), decrease blood cholesterol levels, and quit smoking (6%). The estimated risk for dying of heart disease has declined significantly (CDC, 2011e). The data indicate the WISEWOMAN program supports long-term healthy lifestyle changes among participants.

**Successes of North Carolina BCCCP and WISEWOMAN**

North Carolina has seen similar successes with both the BCCCP and WISEWOMAN. From June 2005 to July 2010, 48,487 women were screened for BCCCP-funded diagnostic services (CDC, 2011b) (Figure 3.2). As a result, more abnormal findings are being detected and treated for underserved populations of women (Figure 3.3 and Figure 3.4).

NC was one of only 9 states to receive a “Very Good” rating on the A Roadmap For Success: A State of Cervical Cancer Prevention in America 2010 (Women in Government, 2010). This annual report charts the efforts made by states for cervical cancer prevention and indicates that the incidence and mortality of cervical cancer in NC has decreased, the screening rate for cervical cancer in NC has increased, and the rate of uninsured women in NC has decreased.

Due to the successes of NC BCCCP, WISEWOMAN has expanded to 40 sites in NC and demonstrated its accomplishments. The NC WISEWOMAN screening goal for the 2009-2010 reporting period was 3237 women. A total of 3,374 screenings were performed and 5,125 lifestyle interventions sessions were conducted during the 2009-
### FIGURE 3.2

NORTH CAROLINA WOMEN SERVED THROUGH THE NBCCEDP,

JUNE 2005 TO JULY 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women served [1]</td>
<td>48,487</td>
</tr>
<tr>
<td>Women receiving Pap tests</td>
<td>29,705</td>
</tr>
<tr>
<td>Women receiving mammography</td>
<td>32,419</td>
</tr>
</tbody>
</table>

Each category reports counts of unduplicated women receiving services within the 5-year period. Women may be counted in more than one category.

1: Women served includes women receiving any NBCCEDP-funded screen or diagnostic procedure.

2: Women screened includes women receiving any NBCCEDP-funded screen (mammography, clinical breast exam, or Pap test).

Source: CDC, 2011b
FIGURE 3.3
NORTH CAROLINA NBCCEDP CERVICAL SCREENING RESULTS AND OUTCOMES,
JUNE 2005 TO JULY 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pap tests provided</td>
<td>38,993</td>
</tr>
<tr>
<td>Pap tests with abnormal results [1]</td>
<td>2,029</td>
</tr>
<tr>
<td>Cervical cancers or premalignant cervical lesions [2]</td>
<td>660</td>
</tr>
<tr>
<td>CIN-1 or LSIL</td>
<td>334</td>
</tr>
<tr>
<td>CIN-2 or worse [3]</td>
<td>326</td>
</tr>
</tbody>
</table>

1: Abnormals include Pap test results of: low-grade squamous intraepithelial lesion (LSIL), high-grade squamous intraepithelial lesion (HSIL), atypical squamous cells of undetermined significance - cannot exclude HSIL (ASC-H), atypical glandular cells (AGC), and squamous cell cancer.

2: Includes LSIL, HSIL, cervical intraepithelial neoplasia (CIN)-1, CIN-2, CIN-3, carcinoma in situ (CIS), and invasive cervical cancer.

3: Includes HSIL, CIN-2, CIN-3, CIS, and invasive cervical cancer.

Source: CDC, 2011b
FIGURE 3.4  
NORTH CAROLINA NBCCEDP BREAST SCREENING RESULTS AND OUTCOMES,  
JUNE 2005 TO JULY 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammograms provided</td>
<td>48,315</td>
</tr>
<tr>
<td>Mammograms with abnormal results [1]</td>
<td>5,614</td>
</tr>
<tr>
<td>Breast cancers detected [2]</td>
<td>579</td>
</tr>
</tbody>
</table>

1: Abnormals include mammogram results of: suspicious abnormality, highly suggestive of malignancy, and assessment incomplete (further imaging studies or film comparisons required).

2: Breast cancers include invasive breast cancer, ductal carcinoma in situ (DCIS), and other in situ excluding lobular carcinoma in situ (LCIS).

Table includes only NBCCEDP-funded mammograms provided to women age 40 and older. An additional 206 women, not included above, were diagnosed with CIS (other), DCIS, or invasive breast cancer through the NBCCEDP following a mammogram funded through another source.

Source: CDC, 2011b
2010 reporting period, which indicates the screening goal for 2009-2010 was met (CDC, 2011f). As previously mentioned, the NC WISEWOMAN LSIs are primarily retrieved from *A New Leaf... Choices for Healthy Living* to help women develop a healthier diet, increase physical activity, and become tobacco free.

During the initial screening period and annual follow up assessments, the LSIs are evaluated using the NC DHHS 4049 form (Figure 3.5). This form is also used to assess current lifestyle habits and determine what behavior modifications are necessary. Data points from the baseline and follow-up screening are used to evaluate the improvement of healthy behaviors by the participant.

While many providers indicate several barriers exist to effectively administer the NC BCCCP and the NC WISEWOMAN Project, such as time commitment, recruitment difficulties, and the lack of staff and resources, there is an overall interest and desire to push forward and meet the needs of NC underserved women. The success NC has had with the BCCCP screening program and WISEWOMAN has been due to the collaboration with many statewide and local agencies/coalitions to reach populations of underserved woman. The collaborative efforts allow NC BCCCP and WISEWOMAN screening providers to decrease the barriers of the programs and meet the needs of the varying communities within North Carolina.
FIGURE 3.5

WISEWOMAN ANNUAL SCREENING FORM (NC DHHS 4049A FORM)

<table>
<thead>
<tr>
<th>WISEWOMAN Annual Screening Form</th>
<th>DHHS 4049A</th>
<th>Agency:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Patient Identification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Name</td>
<td>Last</td>
<td>First</td>
</tr>
<tr>
<td>Date of Birth</td>
<td><em>/__/</em>___</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Years of education:</td>
<td>□ &lt; 9th grade □ some high school □ high school grad □ Some college or higher □ don’t know □ don’t want to answer</td>
</tr>
<tr>
<td><strong>2. Patient Enrollment/Annual Screening</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of screening</td>
<td><em>/__/</em>___</td>
<td>Initial Screening □ Re-screening (12-18 months)</td>
</tr>
<tr>
<td><strong>3. Health History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you ever been told by a doctor, nurse or other health professional that your blood cholesterol is high?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Have you ever been told by a doctor, nurse or other health professional that you have diabetes? □ Gestational (pregnancy) Diabetes Only</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Has a doctor, nurse or other health professional ever told you that you had any of the following: heart attack (also called myocardial infarction), angina, coronary heart disease or stroke?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td><strong>4. Family Health History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has your father, brother, or even a stroke or heart attack before age 65?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Has your mother, sister, or daughter had a stroke or heart attack before age 65?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Has either of your parents, your brother or sister, or your child ever been told by a doctor, nurse or other health professional that he/she has diabetes?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td><strong>5. Medication Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are you taking any medicine prescribed by your doctor, nurse, or other health professional for your high cholesterol?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Are you taking any medicine prescribed by your doctor, nurse, or other health professional for your high blood pressure?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td>Are you taking any medicine prescribed by your doctor, nurse, or other health professional for your diabetes?</td>
<td>YES □ NO □ DK □ Don’t want to answer</td>
<td></td>
</tr>
<tr>
<td><strong>5a. Smoking Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you now smoke cigarettes every day, some days, or not at all? □ Every Day □ Some Days □ Not at all □ Don’t know □ Don’t want to answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not counting得天, porches or garages, during the past 7 days on how many days did someone other than you smoke tobacco inside your home while you were at home? □ How many days □ None □ Don’t know/not sure □ Don’t want to answer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Clinical Measurement Results**

- **Height (inches)**: ________
- **Weight (pounds)**: ________
- **BMI (BMI chart)**: ________

**Date of Laboratory Values**: ________

- **Total Cholesterol**: ________
- **HDL**: ________
- **LDL (optional)** (record for fasting only): ________
- **Triglycerides (optional)** (record for fasting only): ________
- **Glucose**: ________
- **A1C** (recommended for diabetics):
  - 700 A1C taken for screening purposes
  - 800 Participant has previous diagnosis of diabetes

**Intervention Level**

- **Normal** □ Abnormal □ Alert □

**Required Interventions**: 0 □ 1 □ 2 □

**Risk Reduction Discussed** □ YES □ NO

**Comment**: ________
### WISEWOMAN Annual Screening Form

**DHHS 4049B**

**Agency:**

#### Patient Identification
- **Last Name:** [Redacted]
- **First Name:** [Redacted]

#### 1. Nutrition Assessment (Refer to New Leaf p. xi for guidance)
- **On an average day, how many servings of vegetables do you eat?**
  - Dark-green or orange vegetables (collards, broccoli, carrots, etc.): 0-1 = 2+<br>  0-1 = 2+<br>  1 = 2+<br>  2+ = 3+<br>  In an average week, how many servings of meat do you eat?**
  - Bacon/sausage: 0-1 = 2+<br>  2+ = 3+<br>  Red meat: 0-1 = 2+<br>  2+ = 3+<br>  Chicken/turkey: 0-1 = 2+<br>  2+ = 3+<br>  Fish: 0-1 = 2+<br>  2+ = 3+

- **On an average day, how many servings of fruits do you eat?**
  - Fresh, canned, or frozen: 0-1 = 2+<br>  2+ = 3+<br>

- **On an average day, how many oz servings of beverages do you consume?**
  - Regular non-diet sodas like Coke, Pepsi, or Sprite: 0-1 = 2+<br>  2+ = 3+<br>  Bottle fruit drinks, sports/energy drinks: 0-1 = 2+<br>  Kool-Aid/sweet tea: 0-1 = 2+<br>  Hot tea or coffee with sugar: 0-1 = 2+<br>  100% Fruit juices: 0-1 = 2+<br>

#### 2. Physical Activity Assessment
- **In an average week, how many days do you exercise?**
  - 0 days<br>  1 days<br>  2 days<br>  3 days<br>  4 days<br>  5 days<br>  6 days<br>  7 days<br>  Don't know<br>  Refused / Not Answered

- **On an average day, how many minutes do you exercise?** (Round to next highest value)
  - 0 minutes<br>  1-5 minutes<br>  5-10 minutes<br>  15 minutes<br>  20 minutes<br>  at least 30 minutes<br>  at least 30 minutes<br>  Don't know

#### 3. Medical Evaluation (CDC WISEWOMAN reimburses for ONE Medical Dr. visit only) Required for Alerts and some Abnormalities: See clinical values worksheet.

<table>
<thead>
<tr>
<th>Reason referred</th>
<th>Diagnostic Referral Date</th>
<th>Diagnostic Exam Date</th>
<th>What Type of Treatment was Prescribed?</th>
<th>What is the Status of the Work-up?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure</td>
<td><strong>/</strong>/<strong>/</strong>/</td>
<td><strong>/</strong>/__</td>
<td>□ Medication □ Medication &amp; TLC □ Already on meds □ Refused □ TLC □ Nothing prescribed □ Labs/Follow-up □ Change in Meds</td>
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#### 4. Clinical Follow-ups

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<th>Total Cholesterol</th>
<th>HDL</th>
<th>Fasting</th>
<th>LDL (opt.)</th>
<th>Trigl. (opt.)</th>
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**Comments:**

**Name:** [Redacted]
**Date:** [Redacted]

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Source: North Carolina Department of Health and Human Services, 2011a

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CHAPTER IV
THE ROLE OF THE PUBLIC HEALTH NURSE FOR BCCCP AND WISEWOMAN

Public health nurses provide a means for disadvantaged populations to access healthcare and obtain needed health services. The foundation of the practice started with caring for vulnerable populations, going back to public health nurse pioneer Lillian Wald, founder of the Henry Street Settlement and the Visiting Nurse Service.

Public Health Nursing is a discipline of nursing that is continuously evolving. Public Health Nurses (PHNs) can assume a variety of roles to meet the healthcare challenges found within underserved populations. Through assessment, assurance, and the policy development, public health nurses utilize the core functions of public health as methods to identify and meet health care needs of a targeted population.

THE NURSING PROCESS

The nursing process is a systematic problem solving approach used to identify, prevent, and treat actual or potential health problems and promote wellness (American Nurses Association, 2011). The steps of the nursing process include assessment, diagnosis, planning, implementation, and evaluation. The PHN utilizes the nursing process to educate the BCCCP and WISEWOMAN patient by the following.

- Assess patient demographics,
- Assess participant learning styles to determine the best lifestyle interventions,
- Collect data on the current health behaviors of the patient,
- Develop a plan for teaching the WISEWOMAN curriculum and tools to meet the general needs of the population of underserved women,
• Effectively provide written and verbal information to the patient and support system (i.e., family and friends),
• Review clinical guidelines and program adherence by performing annual site visits, and
• Conduct an evaluation to observe the behavior modification changes made by the patient.

Levels of Prevention

The PHN should consider the levels of prevention (primary, secondary, and tertiary) when planning and implementing interventions for WISEWOMAN. While WISEWOMAN educational interventions focus on primary and secondary prevention levels, the PHN strives to keep existing health problems from progressing. Tertiary prevention is directed toward rehabilitation after a disease or condition already exists to minimize disability and help the person live productively within limitations. BCCCP participants are given the opportunity to enroll in a BCCCP Medicaid program that specifically funds the management of abnormal Pap and mammogram findings to prevent disease progression. This example of the tertiary prevention level requires the PHN to implement and support interventions aimed at minimizing disease progression of either breast or cervical cancer.

PHNs are essential for the implementation of the BCCCP screening program and WISEWOMAN and are key providers for these programs. PHNs have specialized skills in assessment, monitoring health status, education, collaboration, and knowledge of community resources. They understand the complexities, co-morbidities, and risk factors of breast and cervical cancer as well as CVD and can successfully implement,
maintain, and evaluate programs such as BCCCP and WISEWOMAN. Leslie (1995) emphasizes that early detection of breast and cervical cancer including preventing mortality from these diseases will require vigorous screening, education, and treatment programs. Healthcare workers with strong clinical backgrounds and extensive training can successfully implement the BCCCP and WISEWOMAN programs. PHNs can perform key clinical skills for these screening programs such as educating women about mammography, performing a clinical breast examination, teaching breast self-examination by demonstration, and counseling women about abnormal Pap tests. The scope of practice for an advanced practice nurse includes obtaining Pap samples and conducting bimanual pelvic examinations which further enhances the utilization of the advanced Public Health Nurse (PHN).

CORE FUNCTIONS OF PUBLIC HEALTH

Assessment

The primary skill a PHN and/or an advanced practice PHN such as a Nurse Practitioner can offer is assessment, a core function of public health. Assessment is vital within the BCCCP and WISEWOMAN programs because these medical conditions are either preventable or can be cured if detected early. Leslie (1995) explains the BCCCP and WISEWOMAN nursing assessment should include family history, physical assessment including gynecological and sexual history, and documentation of risk factors. Tracking this data become critical when evaluating a woman’s risk for breast and cervical cancer, as well as CVD because 1) a pre-existing family history of breast cancer is a principal risk factor for breast cancer and thought leaders conclude there is a genetic predisposition for breast cancer; 2) there are precursors within a woman’s
gynecological and sexual history that are found to increase the probability of cervical cancer; and 3) both family history and physical assessment will predict the likelihood of having CVD disease. Education, evaluation, follow-up, and referral are essential and serve as a means to decrease the disparity of screening for breast and cervical cancer along with decreasing the susceptibility for CVD.

Assurance

The PHN also provides assurance for BCCCP and WISEWOMAN participants, another core function of public health. Assurance involves the following acts: 1) inform, educate, and empower women about health issues; 2) link people to needed personal health services and assure the provision of health care when otherwise unavailable; and 3) mobilize community partnerships to identify and solve health problems (Iowa Department of Public Health, 2012). Staff who are highly trained on health education strategies and the use of activities at different levels will be more likely to utilize a more comprehensive approach in developing interventions, thereby impacting the success of the program for recruiting women for screening. There is a large learning curve for BCCCP and WISEWOMAN participants because information presented may be new or varied from their current lifestyle and/or behavior. To further enhance the patients' comprehension level, the PHN relays information using layman’s terms to program participants. The importance of behavior modification is stressed as well because certain behaviors can reduce health-related risks as well as increase the promotion for good health. There are times when the PHN is unable to promote healthy outcomes on an individual effort. At this point, the PHN enlists the assistance from outside organizations, partnerships, and coalitions and is able to effectively improve the
targeted health issues. The American Cancer Society, American Heart Association, low income health providers, low income healthcare access programs, as well as lobbyist/interest groups are all known for their association with the BCCCP and WISEWOMAN programs. These groups offer support, educational tools, and the leverage to sustain funding. With this additional guidance, the PHN is able to put forth the best effort for managing the health of the targeted population.

Policy Development

Lastly, the nurse plays an integral part with policy and the development of programs, the third core function of public health. With access to a network of coalitions and other partnerships, the PHN has an extensive referral system to assist the patient in receiving care. Furthermore, a large component of policy and program development is outreach to community-based organizations, governmental agencies, and other agencies to identify and build strategic partnerships to further organizational goals. These relationships assist with recruiting of program participants, delivering lifestyle interventions, and ensuring the BCCCP and WISEWOMAN provider is following the program framework with the primary goal of improving health outcomes for this population of women.

PHNs are influential because they often join various professional organizations and coalitions and can influence other public health professions and stakeholders on these important issues. Oftentimes, new policies may lead to programs being mandated; as well as making them stay relevant and capitalize on necessary funding opportunities. For example, the American College of Obstetricians and Gynecologists (2011) recommends a repeat Pap smear within 6 to 12 months of an abnormal Pap
smear report as well as a colposcopy, if deemed necessary. Therefore, many insurance companies will pay for these procedures which allows for this guideline to be mandated/funded for BCCCP participants. Last but not least, PHNs are in the field and have firsthand knowledge of the disparities that exist in the community. This allows for PHNs to be a reliable source to advocate for the continued need for the BCCCP and WISEWOMAN programs and to provide the required data to measure the effectiveness and importance of BCCCP and WISEWOMAN services.

ROLE OF THE PUBLIC HEALTH NURSE

As with any profession, the PHN is responsible for the upkeep of skills and knowledge through various continuing education and training opportunities. This commitment to ongoing professional development demonstrates the importance of maintaining expertise and evidence-based practice.

Tessaro and Herman (2000) state “knowledge and skill deficits are barriers to including cancer screening and early detection in clinical practice” (p. 405). The PHN must be able to identify risk factors for breast cancer and cervical cancer as well as CVD and be cognizant of new and the lesser known risk factors identified for these medical conditions. Tessaro and Herman (2000) continue to explain that a “greater recognition of risk factors can assist nurses in their clinical practice for the primary and secondary prevention of breast and cervical cancer” (p. 405) therefore education efforts through BCCCP are important avenues through which nurses can learn more about cancer prevention. Tessaro and Herman (2000) surveyed PHNs to describe their training, skills, and attitudes about breast and cervical cancer screening. They found that less than half (42.0%) of the participants identified smoking as a risk factor for
cervical cancer, less than half (39.7%) identified late childbearing as a risk factor for breast cancer, and less than a fourth (22.4%) identified alcohol as a risk factor for breast cancer. The study findings indicate PHNs who agreed with the statement “I have sufficient knowledge to educate clients about cancer prevention” reported good or excellent breast self-examination (BSE) or Pap smear clinical skills, while those who disagreed with the abovementioned statement reported fair BSE or Pap clinical skills (Tessaro & Herman, 2000). This finding substantiates the need for PHNs to provide education on improving cancer-related assessment and clinical skills for BCCCP and WISEWOMAN. BCCCP and WISEWOMAN PHNs reported performing large number of screening and counseling procedures but their perceptions of the quality of their clinical skills tended to be low. As a result of these findings, continuing education courses and trainings such as the adult physical assessment course sponsored through NC BCCCP is offered to PHNs. This course emphasizes breast and cervical cancer early detection skills and a 6 month clinical preceptorship to qualify nurses to perform examinations and bill for services through Medicaid.

The counseling skills of the BCCCP and WISEWOMAN PHN must also be flawless. Pfister-Minogue and Salveson (2010) confirm “facilitating changes in a patient’s health behavior is a critical part of public health nursing practice in order to promote health, prevent illness, and manage chronic illness” (p. 544). The ability to effectively convey education to improve health outcomes is crucial for BCCCP and WISEWOMAN participants to implement lifestyle interventions and modify unhealthy behaviors. Patient education is a staple of the nursing practice and a focus that typically distinguishes nursing from that of other public health professionals. The use of PHNs in
the BCCCP and WISEWOMAN programs should be highly recommended for improving health outcomes for underserved and uninsured women.
CHAPTER V
RECOMMENDATIONS: RESEARCH, POLICY, AND PRACTICE

Both NC BCCCP and WISEWOMAN Project staff at the NC DPH are continuously researching means to overcome the barriers for recruitment and annual screening of underserved women for cancer and CVD. Additional research is needed on the best practices for the BCCCP and WISEWOMAN programs. Further assessments and data are required to determine the effectiveness of the BCCCP and WISEWOMAN programs and ascertain useful methods to educate women on healthy living and obtaining medical treatment. Will & Loo (2008) concluded that it is imperative that the National Institutes of Health make a commitment to continue an aggressive program of research, combined with assurance to disseminate, support, and fund intervention strategies with proven efficacy.

A major theme in today’s economy is doing more with less. It is difficult to promote healthy outcomes and meet the needs for underserved populations with a limited budget. A continuing challenge for the future is to increase national commitment to providing screening services for all eligible uninsured women so breast and cervical cancer morbidity and mortality can be reduced. With President Obama’s forthcoming Affordable Healthcare Act (AHCA), screening may not be a primary focus for the BCCCP and WISEWOMAN programs. It is the intent of AHCA to provide affordable healthcare for all populations, including screening for medical conditions such as cancer and CVD; therefore BCCCP and WISEWOMAN services may need to be revised. The screenings will still be needed to cover the gaps in healthcare coverage, however,
AHCA will greatly reduce the current gaps. The implementation of AHCA will require BCCCP and WISEWOMAN interventions to shift and concentrate on public education and behavior change.

The PHN will be a key asset for guiding the new direction of the BCCCP and WISEWOMAN programs should AHCA become law. Ultimately, the PHN has the knowledge to educate patients about cancer screening and prevention. Shaw, Tessaro, Herman and Giese (1997) believe PHNs can teach and demonstrate breast and cervical cancer screening procedures such as breast self-exams and are knowledgeable in “taking a thorough history to identify clients at a higher risk for cancer” (p. 202). Shaw et al. (1997) further discuss the need for the PHN to pursue all avenues of continuing education and training to educate clients about cancer prevention. Hence, the PHN can have a high performance in BCCCP and WISEWOMAN and promote healthy outcomes. PHNs can provide individual lifestyle interventions because of their ongoing contact with the patient which fosters motivation and encouragement. PHNs are also proficient at reaching disadvantaged individuals and other segments of the population who do not have a primary care provider. Lastly, nurses are well accepted by patients, allowing for implementation of lifestyle interventions to easily be a component of the nursing care plan for BCCCP and WISEWOMAN patients.

As federal and state budgets suffer massive cuts, some states are fighting to keep funding for their BCCCP as opposed to creating avenues to make its BCCCP more effective for their population of underserved women. The future of BCCCP and WISEWOMAN remains to be seen as the direction of how healthcare will be managed is still under review. The underserved and uninsured populations of women in NC and in
other states in this country can only hope the funding for these programs remain intact
to serve underserved women and decrease the disparities caused by limited access to
healthcare and lack of health insurance. There is strong evidence to indicate the
BCCCP and WISEWOMAN programs have saved lives through screening, prevention,
and detecting many newly diagnosed patients with CVD risk factors that would have
otherwise gone undiagnosed. The commitment, persistence and evidence that the
services BCCCP and WISEWOMAN provides are effective at promoting healthy
outcomes create a strong sense of urgency for policy changes.
REFERENCES


American Heart Association. (2012). *Women and Heart Disease*. Retrieved March 10, 2012, from [http://www.heart.org/HEARTORG/Advocate/IssuesandCampaigns/QualityCare/Women-and-Heart-Disease_UCM_430484_Article.jsp](http://www.heart.org/HEARTORG/Advocate/IssuesandCampaigns/QualityCare/Women-and-Heart-Disease_UCM_430484_Article.jsp)


