Death rates from heart disease in New York City and its suburbs are among the highest recorded in the country, and no one quite knows why.

Heart disease is more common among poorer people. Yet Nassau County, one of the 15 highest-income counties in the country, suffers heart disease death at a rate 20 percent above the norm, a review of death certificate records by The New York Times shows. Some New Jersey counties have similar rates. All the city boroughs except Manhattan have rates as high as rural counties in the South and Appalachia.

The pattern has raised questions about whether people in the New York area live with an excess of heart disease risks - stress, bad diets, too little exercise. But it has also prompted speculation that doctors in the area may lump deaths with more subtle causes into the heart disease category, making that toll look worse than it actually is.

"It's an absolute paradox, and absolutely fascinating," said Thomas Pearson, an epidemiologist at the University of Rochester School of Medicine.

Now, there are efforts under way to sort out the mystery: The New York City health department and the National Institutes of Health are conducting extensive studies to better assess poorly measured factors like stress, blood pressure and cholesterol in people in the New York area.

And the Centers for Disease Control and Prevention, at the health department's request, has sent specialists to determine whether doctors in New York City ascribe
causes of death substantially differently.

"Heart disease is high compared to the national average, and the first thing you do as an epidemiologist is to ask, is it real?" said Dr. Lorna Thorpe, the city's deputy commissioner of health. "I don't see strong evidence that we have more risk factors. But that said, New York is a unique living environment." Dr. George Howard, a researcher at the University of Alabama at Birmingham, is enrolling hundreds in the New York area in a nationwide study of stroke and heart disease. "It really is a head-scratcher," he said. "This is something we should be embarrassed that we don't know."

New York State has had one of the country's highest rates of heart disease deaths for many years. In 1994, a group of epidemiologists at the State University at Albany set out to see if it was a consequence of poor health in New York City and concluded it was not: Suburban areas, where the incidence of the disease was lower than in the city, still had worse death rates than in 42 other states.

"Communities in all areas of New York State have a substantially increased risk of death," they said in a study published in the journal of the United States Public Health Service.

But the phenomenon is only now drawing attention, as epidemiologists become more interested in geographic variation in disease.

In the Bronx, Brooklyn and Queens and on Staten Island, death rates from heart disease are more than 300 per 100,000, compared with a national average of 253, according to figures from the Centers for Disease Control. Manhattan's is lower, about average. The rates were calculated for 1999 through 2002 and adjusted for age. Dr. Thorpe said poverty accounted for some of the higher rate. "The national poverty level is 12 percent, and citywide we're a lot higher than that," she said. "Part of the answer is poverty. But it doesn't entirely explain it."

The worst death rate among the city's boroughs, for instance, is Staten Island's, where the median income is high and there are few living in poverty. (The borough, however, has the highest smoking rate in New York City.) The reported heart disease death rate there is comparable to that of the Pine Ridge Indian Reservation in South Dakota, one of the nation's poorest areas.

Suburban counties show a similar pattern of death from heart disease that does not correspond with wealth or education. Nassau and Suffolk Counties have nearly 300
deaths per 100,000, far higher than most other wealthy areas. Suburban counties outside Washington are under 200.

Among the nation's 50 highest-income counties, only nine have death rates over 250 - two outside Atlanta and the rest outside New York.
Further muddying the waters, the measures for risks like cholesterol, along with stress and high blood pressure, are widely acknowledged to be flawed. Survey questions about whether a doctor has told you that you have high cholesterol, or whether you feel depressed, are not as simple as questions about smoking or weight and may not elicit reliable results, researchers say.

Dr. Howard has begun a study, financed by the National Institutes of Health, that is intended to help unravel some of the geographic mystery, although it may take several years. Hundreds of volunteers in New York and New Jersey will be part of an experiment involving 30,000 people nationwide.

Their blood pressure and cholesterol will be tested, and they will be asked a battery of questions about stress - how often do you feel unable to control things in your life, are you unable to cope with the things you need to cope with?

The city's health department is also testing the blood pressure and cholesterol of 2,000 randomly selected volunteers. The survey began in 2004; results may begin to come in later this year.

The discordant rates for stroke and heart disease in the New York area also lead some authorities to suggest that doctors and hospitals lump deaths from other causes into heart disease categories.

"It may very well be that there's a practice of writing cardiovascular disease on the death certificate for stroke," said Bob Anderson, chief of the mortality statistics branch at the National Center for Health Statistics.

Dr. David Ackman, the Nassau County health commissioner, agreed that the answer
could lie in record-keeping. "In New York State hospitals, if they are more likely to list ischemic heart disease as the primary cause than doctors in other places, you have to at least consider that it is a coding issue and not a biological issue."

But others find that implausible.

Since Dr. Strogatz's study, which was based on death rates from the 1980's, there has been little change in New York's high rate of heart disease death. "If geographic differences in mortality were due to errors in coding, I would have expected those differences to change over time as diagnostic methods improved," he said.

The answer may come soon. The Centers for Disease Control, at the request of the city's health department, has a group of cardiologists studying patient charts from a sample of 500 deaths in the city in 2004. They will judge the actual cause of death, and their results will be compared with death certificates.

The variations will then be compared with what was found in a 2001 four-city study of the differences between death certificates and patient charts. "If they're comparable, we know that this is a real phenomenon," Dr. Thorpe said. "If not, then we know that there is something about reporting that is aberrant to the rest of the country."

Order an Online Edition of The NY Times & Read at Your Leisure

Ads by Google

**CCFA**
Help us cure Crohn's & Ulcerative Colitis. Learn about these diseases.
www.ccfa.org

**Iran Earthquake Relief**
Help the 20k+ victims. Your financial support will save lives.
www.niacouncil.org

**Support The Carter Center**
You can help wage peace, fight disease & build hope. Join us!
www.cartercenter.org

**RELATED ARTICLES**

The Right Level of Exercise to Keep a Healthy Heart (August 16, 2005)
Pathologist Backs Merck in Vioxx Trial (August 9, 2005)
In Vioxx Trial, Merck's Case Suffers Setback (August 2, 2005)
In Vioxx Trial, Battle Nears Over Coroner's Testimony (July 28, 2005)