

The Roles of Nutrition and Physical Activity in Chronic Disease in North Carolina

FACT SHEET

Community & Clinical Connections for Prevention & Health Branch | North Carolina DHHS | Division of Public Health

Background

Healthy eating and physical activity play a positive role in the prevention and control of many chronic diseases and conditions which are among the leading causes of death and major contributors to health care costs in North Carolina.

According to the 2023 and 2021 North Carolina Behavioral Risk Factor Surveillance System (BRFSS) surveys:

1/2 of NC adults do not get the recommended **150 minutes** per week of moderate-intensity aerobic physical activity

2 out of 3 NC adults or **65.9%** do not meet the weekly muscle-strengthening exercise recommendations.¹

See cdc.gov/physical-activity-basics/guidelines/adults.html

Nearly **1 in 5** NC adults or **18%** do not consume vegetables at least once a day.

2 out of 5 NC adults or **40.3%** do not consume fruit at least once a day.²

What chronic conditions can be prevented or controlled through healthy eating and physical activity?

- Healthy eating and physical activity can play a role in preventing and controlling overweight and obesity, high blood pressure, prediabetes, diabetes, heart disease, stroke, and cancer.
- Cancer, heart disease, stroke and diabetes are among the top ten leading causes of death in North Carolina, and in 2023 they accounted for nearly half of all deaths (48.1% of deaths) see Table 1.³

Table 1. Leading Causes of Death, NC 2023

Rank	Cause	Number	%
1	Diseases of Heart	21,305	19.8
2	Cancer	20,927	19.4
3	Cerebrovascular diseases	6,181	5.7
4	Chronic lower respiratory diseases	5,242	4.9
5	Unintentional Poisoning	4,286	4.0
6	Alzheimer's disease	4,042	3.7
7	Diabetes Mellitus	3,448	3.2
8	All other unintentional injuries	2,906	2.7
9	Nephritis, Nephrosis & nephrotic syndrome	2,112	2.0
10	Unintentional motor vehicle injuries	1,808	1.7
Total Deaths — All Causes		107,820	100

Source: NC State Center for Health Statistics <https://schs.dph.ncdhhs.gov/data/provisional/Death/2023/CY2023PD18ResidentDeathsbyCODbyAge.html>

How are healthy eating and physical activity associated with chronic diseases and conditions?

Overweight and Obesity

- Overweight and obesity are conditions that result from excess body fat and/or abnormal body fat distribution.
- The basic cause of overweight and obesity is calorie (energy) imbalance whereby calorie intake is greater than calorie use. Reducing calorie intake through healthy eating and increasing calorie use through physical activity helps prevent overweight and obesity in those at a healthy weight and helps those who are overweight or obese lose weight.

- There is strong evidence that shows that physical activity leads to weight loss, especially when combined with reduced calorie intake. Physical activity is also beneficial in the prevention of weight gain, reduction of abdominal obesity and maintenance of weight after weight loss.⁴



An estimated
5.9 million
(68.9%) NC adults
are **overweight** or **obese**.

See Table 2.¹

Table 2: Estimated percentage of individuals with select chronic diseases/conditions who have poor diet and insufficient physical activity

	Total %	Overweight %	Obesity %	Diabetes %	History of CVD* %
Not meeting aerobic physical activity recommendation	40.1	34.1	47.5	52.1	52.3
Not meeting muscle-strengthening recommendation	65.9	60.1	74.1	77.4	75.7
Not consuming vegetables at least once per day	18.0	17.5	18.0	20.1	20.6
Not consuming fruits at least one time per day	40.3	41.3	43.9	56.0	58.3
Consuming one or more sugar sweetened per day	32.2	32.2	31.1	25.7	34.5

*History of CVD includes history of heart attack or coronary heart disease or stroke.

Source: 2021 and 2023 NC BRFSS survey results <https://schs.dph.ncdhhs.gov/data/brfss/survey.htm>

High Blood Pressure (Hypertension)

- High blood pressure, also known as hypertension, is a disease that occurs when blood pressure stays above normal for a long time. As a result, the walls of arteries get stretched beyond their healthy limit and damage occurs, creating a variety of other health problems.
- Unhealthy diet, especially eating foods high in sodium and low in potassium, and physical inactivity are risk factors for high blood pressure. There is strong evidence that links physical activity to a reduced risk of high blood pressure.⁴



An estimated
3.2 million (37.5%)
NC adults reported being told by a health professional that they have **high blood pressure**.⁴

Prediabetes

- Prediabetes is a condition that happens when people have higher than normal blood glucose (sugar) levels. However, the levels are not high enough to be diagnosed as diabetes. Prediabetes is a precursor of type 2 diabetes and a risk factor for heart disease and stroke. By participating in a lifestyle change program such as the National Diabetes Prevention Program, people with prediabetes can lower their risk of developing type 2 diabetes by as much as 58%.⁵



An estimated
1.3 million (15.1%)
NC adults have been diagnosed with
prediabetes.¹

Diabetes

- Diabetes is a group of diseases marked by high levels of blood sugar resulting from problems with the production or action of insulin, a hormone that regulates blood sugar levels.
- There is strong evidence that links physical activity to a lower risk of type 2 diabetes.⁴



An estimated
1 million (more than 1 in 10)
NC adults report having been diagnosed with **diabetes**.

Heart and Blood Vessel Disease

- Heart and blood vessel disease is a term used to describe all the abnormal conditions that affect the heart and blood vessels. This includes conditions such as coronary artery disease (CAD), myocardial infarction (commonly known as heart attack), heart failure, angina, arrhythmias (including atrial fibrillation), cardiomyopathy, and peripheral artery disease (PAD) among many other conditions.
- Daily consumption of fruits and vegetables and regular physical activity are associated with a reduced risk of heart attack.⁶



In 2023, an estimated
410,000 (4.9%)
NC adults reported a history of angina or
coronary heart disease in their lifetime.¹

Stroke

- A stroke occurs when the blood supply to the brain is blocked or when a blood vessel in or around the brain ruptures, causing brain tissue to die.
- Healthy eating and physical activity are strongly associated with decreased risk of stroke:
 - Eating fresh fruits and vegetables, foods low in saturated and trans fats, low in cholesterol, high in fiber, and low in salt reduce risk factors for stroke.
 - Regular physical activity is associated with a reduced risk of stroke. The recommendation for adults is 2 hours and 30 minutes of moderate-intensity physical activity each week.⁷



330,000 (3.9%)

NC adults reported having had a stroke.¹

To learn more about overweight and obesity, high blood pressure, prediabetes, diabetes, heart disease and stroke in North Carolina, visit communityclinicalconnections.com/Data.

Cancer



Healthy eating and physical activity are associated with reduced risk of several types of cancer.



There is evidence that links physical activity to a reduced risk of breast, colon, liver, esophagus, kidney, lung and stomach cancers.⁸

The Cancer Prevention and Control Branch in the North Carolina Division of Public Health leads cancer prevention efforts for the state. To learn more about cancer prevention efforts in North Carolina, visit dph.ncdhhs.gov/programs/chronic-disease-and-injury/cancer-prevention-and-control-branch.

What efforts are occurring in North Carolina to make healthy foods more easily available and increase opportunities for physical activity for the entire population?

The Community and Clinical Connections for Prevention and Health Branch, North Carolina Division of Public Health leads statewide efforts to improve access to healthy eating and physical activity opportunities which include:

- Implementing food service guidelines in community settings.
- Promoting breastfeeding and donor human milk support in clinical settings, childcare settings and communities.
- Promoting improvements in community design that connect activity friendly routes with everyday destinations.

- Working with early care and education systems to implement and integrate physical activity and nutrition standards into practice.
- Enhancing connections between North Carolina farms and early care and education sites.

For more information about efforts occurring in North Carolina to make healthy foods more easily available and increase opportunities for physical activity, visit communityclinicalconnections.com/what-we-do/improve-physical-activity-and-nutrition.

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