

2008-2010 Annual Report



West Virginia WISEWOMAN



Bureau for Public Health
Office of Maternal, Child and Family Health
350 Capitol Street, Room 427
Charleston, WV 25301

Earl Ray Tomblin, Governor
Michael J. Lewis, M.D., Ph.D., Cabinet Secretary

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WISEWOMAN
Program
Annual Report
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Overview of the Program

Timeline

1993—Congress authorizes the CDC to establish WISEWOMAN as part of the services women receive from the National Breast and Cervical Cancer Early Detection Program (NBCCEDP).

1995—The first three state/tribal health agencies receive funding for WISEWOMAN.

2003—West Virginia develops WISEWOMAN as a research project through the West Virginia University School of Nursing.

January 2008—The CDC releases a five year funding cycle for WISEWOMAN. West Virginia applies for and receives the cooperative agreement.

June 2008—West Virginia WISEWOMAN becomes integrated with the WVBCCSP and begins its first full year of screening.

The National WISEWOMAN Program

The **Well-Integrated Screening and Evaluation for WOMen Across the Nation (WISEWOMAN)** program provides low-income, underinsured or uninsured women who have chronic disease risk factors with screening, lifestyle intervention, and referral services in an effort to prevent cardiovascular disease. The priority age group is women aged 40-64 years. The national WISEWOMAN Program is housed within the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention (CDC). Currently there are 21 CDC-funded state/tribal WISEWOMAN programs.

WISEWOMAN programs screen for heart disease and stroke risk factors by measuring cholesterol levels, blood pressure, and assessing diabetes and body mass index (BMI) status. In addition, WISEWOMAN provides counseling services or classes to educate women about lifestyle changes to prevent heart disease and improve overall health. These services teach women how to eat healthy, be more physically active, and quit smoking.

Since 2000, WISEWOMAN has reached more than 80,000 women nationally and diagnosed thousands of women with high blood pressure and/or high cholesterol, and more than 1,100 new cases of diabetes have been identified. Furthermore, participation in the WISEWOMAN Program has helped women reduce their high blood pressure and cholesterol levels and helped women quit smoking.^{1,2}

Did you know???



- ♥ Cardiovascular disease includes high blood pressure, stroke, birth heart defects, hardening of the arteries, congestive heart failure, myocardial infarction as well as other diseases of the circulatory system.
- ♥ More than 30 million American adults have one or more types of cardiovascular disease.
- ♥ One in three adults has high blood pressure, but 21% are not aware they even have it.⁵

The West Virginia WISEWOMAN Program

From 2003-2008, the West Virginia (WV) WISEWOMAN program was one of six research projects funded by the CDC. The WV WISEWOMAN program was unique because it investigated the impact of lifestyle health education interventions to reduce the risk of cardiovascular disease among an Appalachian population.³ The results of this research demonstrated that a culturally targeted computer-based interactive nutrition program, “*Cookin’ Up Health*”, and tailored, print communications based on the woman’s stage of readiness to change behaviors, significantly increased participation in positive lifestyle behaviors and decreased risk factors for cardiovascular diseases.⁴



In late 2007, CDC began transitioning WISEWOMAN programs from research interventions to cardiovascular disease screening programs. This included requiring WISEWOMAN programs to become fully integrated with the National Breast and Cervical Cancer Early Detection Program in Fiscal Year 2008. On June 30, 2008, the WV WISEWOMAN Program became integrated with the West Virginia Breast and Cervical Cancer Screening Program (WVBCCSP). The primary focus of WVBCCSP is to provide breast and cervical cancer screening and diagnostic services to low-income, uninsured or underinsured women aged 25-64 years. These services are provided by an expansive statewide network of more than 300 healthcare providers.

Potential WISEWOMAN providers were identified by inviting current WVBCCSP screening providers to participate in a recruitment call. Those providers interested in offering WISEWOMAN services were reviewed and entered into a Memorandum of Understanding (MOU) with the program. West Virginia WISEWOMAN currently has approximately 30 provider MOUs.

Cardiovascular Disease Among West Virginia Women

According to the American Heart Association, cardiovascular disease is the leading cause of death for women over the age of 25. It kills nearly twice as many women in the United States than all types of cancer, including breast cancer. Only 13% of women think heart disease is a threat to their health. Lifestyle diseases disproportionately affect women, the poor, seniors as well as ethnic and racial minorities.^{5,6}

Cardiovascular Disease

Cardiovascular disease refers to several different disease states affecting the heart and blood vessels that supply the heart, brain and peripheral tissues. The most common disease state is heart disease, with myocardial infarction and stroke being the most common forms of cardiovascular events. Atherosclerosis is the narrowing of blood vessels as a result of plaque buildup. This is the underlying process related to cardiovascular disease.⁵

Risk Factors for Heart Disease and Stroke:

Modifiable

- ♥ High blood pressure (Hypertension)
- ♥ Abnormal cholesterol
- ♥ Diabetes
- ♥ Overweight
- ♥ Physical inactivity
- ♥ Tobacco use

Non-modifiable

- ♥ Age
- ♥ Family history of early heart disease or stroke



Myocardial Infarction

The most common sign of cardiovascular disease is angina (chest pain) and can result in a heart attack. A heart attack occurs when atherosclerosis causes reduced blood flow and muscle cell death to the heart muscle.⁵

In 2008, the age-adjusted mortality rate of heart disease among women in WV was 193.7 deaths per 100,000 population; the comparable rate in the U.S. in 2007 was 154.0 deaths per 100,000 population.^{7,8,9}

In 2009, WV's overall prevalence of angina was 7.1% and the prevalence of heart attack was 6.5%.⁷



Source: The Office of Women's Health, U.S. Dept. of Health and Human Services

Stroke

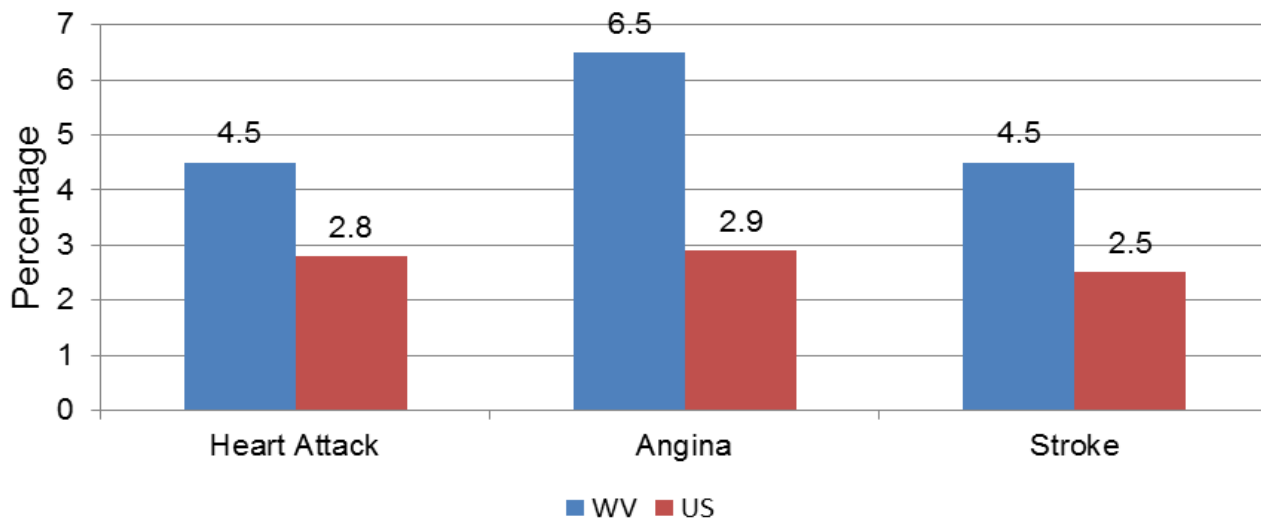
A stroke occurs when the blood supply to the brain is disrupted by a clot or rupture of a blood vessel.⁵

In 2007, WV was ranked 9th highest in the U.S. for stroke prevalence (3.2%). In 2009, WV was ranked 2nd, with a prevalence of 3.7%.⁷

In 2008, the age-adjusted mortality rate for stroke among women in West Virginia was 44.2 deaths per 100,000 population; the comparable rate in the U.S. in 2007 was 41.3 deaths per 100,000 population.^{7,8,9}

In 2009, WV women were significantly more likely than women nationwide to report that they had been told they had a heart attack, angina, or a stroke.⁷

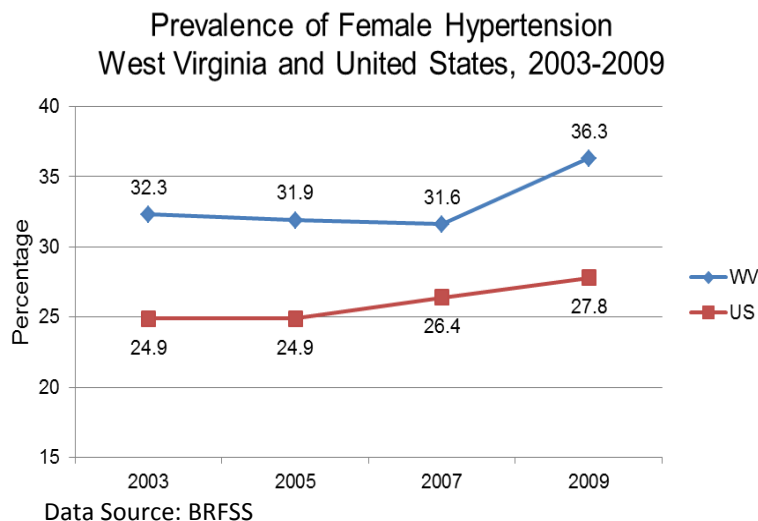
Prevalence of Adult Women Reporting Having
Been Told They Have Had a Heart Attack,
Angina, or a Stroke
West Virginia and United States, 2009



Data Source: BRFSS

Hypertension

Hypertension, or high blood pressure, is a major risk factor for the development of coronary artery disease, stroke and renal failure. Hypertension weakens the blood vessels, leading to an increased risk for stroke, heart attack, and heart failure.⁵ West Virginia has one of the highest overall hypertension rates in the nation. In 2009, the prevalence of hypertension was 36.3% for females in WV and was significantly higher than the rate of 27.8% for U.S. females. In 2009, one in three adult female West Virginians was diagnosed with hypertension.⁷



Risk Factors for Developing Hypertension:

Modifiable

- ♥ Lack of physical activity
- ♥ Poor diet, especially one that includes too much salt and decreased intake of fruits and vegetables
- ♥ Overweight and obesity
- ♥ Drinking too much alcohol
- ♥ Smoking and exposure to second hand smoke
- ♥ Stress

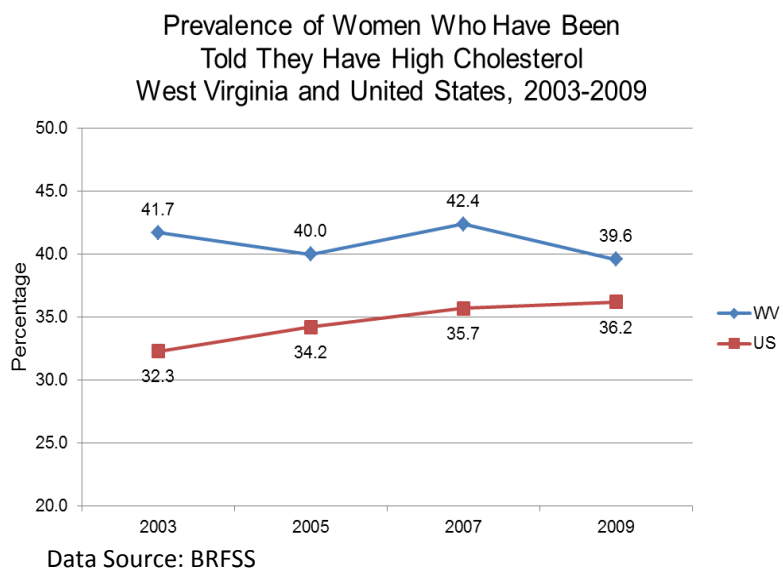
Non-Modifiable

- ♥ Family History
- ♥ Advanced age
- ♥ Race

Cholesterol

High cholesterol is also a risk factor associated with stroke and heart disease. High cholesterol can be influenced by genetic disposition as well as personal habits such as eating foods that are high in fat. High low-density lipoprotein (LDL) cholesterol can lead to the development of plaques and narrowing of the arteries, which can become blocked and lead to heart attack when blood flow is reduced to the heart or a stroke when blood flow to the brain is disrupted. High levels of triglycerides are another type of blood fat that increases the risk for heart disease. High-density lipoprotein (HDL) cholesterol is the good cholesterol that removes fatty deposits from inside of the blood vessels. Therefore, low levels of HDL cholesterol increases the risk of developing cardiovascular disease.⁵

In 2009, the prevalence of high cholesterol among females in WV was 39.6% compared to the U.S. average of 36.2%. In 2009, 82.1% of females in WV reported having their cholesterol checked within the past five years, which exceeds the U.S. female median of 79.2%.⁷



Diabetes

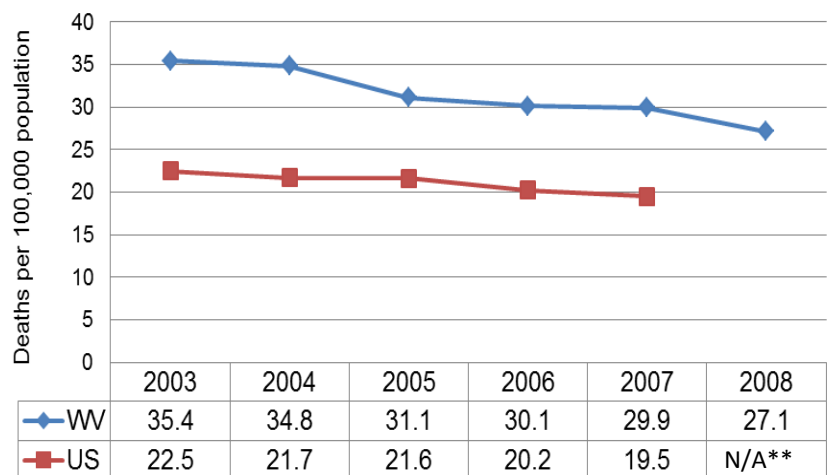
Diabetes is a metabolic disorder characterized by defects in the body's ability to produce and/or use the hormone insulin to absorb glucose from the blood. Diabetes itself is a major risk factor for developing cardiovascular disease. Excess blood glucose can lead to increased deposits of fatty materials on the insides of the blood vessel walls. These deposits may affect blood flow, increasing the chance of clogging and hardening of blood vessels. Uncontrolled diabetes can lead to irreversible damage to nerves and blood vessels that have detrimental consequences on the function of the heart, kidneys and eyes. There are three major types of diabetes: Type 1, Type 2, and gestational diabetes.¹⁰

Risk Factors for Developing Type 2 Diabetes:

- ♥ Being non-white or Hispanic—prevalence of diabetes is 2-4 times higher among African American, Hispanic/Latino, American Indian, and Asian/Pacific Islander women than among white women
- ♥ Family history of diabetes
- ♥ Overweight/obese
- ♥ Physical inactivity
- ♥ Low HDL cholesterol and high triglyceride levels
- ♥ Smoking
- ♥ Lower education and socioeconomic status

Type	Characteristics
Type 1	- Characterized by a lack of insulin being produced by the pancreas - Daily insulin injections usually help manage the condition - Previously known as juvenile diabetes because Type 1 diabetes is usually diagnosed in children and young adults under 30 years of age
Type 2	- Characterized by the body either not producing enough insulin or not responding to insulin (insulin resistance) - The most common form of diabetes - Previously known as adult onset diabetes, however the prevalence of Type 2 diabetes among children has increased with the rise in childhood obesity
Gestational	- Occurs in pregnant women around the 28th week of pregnancy - An estimated 18% of pregnant women develop gestational diabetes - It can occur in women without a previous diagnosis of diabetes and is typically resolved following child birth, however the woman is at a higher risk of developing Type 2 diabetes later in life

Diabetes Mortality Rates* Among Women
West Virginia and United States, 2003-2008



*Rates are adjusted to the 2000 US Standard Million

**No US data available

WV Data Source: WV Health Statistics Center, Vital Registration

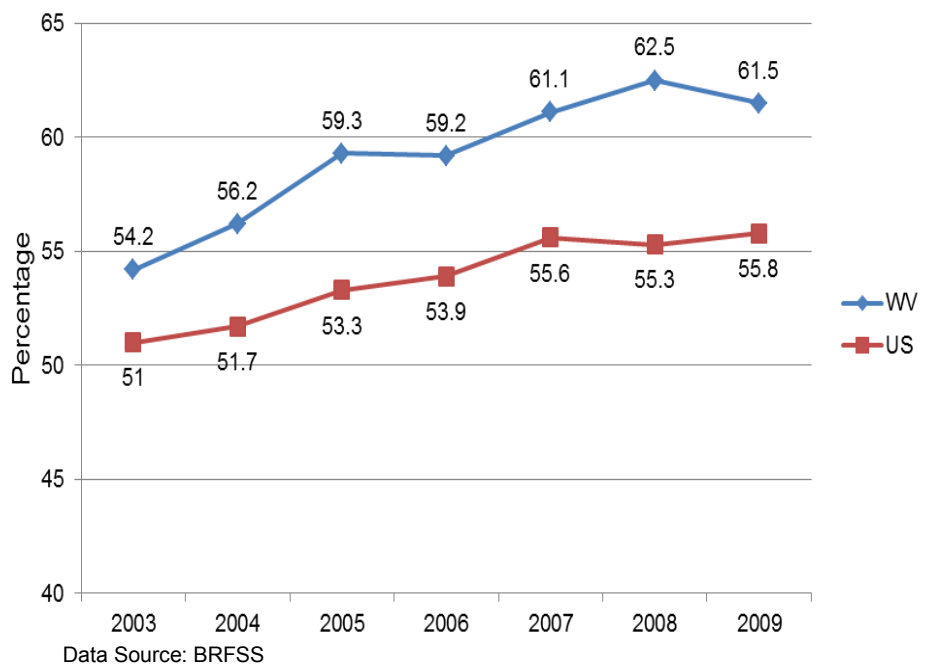
US Data Source: CDC, National Center for Health Statistics, National Vital Statistics System

In 2007, the age-adjusted mortality rate for diabetes among women in WV was 29.9 deaths per 100,000 population, significantly higher than the U.S. population rate of 19.5 deaths per 100,000 population. In 2008, it was 27.1 deaths per 100,000 population.^{7,8,9}

Obesity

Women with a diagnosis of being overweight or obese are determined using the body mass index (BMI). Body mass is calculated as a ratio of height to weight. An adult is considered overweight if BMI is 25.1-29.9 and obese if BMI is 30.0 or greater. Excess body fat, particularly abdominal fat, is a risk factor for developing heart disease. Although the proportion of overweight WV women has remained roughly the same for the past six years, the number of obese women has significantly increased from 25.0% in 2003 to 32.1% in 2009. In 2009, 61.5% of women in WV were either overweight or obese, compared to 55.8% of women in the U.S.⁷

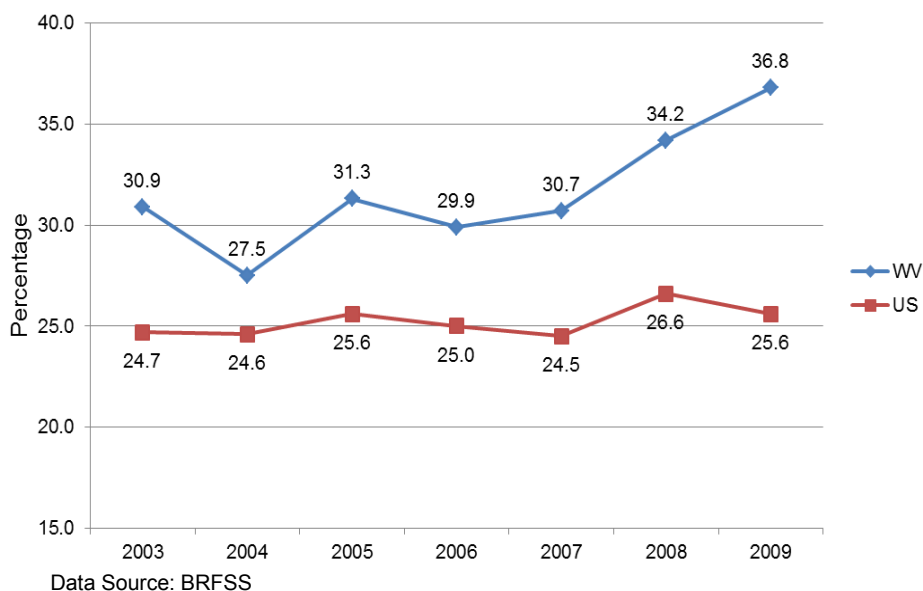
Overweight and Obesity Among Women
West Virginia and United States, 2003-2009



Physical Activity/Inactivity

Physical inactivity is a major risk factor for developing cardiovascular disease because it contributes to other risk factors such as obesity, hypertension, abnormal cholesterol levels, and diabetes. Physical activity has continued to decrease in WV. In 2003, 30.9% of WV women reported not participating in any type of physical activity, which increased to 36.8% in 2009. Furthermore, in 2009, only 33.4% of WV women reported participating in 30 minutes or more of moderate physical activity five or more days per week, and 12.3% reported participating in 20 minutes or more of vigorous physical activity three or more days per week.⁷

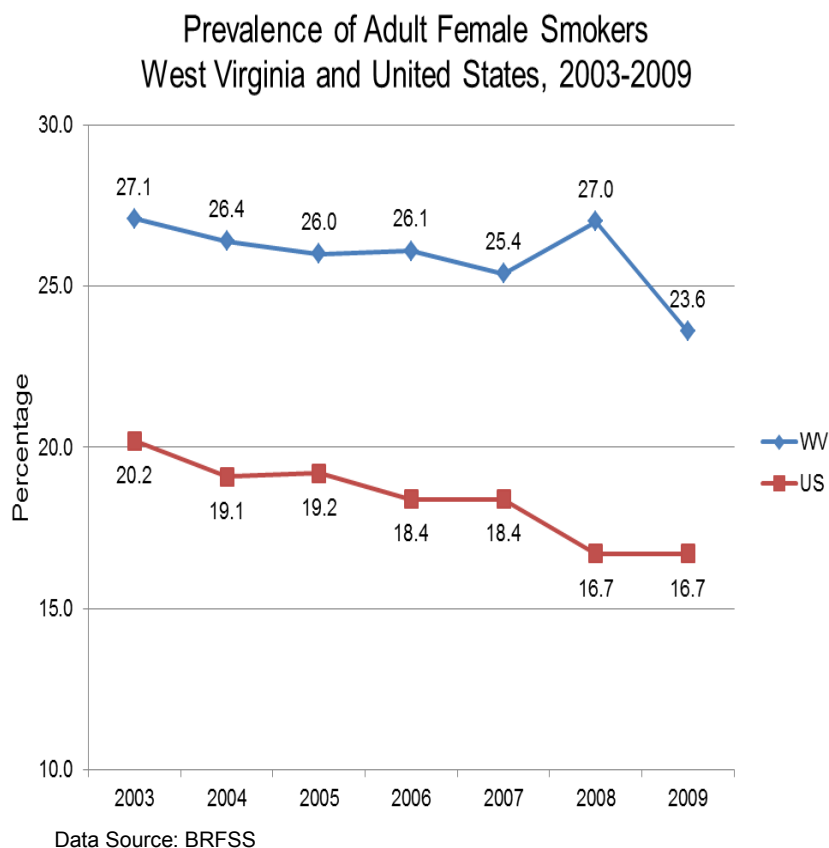
Women Reporting Not Participating in
Any Type of Physical Activity
West Virginia and United States, 2003-2009



Tobacco Use

The risk of developing heart disease doubles for smokers compared to nonsmokers. Exposure to second hand smoke increases the risk of heart disease even among nonsmokers. Smoking contributes to the narrowing of blood vessels and the development of atherosclerosis.¹¹

For the years 2003-2009 West Virginia's prevalence of adult cigarette smoking has consistently ranked in the top three states nationwide. West Virginia also has a high prevalence of adult smokers with a rate of 25.6% compared to 17.9% for the U.S. The same is true when comparing the prevalence of female smokers in WV to all female smokers in the U.S. In 2009, female smokers in WV had a prevalence of 23.6% as compared to 16.7% for all females in the U.S.⁷



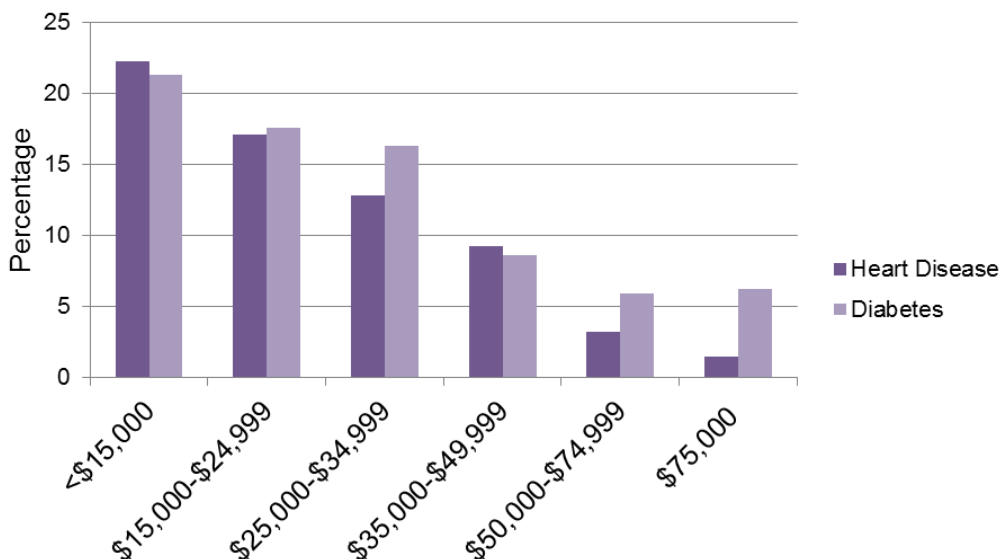
Did you know???

Studies show women with low incomes are at greater risk for heart disease and stroke because:

- ♥ They have less access to health care and are often unable to pay for needed prevention, screening and treatment services.
- ♥ They are more likely than women with higher incomes to be underinsured or uninsured.
- ♥ They are more likely to smoke and to be overweight.



Heart Disease and Diabetes Among Adult Females by Income Level West Virginia, 2009



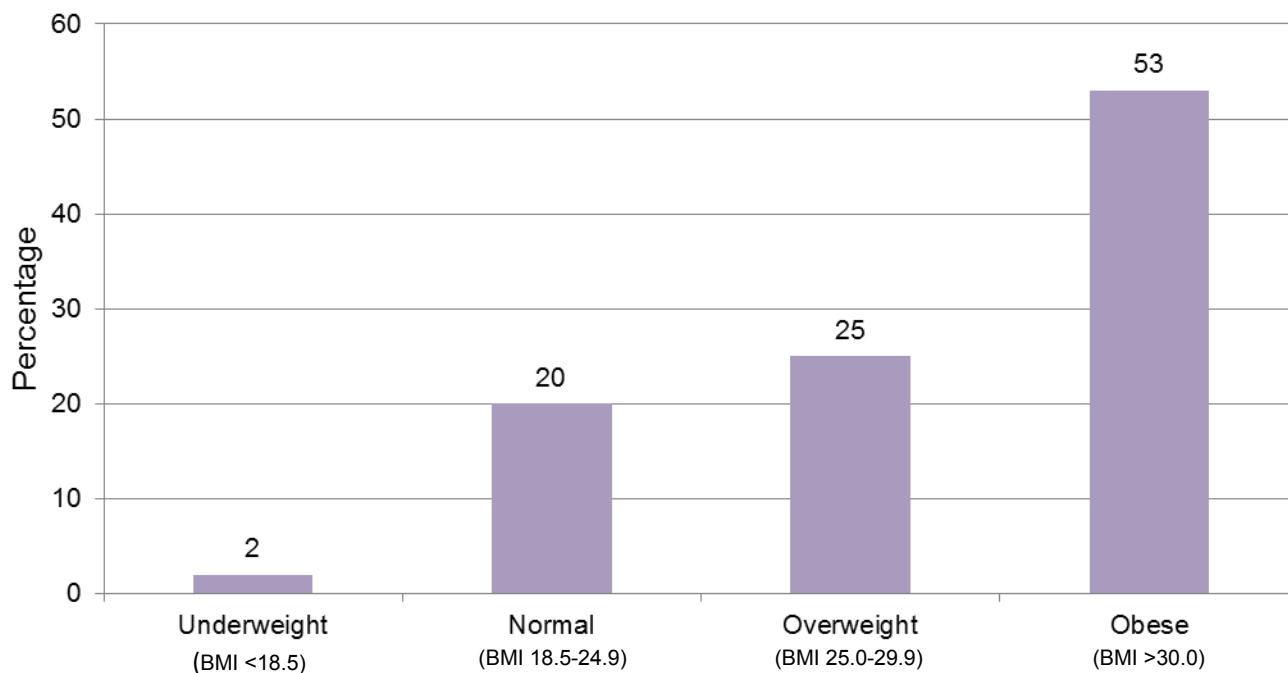
Data Source: WV Health Statistics Center, BRFSS

West Virginia WISEWOMAN 2009-2010 Screening Year

During FY 2009-2010, 1,378 women were screened for cardiovascular disease risk factors at twenty-eight WISEWOMAN provider sites. The following data is a summary of the proportion of women who were identified as having cardiovascular disease risk factors:

- ♥ 68.2% had abnormal or alert blood pressure readings
- ♥ 51.7% reported that they had high blood pressure
- ♥ 1.2% did not know their blood pressure status
- ♥ 46.0% had abnormal or alert cholesterol levels
- ♥ 56.9% reported that they had high cholesterol
- ♥ 3.1% did not know their cholesterol status
- ♥ 42.0% had an abnormal glucose value
- ♥ 19.4% reported that they were diabetic
- ♥ 1.2% did not know their diabetes status
- ♥ 42.0% reported smoking some days or everyday
- ♥ 78.0 % were either overweight (BMI 25.0-29.9) or obese (BMI $\geq$ 30.0)
- ♥ 90.2% ate less than 5 or more fruits and vegetables per day
- ♥ 56.2% exercised less than 150 minutes per week
- ♥ 27.4% reported their mother or sister had heart attack before age 65
- ♥ 28.1% reported their father or brother had a heart attack before age 65
- ♥ 54.3% reported a family history of diabetes

West Virginia WISEWOMAN BMI For Women Screened FY* 2009-2010



*FY runs from June 30th through June 29th

Direct Services

Screening

WISEWOMAN screens for heart disease and stroke risk factors, including high cholesterol, high blood pressure, and diabetes. The WISEWOMAN program requires that certain baseline medical screenings are completed on all women who participate in the program. This assessment includes:

- ♥ Two blood pressure readings
- ♥ Cholesterol testing
- ♥ Glucose (blood sugar) testing for pre-diabetes and diabetes
- ♥ BMI calculation
- ♥ Smoking status
- ♥ Personal history of high cholesterol, high blood pressure, diabetes, and current medications for those conditions
- ♥ Personal history of heart attack, angina, coronary heart disease, or stroke
- ♥ Family history of stroke, heart attack, and diabetes



All baseline screening measures must be completed in a timely manner and must be completed before a woman can participate in the lifestyle intervention. The screening results are used to determine which lifestyle intervention and/or community-based resources she will be referred. WISEWOMAN also provides community-based services to help women improve their blood pressure, cholesterol, and blood sugar levels by referring them to services such as:¹

- ♥ Nutrition education
- ♥ Physical activity information
- ♥ Physician referrals
- ♥ Smoking cessation programs

Lifestyle Intervention

Lifestyle intervention is a combination of strategies designed to assist people in making positive lifestyle behavior changes to promote health. The WISEWOMAN lifestyle intervention is intended to modify behaviors that are associated with increased risks for cardiovascular disease, as well as other chronic diseases such as diabetes. It is predicated on the theory that poor diet, physical inactivity, tobacco use and obesity can be modified in order to reduce elevated cholesterol levels, hypertension, and improve or maintain glucose levels. The lifestyle interventions vary throughout the CDC-funded programs, allowing each state or tribe to develop culturally appropriate, evidence-based strategies to reduce the cardiovascular risk among their target population. All approved lifestyle interventions are based on the Transtheoretical Model of Change which assesses how prepared an individual is to commit to making behavior changes. National guideline-based recommendations for physical activity, heart-healthy eating, and tobacco cessation are also used in the development of lifestyle interventions.¹



The lifestyle intervention strategy used in West Virginia's WISEWOMAN program includes risk reduction counseling, behavior counseling, a series of six printed health messages that are tailored to the participant's stage of readiness to change physical activity and dietary habits, and access to supplemental health information via a web-based program, "*Cookin' Up Health*". In addition, the intervention addresses living tobacco free.



Following cardiovascular risk factor screening, the clinician engages in a face-to-face conversation with the WISEWOMAN participant to explain risk factors and to discuss lifestyle changes that can be made to improve her health. This discussion is intended to motivate the participant to set goals to change diet, physical activity levels, and tobacco use. Participants also receive information about free or low-cost community resources to assist in making positive lifestyle changes. Six months following the screening visit, the participant receives a telephone call to encourage her to visit the "*Cookin' Up Health*" web site, read her tailored health messages, and return for her annual rescreening visit. The WISEWOMAN program empowers women to take control of the modifiable risk factors that have placed them among the nation's most unhealthy citizens. Through multi-pronged approaches, WISEWOMAN strives to positively impact the health and well-being of the women who participate in the program.

Partnerships and Collaborations

Throughout the existence of the program, WISEWOMAN has made efforts to establish and strengthen partnerships with various health organizations having similar goals. This includes partnering with state-level programs such as Cardiovascular Health; Diabetes Prevention; Tobacco Prevention; Osteoporosis and Arthritis Prevention; and the WV Cancer Coalition, Mountains of Hope. In addition, WISEWOMAN staff have expanded contacts with several initiatives that address health-related racial and socio-economic disparities in WV. The organizations promoting these initiatives include: the Black Medical Society of WV; the WV Minority Health Coalition; the WV Nutrition Network; the Bonnie's Bus workgroup to increase the numbers of African American and

other minority women accessing the screening services available through the mobile mammography unit; and Huntington's Kitchen, a project of Ebenezer Medical Outreach.

Through participation with these partners, WISEWOMAN strives to:

- ♥ Decrease heart disease and stroke risk factors for the WISEWOMAN population
- ♥ Maximize the number and variety of settings that deliver WISEWOMAN services
- ♥ Eliminate health disparities



Evaluation

Surveillance

Public health surveillance is defined as the continuous, systematic collection, analysis, and interpretation of data pertaining to the occurrence of specific diseases. Surveillance is essential to the planning, implementation, and evaluation of a public health program, and is the cornerstone and management tool for public health practice. Good surveillance can be used to assess the health of a population, give a quantitative base for defining objectives and priorities, and help to design, plan, and evaluate public health programs and interventions. The WISEWOMAN program uses surveillance to determine activities that will increase enrollment, design studies to determine the utilization of the program and plan marketing strategies to promote the program.^{12,13}

The WVBCCSP/WISEWOMAN Evaluation Team meets quarterly to review work plans submitted to CDC and assess successes and barriers to meeting goals and objectives. The goal of the Evaluation Team is to ensure that the activities and objectives outlined in the work plans are completed in the specified timeframes given to CDC. During FY 2009-2010, WISEWOMAN worked on increasing the number of women screened and strengthening the provider network.

Quality Assurance

Quality assurance is defined as the use of established standards, systems, policies and procedures to monitor, assess, and identify practice methods for improvement. The purpose of this component is to ensure the quality of services delivered to women through WVBCCSP/WISEWOMAN and to ensure provider compliance with program guidelines. The WVBCCSP/WISEWOMAN programs have an active Medical Advisory Committee (MAC) comprised of medical experts in the field of women's health. The MAC ensures that clinical practice guidelines set forth by the programs are performed in accordance with best practices.

Quality assurance monitoring is conducted at WVBCCSP/WISEWOMAN provider sites each year. Monitoring may include, but is not limited to, meetings with consumers, review of medical records, review of service policies and procedures, and meetings with any staff directly or indirectly involved in the provision of services at the clinic. During these on-site monitoring reviews, the Office of Maternal and Child, and Family Health (OMCFH) Quality Assurance Monitoring Team is given access to all necessary information and is allowed to observe WVBCCSP/WISEWOMAN examinations to ensure patient care standards are met and services are provided in accordance with program policies and guidelines. All quality assurance monitoring reports are submitted to OMCFH and are carefully reviewed. Areas of provider deficiency are noted and a corrective course of action is put into place. The Clinical Services Coordinator visits the provider to discuss the deficiency and works with them to ensure the deficiency is successfully corrected.

After the first full year of WISEWOMAN screening, the Clinical Services Coordinator developed a quality assurance monitoring tool specific to the program. Quality assurance monitoring for WISEWOMAN providers began in spring 2010. The Clinical Services Coordinator conducts the follow-up with providers to address any deficiencies and ensures that WISEWOMAN program staff is aware of issues that might also need additional training.

Future Directions

During fiscal year 2010-2011, WISEWOMAN will work to strengthen existing providers through program evaluation and the provision of technical assistance to address needs and concerns. Efforts will also be made to maximize the utilization of “Cookin’ up Health” and recruit additional WISEWOMAN providers from the network of WV BCCSP providers who have demonstrated consistent service to women aged 40-64.

In fiscal year 2011-2012, the WISEWOMAN program will continue to work with other public health and community partners in an effort to increase community awareness of heart health issues and the impact of cardiovascular disease in women. WISEWOMAN’s community education efforts are year-round with expanded outreach focus during the month of February – National Heart Health Month. The WV BCCSP Cancer Information Specialists (CIS) are instrumental in engaging residents from throughout the state in community activities and initiatives that support heart healthy behaviors. The CISs are actively engaged in expanding their focus and skill set to include community education and outreach regarding WISEWOMAN. Building on the existing infrastructure and the strengths of the CISs will enable WISEWOMAN to increase its reach and increase demand for the program at the community level. These outreach workers are well respected in their communities by both residents and healthcare professionals.

All of the efforts of the WV WISEWOMAN team will continue to be directed toward achieving the goals of the national WISEWOMAN Program:

- ♥ Maximizing the reach of the program, by providing services to as many women as possible
- ♥ Working to eliminate health disparities, by serving those most in need
- ♥ Decreasing heart disease and stroke risk factors of the WISEWOMAN population
- ♥ Maximizing the number and variety of settings that deliver WISEWOMAN services
- ♥ Ensuring that WISEWOMAN is delivered as intended
- ♥ Sustaining the benefits of WISEWOMAN over time at the individual level¹



Source: Cookin' up Health

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