

# Knowing numbers is key to staying healthy

## Blood pressure, cholesterol and blood sugar level tell much

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When it comes to your health, what you don't know can hurt you. Chronic illnesses like cardiovascular disease and diabetes may not show symptoms early on, making a major medical intervention necessary later.

But knowing three basic numbers – blood pressure, cholesterol and blood sugar levels – can provide a snapshot of your health and a road map for improving it.

"Know Your Numbers Delaware" is a public awareness campaign that aims to encourage Delawareans to learn their blood pressure, cholesterol and blood glucose levels so they can know more about their own health. Once they know these numbers, they can visit [www.KnowYourNumbersDelaware.com](http://www.KnowYourNumbersDelaware.com) to claim an incentive reward. The program runs through July 31.

"We're trying to reach individuals who don't know these numbers," said Marianne Carter, director of the Delaware Center for Health Promotion at the University of Delaware, which is sponsoring the campaign. "There are, unfortunately, people of the mindset that if they don't have any symptoms, they must be OK, and that's the prime motivation behind offering this program."

### Blood pressure

A blood pressure reading consists of two numbers: Systolic pressure – the top number – measures the pressure in the arteries when the heart beats, while diastolic pressure – the bottom number – measures the same pressure between heart beats when the heart fills with blood.

High blood pressure, also known as hypertension, is often referred to as the "silent killer" because it can occur without any



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Paul Bouchard (left), of Felton, has his blood pressure checked by pharmacist Rick Sammet at the Frederica Senior Center, which offered screenings as part of a free health fair last week.

outward signs or symptoms. But left untreated, high blood pressure can damage the heart, brain, eyes and kidneys.

"Hypertension affects all the blood vessels in the body," said Dr. Mary M. Stephens, a family practice physician with Christiana Care Health System.

Normal blood pressure is below 120/80. Pre-hypertension is 120-139 (systolic) and/or 80-89 (diastolic). Hypertension is 140/90 or higher.

Public awareness of the need to monitor blood pressure is increasing. According to a national survey, 70 percent of Americans are aware of their high blood pressure, 59 percent are being treated for it, and 39 percent of those with it have it under control. Those figures represent a slight improvement from 10 years ago, when 68 percent of Americans were aware of their high blood pressure, 54 percent were being treated for it, and 27 percent had it under control. By contrast, 25 years ago, 51 percent were aware of the problem, 31 percent were being treated, and 10 percent had it under control.



A blood sugar test is done with a prick of the finger. A test preceded by fasting provides a more accurate number.

### Cholesterol

Cholesterol is a naturally occurring fatty substance that is essential to life. It is used for producing cell membranes as well as some vitamins and hormones.

About 80 percent of the body's cholesterol is produced by the liver, while the rest comes from diet. Foods from animal sources contain cholesterol but plant-derived foods do not.

Reports linking high cholesterol to cardiovascular disease have done much to raise public awareness. "If you ask people about

their health, cholesterol is one of the first things they'll bring up," said Dr. Brian McDonough, chairman of the department of family medicine at St. Francis Hospital in Wilmington.

Still, cholesterol measurements aren't as straightforward as blood pressure readings. That's because there are two types of cholesterol plus another substance called triglycerides to take into consideration when assessing cholesterol.

High-density lipoprotein (HDL) is referred to as "good" cholesterol because it carries fatty deposits away from the liver. Low-density lipoprotein (LDL) is called "bad" cholesterol because it is the main source of blockage in the arteries.

"It's important to know what's called the 'fractionalization,'" McDonough said. "There are people who have an HDL of 65 which will raise your overall cholesterol. But that's good because it's protective. You can have a total cholesterol of 180 but the 'good' cholesterol is only 30 and that sends a different message."

### KNOW YOUR NUMBERS

"Know Your Numbers Delaware" is a public awareness campaign to encourage people to get screened for blood pressure, cholesterol and blood glucose levels.

Once participants know their numbers, they can go online to claim an incentive reward – a wall calendar, a computer mousepad or a notepad with attached pen.

The campaign is being sponsored by the Delaware Center for Health Promotion at the University of Delaware, with a grant from Pfizer. It runs through July 31.

To learn more or to participate, visit [www.KnowYourNumbersDelaware.com](http://www.KnowYourNumbersDelaware.com). If you do not have access to a computer, call 831-1998.

Everyone older than 20 should have a fasting "lipoprotein profile" done every five years, according to the American Heart Association. Current guidelines also recommend screening children who are at risk for high cholesterol starting at age 2.

For most adults, a healthy total cholesterol is below 200 milligrams per deciliter of blood, according to the National Cholesterol Education Program. A reading of 200-239 is "borderline high." Someone with a reading of 240 or higher has more than twice the risk of heart disease compared to someone whose cholesterol is below 200.

The higher the HDL level the better – 60 or more is considered protective against heart disease. Conversely, the lower the LDL level the better – less than 100 is optimal, while 190 and above is considered very high.

People with high triglycerides often have a high total cholesterol level, including high LDL and low HDL. A triglycerides reading of less than 150 is considered normal, while one over 500 is very high. Many people have high triglyceride levels due to excess weight, physical inactivity, smoking, excessive alcohol consumption and/or a diet high in carbohydrates. But genetics and disease can also play a role.

### Blood sugar

Glucose, or blood sugar, is the body's main source of energy. When you eat, your body breaks down carbs into glucose and sends it into the bloodstream with the help of insulin, a hormone produced by the pancreas.

The body normally makes enough insulin to match the amount of food eaten. But when cells become "insulin-resistant," the glucose can no longer get into them. As a result, the cells don't get the energy they need and glucose builds up in the bloodstream. High blood glucose levels cause serious health problems, most notably diabetes.

"If your blood sugar is not controlled, it can affect the kidneys, it can affect the heart, it can affect the nervous system," said McDonough.

There are several types of blood glucose tests. The most common one is the fasting blood glucose test. Another type of test is the random blood sugar test, which is often used as part of a routine physical exam. Unlike the fasting test, it does not take into account food just eaten and can indicate a higher glucose level.

The hemoglobin A1C test is used to diagnose diabetes and later to gauge how well people are managing their blood sugar levels. Unlike the finger stick test, which measures glucose levels at a given time, the A1C test tracks levels over a two- to three-month period.

The ranges for healthy blood sugar vary according to the test. A normal reading for the random test is less than 100 milligrams per deciliter of blood; pre-diabetes is between 100 and 199; and 200 or higher indicates diabetes. A healthy reading for the fasting blood test is under 100; pre-diabetes is between 100 and 125; and a level greater than 125 indicates diabetes.