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## A Needs Assessment of Hypertension in Georgia

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### Abstract

Hypertension is a leading cause of stroke, coronary artery disease, heart attack, and heart and kidney failure in the United States. In Georgia, the percentage of those with hypertension and related diseases remain above the national average. The aim of this paper is to offer a basic review of hypertension including physical complications of the disease and to provide statistics regarding the scope of hypertension in the state of Georgia. Additionally, the paper provides insights on current hypertension programs such as the National High Blood Pressure Education Program (NHBPEP) and Dietary Approaches to Stop Hypertension (DASH). In conclusion, a statewide or local hypertension education program should be implemented to improve awareness, treatment, opportunities, and control of hypertension in an effort to reduce cardiovascular disease rates in Georgia.

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## **A Needs Assessment of Hypertension in Georgia**

Hypertension is a leading cause of stroke, coronary artery disease, heart attack, and heart and kidney failure in the United States. Currently, 50 million Americans have hypertension, generally characterized by a blood pressure of 140/90 mm Hg or over. Another 45 million have a condition known as pre-hypertension (blood pressure of 120–139 mm Hg [systolic] or 80–89 mm Hg [diastolic]) (Hajjar & Kotchen, 2003). A reading below 120/80 mm Hg is considered normal. (Table 1)

The aim of this paper is to offer a basic review of hypertension including physical complications of the disease and to provide statistics regarding the scope of hypertension in Georgia.

### **CONTRIBUTING FACTORS**

Blood pressure is defined as the amount of force placed on artery walls by circulating blood. Narrow arteries cause the heart to work harder to pump blood throughout the body, therefore raising the blood pressure. Hypertension is defined as chronically high blood pressure.

Factors that may contribute to hypertension include obesity, smoking, age, genetics, being African American, lack of physical activity, excessive salt and alcohol consumption, stress, and the use of birth control pills (Cuddy, 2005). Hypertensive patients usually lack symptoms unless their blood pressure is extremely high, however possible symptoms include severe headache, fatigue or confusion, vision problems, chest pain, difficulty breathing, irregular heartbeat, and blood in the urine (Centers for Disease Control and Prevention [CDC], 2005). Though hypertension and subsequent heart problems are common throughout the United States, they are more prevalent in the South, possibly due to culture and other sociodemographic

factors such as age, race, gender, education, and income.

Untreated chronic hypertension can lead to numerous health problems, such as stroke, heart attack, heart failure, kidney failure, vision problems and arteriosclerosis. Panza (2001) reported that women and men with a high normal blood pressure (130-139 / 85-90 mm Hg) had a 60% increased risk of suffering a heart attack or stroke. In comparison, the results of the Framingham Heart Study indicate that women and men with a high normal blood pressure had a 2.5 and 1.6 higher risk of suffering a heart attack or stroke respectively, compared to women and men with an optimal blood pressure (Vasan, 2001).

Nationally, only 69% of people with high blood pressure are aware of their condition. Of these, 58% are treated with medication. Of those on medication, 53% are successful at controlling their blood pressure. In essence, only 31% of people with known high blood pressure have the disease under control (Georgia Department of Human Resources [DHR], 2005).

Reducing hypertension can lead to marked reductions in the risk of several adverse events such as hemorrhagic stroke, ischemic stroke, heart disease, and kidney failure (Rein et al., 2006). Lowering blood pressure by 10 mm Hg systolic and 5 mm Hg diastolic reduces the relative risk of major cardiovascular complications by 21%-30% (Campbell, 2004). High blood pressure may be controlled by weight loss, engaging in regular physical activity, developing healthy eating habits, and quitting smoking. For those who are unable to decrease their blood pressure by lifestyle modification alone, medications prescribed by a physician can often control high blood pressure successfully (Gregory et al., 2005). Aggressive medical treatment of hypertension may

**Table 1**  
*Blood Pressure Classifications by Blood Pressure Level*

Blood Pressure Classification <sup>1</sup>	Blood Pressure level (mm Hg)
Normal	Systolic BP <120 <b>AND</b> Diastolic BP <80
Pre-Hypertension	Systolic BP= (120-139) <b>OR</b> Diastolic BP= 80-89
Stage 1 Hypertension	Systolic BP= (140-159) <b>OR</b> Diastolic BP= 90-99
Stage 2 Hypertension	Systolic BP= (160 or higher) <b>OR</b> Diastolic BP= 100 or higher

<sup>1</sup> If systolic and diastolic blood pressure measures fall into two different categories, the blood pressure classification is the higher of the two categories.

Source: The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure.

significantly decrease the risk of coronary artery disease, congestive heart failure, stroke, and resulting disability.

Cardiovascular disease (CVD), which includes stroke and heart disease, is the leading cause of death in Georgia. All forms of heart disease and stroke are the first and third most common causes of death in Georgia, respectively. Ischemic heart disease, the most common form of heart disease, and stroke account for about 20% of deaths in the state (Gregory, Wu, Kanny, Chambers, & Jones, 2005).

According to the 2005 Behavioral Risk Factor Surveillance System (BRFSS) data (DHR, 2005) 26.5% of Georgians have been informed by a physician or other health care professional that they suffer from high blood pressure. The national average during the same year was 25.5% of the population. Likewise, Georgia's age-adjusted death rate from heart disease is 578/100,000, about 12% above the national average of 536/100,000 (CDC, 2005). During 2003, CVD caused 23,295 deaths in Georgia, which accounted for 35% of all deaths that year (Gregory et al., 2005). Also in 2003, CVD age-adjusted death rates in Georgia were 1.4 times higher for men than women, and 1.4 times higher for blacks than whites (CDC, 2005).

Of those know to have hypertension in Georgia, 70% of cases are not well controlled through lifestyle change or medication (National Institutes of Health, 2003). In 2004, of the 1.7 million Georgians with hypertension, 469,800 were low income, uninsured, or underinsured (Rein et al., 2006). In 2005, the race distribution in Georgia of those with known high blood pressure was as follows: 26% of Whites, 31.9% of Blacks, 11% of Hispanics and 11.6% of other races (CDC, 2005). Since hypertensive patients are often asymptomatic, many people may be unaware if they have high blood pressure. Therefore, large numbers of the population should be screened for hypertension and persuaded to visit their physician and to learn more about how lifestyle changes could benefit them. Doing so would help to achieve the goals of *Healthy People 2010*. Goals of *Healthy People 2010* include the following: Increasing the percentage of people who have their blood pressure under control to 50% and that 95% of Americans will know if their blood pressure is high or normal.

In terms of prevention, current programs to reduce hypertension are being implemented in the United States. The National High Blood Pressure Education Program (NHBPEP), a cooperative effort among health

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agencies, state health departments, and community groups, is coordinated by the National Institutes of Health's National Heart, Lung, and Blood Institute (NHLBI). NHBPEP encompasses major hypertension control issues such as excessive stroke mortality in the southeastern states, effective treatments, utility of lowering the systolic blood pressure, lifestyle changes that can prevent and treat hypertension, population strategies for primary prevention of high blood pressure, educational strategies for professional, patient, and public audiences and community organizations, and issues about special populations like African Americans, women, children, and adolescents (NIH, 2006). NHBPEP also offers the following resources to their participants: information collection and dissemination, public, patient, and professional education, community program development, evaluation and data analysis, and technology transfer and electronic distribution.

Due to the efforts of NHBPEP and similar initiatives, the effectiveness of NHBPEP is well established. Public knowledge about the consequences of high blood pressure has dramatically increased over time. When the program began in 1972, less than 25% of Americans knew of the association between hypertension and stroke and hypertension and heart disease (NIH, 2006). Now more than 75% of Americans understand the relationship association between hypertension and stroke and hypertension and heart disease. Most Americans have had their blood pressure measured at least once and 75% of the population has it measured every 6 months. In the past 20 years, the number of those with hypertension who are aware of their condition had dramatically increased (NIH, 2006).

The mortality rate for cardiovascular diseases is another indication of the effectiveness of preventive messages.

The age-adjusted mortality rate for stroke and CVD has decreased 60 and 53% respectively from 1971-1994 (NIH, 2006). The decline is observable for men, women, whites, and African Americans and may be attributed to an improvement in hypertension control. The mortality rate from CVD per 100,000 decreased from 195.4 to 92.4 (NIH, 2006). The mortality rate from stroke per 100,000 decreased from 64.6 to 26.7 (NIH, 2006).

Another well known prevention program is Dietary Approaches to Stop Hypertension (DASH), which helps to lower sodium intake and blood pressure. DASH menus containing 2,300 milligrams of sodium can lower blood pressure and a lower level of 1500 milligrams can reduce blood pressure (NIH, 2006). The DASH eating plan follows heart healthy guidelines to limit saturated fat and cholesterol. The plan focuses on increasing the intake of foods rich in minerals such as potassium, calcium, and magnesium, and protein and fiber. The plan also emphasizes the intake of fruits, vegetables, fat-free or low-fat milk products, whole grain products, fish, poultry, and nuts. It reduces the amount of lean and red meats, sweets, sugars, and sugar-containing beverages found in the typical American diet (NIH, 2006). The DASH eating plan along with lifestyle changes can help to lower and prevent hypertension.

According to a study by Whelton et al. (2002), prevention of high blood pressure is based on six lifestyle modifications. These modifications are important for those who have risk factors for high blood pressure that cannot be controlled, including family history, race and aging.

Examples of lifestyle modifications are the following:

- Maintaining a normal body weight, with a body mass index (BMI) of 18.5 to 24.9.

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- Reducing sodium to about 2.4 g (2,400 mg) per day, which is about 1 teaspoon of salt.
- Exercise at least 30 minutes a day on most, if not all, days of the week.
- Limit alcohol to less than two drinks per day for men, and no more than one drink per day for women.
- Intake 3,500 mg of potassium every day.
- Follow the DASH eating plan, rich in fruits, vegetables and low-fat dairy products, with reduced amounts of saturated and total fats.

If diagnosed with hypertension, doctors recommend weight loss and regular exercise as the first steps in treating mild to moderate hypertension. A diet rich in fruits and vegetables and fat-free dairy foods, low in fat and sodium can help lower blood pressure. Regular exercise improves blood flow and reduces high blood pressure. These steps are highly effective in reducing blood pressure, but easier to suggest than to achieve. Discontinuing smoking does not directly reduce blood pressure, but it can reduce the risk of dangerous outcomes of hypertension, such as stroke and heart attack. Most patients with moderate or severe hypertension require indefinite drug therapy to reduce their blood pressure to a safe level.

In the state of Georgia, the percentage of those with hypertension, cardiovascular disease, and stroke remain above the national average. The authors provided an overview of hypertension including its physical complications and provided statistics regarding the scope of hypertension in the state of Georgia. Additionally, the authors provided insights on preventive efforts such as the NHBPEP and DASH. In conclusion, a statewide or local hypertension education program should be implemented in Georgia to improve the rates of awareness, treatment, and control of hypertension and to lower

cardiovascular disease rates in the state.

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