The Burden of Diabetes in New Jersey: A Surveillance Report

New Jersey Department of Health and Senior Services
Division of Family Health Services

Diabetes Control Program

Section I : **May 2005**
Section II: **December 2006**

Jon S. Corzine
Governor

Fred M. Jacobs, M.D., J.D.
Commissioner

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Section I - 2005
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INTRODUCTION

Chances are everyone knows someone who has diabetes. It is estimated that over 440,000 New Jerseyans have been diagnosed with diabetes[1] and an additional 178,000 residents have the disease[2] but are unaware of it. These figures do not include people with pre-diabetes which is estimated to be double the number of people with diagnosed and undiagnosed diabetes combined. In New Jersey, diabetes is not only common, it is also costly and significant in its impact on health. Direct and indirect costs associated with medical care, lost productivity and premature mortality attributable to diabetes total about $5.9 billion per year in the state.[3] As disturbing as this figure is, it reflects only the dollar figure. This cost estimate does not speak to the suffering endured by people with diabetes and their high rates of heart disease, stroke, foot ulcers and lower-extremity amputations, kidney disease, neurological problems, and blindness. Nor does it tell of the pain and loss experienced in relation to thousands of deaths annually in which diabetes is one of the listed causes.

The risk of diabetes is not evenly distributed among New Jerseyans. Some segments of our population suffer disproportionately from this disease. Blacks, Hispanics, Asians, and American Indians are far more heavily impacted than Whites. People over 45 years of age are more likely to have diabetes than those who are younger. People with a family history of diabetes; people who are obese; people with high blood pressure or high blood cholesterol; women with a history of gestational diabetes; and women who have had a baby weighing over 9 pounds are all at greater risk of diabetes.

Although the data presented here may make the challenges that we face seem daunting, the intent of this report is not to overwhelm the reader. Its purpose is, rather, to make known the many opportunities that exist to modify the negative impacts that diabetes has on the people of New Jersey. Diabetes is controllable and much of its burden can be delayed or prevented. Wellness enhancement (e.g. proper nutrition, physical activity, control of blood pressure, and smoking cessation), early detection of diabetes, proper treatment and screening for complications at recommended intervals are critical factors in the prevention of complications. In our efforts to define the scope of the problem of diabetes in New Jersey, we hope to increase awareness of this disease, draw attention to modifiable risk factors and methods of preventing complications, provide direction for action, and establish a basis for feedback on the success of efforts undertaken.

The New Jersey Diabetes Prevention and Control Program's Data Committee was originally formed to assess the extent of the burden of diabetes in New Jersey. The results of the United States Department of Health and Human Services-funded Diabetes Prevention Program study, published in 2002, conclusively showed that people with pre-diabetes can prevent the development of type 2 diabetes by making changes in their diet and increasing their level of physical activity. In this update of *The Burden of Diabetes in New Jersey: A Surveillance Report* (November 1999), the scope of the report has been expanded to include data relevant to primary prevention.

Data provided in *The Burden of Diabetes in New Jersey: A Surveillance Report - 2005* are not comparable to the data in the 1999 report. Much of the data in the earlier report were synthesized using National Interview Survey Data (NHIS), whereas parallel estimates provided in this report are based on Behavioral Risk Factor Survey (BRFS) data

It is our hope that the information presented here is thought-provoking and will be used to help organizations and agencies in planning and developing coordinated intervention strategies to address diabetes issues and used in efforts to find a cure for diabetes. The diabetes surveillance report is the culmination of those efforts. The New Jersey Diabetes Council provided guidance and support to the Committee throughout the process.

1. New Jersey Behavioral Risk Factor Surveillance Survey (BRFSS) data from 2001 through 2003. The core BRFSS questionnaire gathers responses to the question: "Have you ever been told by a doctor that you have diabetes?" A follow-up question for females then clarifies whether the diabetes was present only during pregnancy.
2. CDC, National Center for Chronic Disease Prevention and Health Promotion, Diabetes Public Health Resource, National Diabetes Fact Sheet, web site, http://www.cdc.gov/diabetes/pubs/estimates.htm.asp, December 4, 2003.
3. Coffey RM, Mathews TL, McDermot K. Diabetes Care Quality Improvement: A resource Guide for State Action. (Prepared by The Medstat Group, Inc. and The Council of State Governments under Contract No. (290-00-0004). Rockville, MD: Agency of Healthcare Research and Quality, Department of Health and Human Services; September 2004. AHRQ Pub. No. 04-0072. Page 37.

CHAPTER 1

Demographic, socioeconomic, and other factors, such as race, ethnicity, age, gender, obesity, family history, geographic location, income, and education affect the current and future health status of a given population. Not only do these factors influence prevalence and incidence of disease, they also impact disease treatment and prevention. The effect that population characteristics can have on rates of disease in a community is particularly apparent for diabetes. For example, substantial differences exist in rates of diabetes and quality care indicators for people in varying age categories, racial groups, and even for people with different insurance status.

The purpose of this chapter is to illustrate the demographics and other characteristics of New Jersey at the statewide and municipal levels. This information will be useful in providing a frame of reference and context in which to interpret findings presented in subsequent chapters.

- Data from the 2000 census indicate New Jersey's population was 8,414,350 people; this number represents an 8.9 % increase over the 1990 estimate. In comparison, the United States population increased 13.2% in that time frame to 281,421,906 people. According to Census 2000 data, in the aggregate, New Jersey residents were older than United States residents. About 13.2% of New Jerseyans were 65 or over. Nationally, only 12.4% of residents were in that age group. In the year 2000, the median age of New Jersey residents was 36.7 years as compared to 35.3 years for United States residents (Table 1).

- According to U. S. Census 2000 "Bridged Population Data," and 1990 Census "Modified Age, Race, and Sex Data," racial and ethnic groups have increased at different rates. New Jersey's white population had the lowest percentage increase at 4.0%, while the Asian and other Pacific Islander population increased by a staggering 85.6%. For the same period of time, the black population increased by 15.3% and the total population of Hispanic origin increased by 49.4% (Table 2).

- The percent change in the New Jersey resident population between 1990 and 2000 was not constant for all age groups. There were age groups in which population size had dramatically increased, such as 5 through 14 year and men 45 through 54 year age groups. The population increase in the 45 and over age group is particularly pertinent because the risk of developing diabetes increases considerably in this age group. However, there were other age groups for which the population declined, such as the 20 through 24 year and the 60 through 64 year age groups (Table 3).

- According to Census 2000 data, there were more female residents (51.5%) than male residents (48.5%) in New Jersey. Women had a longer life expectancy than men and this longevity may account for the difference. However, the percentage changes from 1990 to 2000 in the male population exceeded the female percentage changes in each age group (Table 4).

- Gender distribution among racial groups showed variability. For white females and males of all ages, the percentages were identical to the statewide distribution of gender.

However, black females represented 52.9% of the statewide black population, while females in the non-white and non-black category constituted 49.8% of that population. Gender distribution was considerably different for the 45 years and older age groups. In this age group, 54.7% of the statewide white population was female, 57.5% of the black population was female, and 52.7% of the non-white and non-black category was female (Table 5).

- Census 2000 data suggested that the Hispanic population in New Jersey was younger than the statewide aggregate population. Statewide, 78.7% of the Hispanic population was under 45 years of age (Table 6), while 64% of the total statewide population was under 45 years of age (Table 4).

- The percentage of Hispanic females in the 45 years and over age group was greater than that of Hispanic males in the 45 and over age group. About 23.3% of Hispanic females fell within this age group, while only 19.4% of Hispanic males were 45 years or older (Table 7).

- More than 70 % (72.6%) of New Jersey's residents were white. Sussex County at 95.7% had the highest percentage of white residents. Black residents made up 13.6% of the State's population. Essex County at 41.2% had the highest percentage of black residents. Asian residents comprised 5.7% of New Jersey's residents. Middlesex County at 13.9% had the highest percentage of Asian residents. The county that had the highest percentage of individuals whose racial make-up was of two or more races was Hudson at 5.6% (Table 8A).

- According to Census 2000, New Jersey residents of Hispanic origin comprised 13.3% of New Jersey's population. This was a considerable increase from 1990, at which time residents of Hispanic origin only comprised 9.5% of the population. There was a total Hispanic population increase from 739,861 to 1,117,191, a 51% increase. Hudson County had the highest percentage of Hispanic residents in 2000 at 39.8%. Over 64% of New Jersey's Hispanic population resided in the counties of Hudson, Passaic, Essex, Union, and Middlesex (Table 8B).

- At the turn of the 21st century, over 25% of New Jersey's Hispanic population resided in the State's four most heavily populated municipalities: Newark, Jersey City, Paterson, and Elizabeth. Since 1990, Clifton at 220% followed by Hamilton Township (Mercer County) at 123%, had the greatest rates of growth in Hispanic residents among New Jersey's 15 most populous cities (Table 8C).

- A comparison by race of the 15 most populous municipalities indicated that Newark (Essex) had the largest number of black residents at 146,250. In comparison, Dover Township (Ocean) at 83,839 had the largest number of white residents. The municipality that had the largest number of Asian residents was Jersey City (Hudson) at 38,881. In 2000, 41.7% of the black population resided in the 15 most populated municipalities in New Jersey. In comparison, only 13.3% of the white population resided in these 15 municipalities. These data suggest that the New Jersey white population tended to reside in less densely populated areas of the State while the black population resided in the more urban areas of the State (Table 8 D).

- The three counties that had the highest percentage of their total population over 74 years old were Ocean at 11.5%, Cape May at 9.8%, and Bergen at 7.5% (Table 9 A).

- While population for all age categories increased from 1990 to 2000 by 8.9%, during the same period of time, the 45 and over age group population increased by 16.6% and the 65 and over age group increased only by 7.9%. The county that had the greatest increase in population in the 45 and over age group was Sussex at 38.9%. For the 65 and over age group, the county that showed the greatest change in population was Somerset with a 28.3% increase (Table 9B).

- Two out of five (40.1%) New Jersey white residents were age 45 and above. The county having the highest percentage of whites in the 45 years and older age group was Gloucester at 57.8%. In contrast, only 28.0% of the black population in New Jersey was 45 years of age of older. Salem County at 32.6% had the highest percentage of blacks in the 45 and over age group. The Asian population in the 45 and above age grouping had statewide proportions similar to that of the black population; 26.4% of the Asian population was age 45 and above. Salem County at 35.6% was the percentage leader for the Asian population in the 45 years and over age category (Table 10A).

- Among the Hispanic population in New Jersey, 21.3% were age 45 years and above. Hudson County at 26.4% had the highest percentage of Hispanics in the 45 years and above age grouping; while Salem had the lowest percentage (15.1%) of Hispanics in that age group (Table 10B).

- There was a great amount of ethnic diversity in the population mix of New Jersey. This diversity was demonstrated by the number of people speaking foreign languages. In 2000, a foreign language was spoken in 25.5% of New Jersey's households. The five counties that had the highest percentages of households in which a foreign language was spoken were Hudson at 56.1%, Passaic at 41.9%, Union at 35.2%, Middlesex at 33.4%, and Bergen at 32.4% (Table 11A).

- According to Census 2000 data, 2,001,690 residents of New Jersey aged 5 years and older spoke a language other than English. Spanish, spoken by 967,741 residents of New Jersey, was the foreign language spoken most frequently. Spanish speakers were followed by speakers of Italian, Chinese, Polish, Portuguese, Tagalog, Korean, Gujarathi, French, Arabic, and all other languages combined. The three counties with the greatest number of residents over 5 years of age who spoke a foreign language were Hudson at 320,636, Bergen at 269,112, and Middlesex at 233,939 (Table 11B).

- Linguistic isolation may cause health access problems. Table 11C demonstrates the extent of linguistic isolation in New Jersey. According to the U.S. Census Bureau, "A linguistically isolated household is one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well." In other words, all members 14 years old and over have at least some difficulty with English." There were 99,625 Spanish speaking, 56,425 Indo-European, 26,915 Asian and Pacific Islander, and 6,158 "other" households that were linguistically isolated.

Hudson County had the highest number of residents who were linguistically isolated (Table11C).

- New Jersey's statewide poverty rate, according to Census 2000 data, was 8.5%. This figure represents a 7.5% increase in the poverty rate since 1989. The five New Jersey counties with the highest poverty rates in descending order were Essex at 15.6%, Hudson at 15.5%, Cumberland at 15.0%, Passaic at 12.3%, and Atlantic at 10.5%. Coincidentally, these same counties in the same order had the highest rates of increase in their poverty rates between 1989 and 1999: Essex at 14.6%, Hudson at 14.5%, Cumberland at 14.0%, Passaic at 11.3%, and Atlantic at 9.5% (Table 12).

- Figure 1 illustrates the percentage of uninsured persons by poverty level status for the year 2000. In the illustration, New Jersey figures are compared to United States figures. The chart shows that for the year 2000, New Jersey residents with family incomes below the poverty level had a higher likelihood of not having health insurance then United States residents at that income level. The chart also demonstrates that New Jersey residents with family incomes slightly above the poverty rate, a ratio of 1.00 to 1.3, possibly the working poor, had greater likelihood of being uninsured than the residents of the United States. Additionally, at the family income and poverty level ratio of greater than 1.33, residents of the United States and New Jersey were comparably insured.

Table 1
Profile of General Demographic Characteristics for New Jersey and the United States: 2000

New Jersey	Number	% Year 2000 Distribution	United States	Number	% Year 2000 Distribution
Total population	8,414,350	100	Total population	281,421,906	100
SEX AND AGE			**SEX AND AGE**		
Male	4,082,813	48.5	Male	138,053,563	49.1
Female	4,331,537	51.5	Female	143,368,343	50.9
Under 5 years	563,785	6.7	Under 5 years	19,175,798	6.8
5 to 9 years	604,529	7.2	5 to 9 years	20,549,505	7.3
10 to 14 years	590,577	7	10 to 14 years	20,528,072	7.3
15 to 19 years	525,216	6.2	15 to 19 years	20,219,890	7.2
20 to 24 years	480,079	5.7	20 to 24 years	18,964,001	6.7
25 to 34 years	1,189,040	14.1	25 to 34 years	39,891,724	14.2
35 to 44 years	1,435,106	17.1	35 to 44 years	45,148,527	16
45 to 54 years	1,158,898	13.8	45 to 54 years	37,677,952	13.4
55 to 59 years	423,338	5	55 to 59 years	13,469,237	4.8
60 to 64 years	330,646	3.9	60 to 64 years	10,805,447	3.8
65 to 74 years	574,669	6.8	65 to 74 years	18,390,986	6.5
75 to 84 years	402,468	4.8	75 to 84 years	12,361,180	4.4
85 years and over	135,999	1.6	85 years and over	4,239,587	1.5
Median age (years)	36.7	(X)	Median age (years)	35.3	(X)
18 years and over	6,326,792	75.2	18 years and over	209,128,094	74.3
Male	3,013,338	35.8	Male	100,994,367	35.9
Female	3,313,454	39.4	Female	108,133,727	38.4
21 years and over	6,033,473	71.7	21 years and over	196,899,193	70
62 years and over	1,303,854	15.5	62 years and over	41,256,029	14.7
65 years and over	1,113,136	13.2	65 years and over	34,991,753	12.4
Male	446,780	5.3	Male	14,409,625	5.1
Female	666,356	7.9	Female	20,582,128	7.3
RACE/ETHNICITY			**RACE/ETHNICITY**		
One race	8,200,595	97.5	One race	274,595,678	97.6
White	6,104,705	72.6	White	211,460,626	75.1
Black or African American	1,141,821	13.6	Black or African American	34,658,190	12.3
American Indian and Alaska Native	19,492	0.2	American Indian and Alaska Native	2,475,956	0.9
Asian	480,276	5.7	Asian	10,242,998	3.6
Asian Indian	169,180	2	Asian Indian	1,678,765	0.6
Chinese	100,355	1.2	Chinese	2,432,585	0.9
Filipino	85,245	1	Filipino	1,850,314	0.7
Japanese	14,672	0.2	Japanese	796,700	0.3
Korean	65,349	0.8	Korean	1,076,872	0.4
Vietnamese	15,180	0.2	Vietnamese	1,122,528	0.4
Other Asian	30,295	0.4	Other Asian	1,285,234	0.5
Native Hawaiian and Other Pacific Islander	3,329	-	Native Hawaiian and Other Pacific Islander	398,835	0.1
Native Hawaiian	634	-	Native Hawaiian	140,652	-
Guamanian or Chamorro	779	-	Guamanian or Chamorro	58,240	-
Samoan	563	-	Samoan	91,029	-
Other Pacific Islander	1,353	-	Other Pacific Islander	108,914	-
Some other race	450,972	5.4	Some other race	15,359,073	5.5
Two or more races	213,755	2.5	Two or more races	6,826,228	2.4
HISPANIC OR LATINO AND RACE			**HISPANIC OR LATINO AND RACE**		
Hispanic or Latino (of any race)	1,117,191	13.3	Hispanic or Latino (of any race)	35,305,818	12.5
Mexican	102,929	1.2	Mexican	20,640,711	7.3
Puerto Rican	366,788	4.4	Puerto Rican	3,406,178	1.2
Cuban	77,337	0.9	Cuban	1,241,685	0.4
Other Hispanic or Latino	570,137	6.8	Other Hispanic or Latino	10,017,244	3.6
Not Hispanic or Latino	7,297,159	86.7	Not Hispanic or Latino	246,116,088	87.5
White alone	5,557,209	66	White alone	194,552,774	69.1

Source: U.S. Bureau of the Census

Prepared by the New Jersey State Data Center, New Jersey Department of Labor, June 2001

Table 2
Changes in Population by Race and Hispanic Origin
New Jersey, 1990 to 2000

Race and Ethnicity	1990*	2000**	Change 1990 to 2000	
			Number	Percent
White	6,377,702	6,629,830	252,128	4.0%
Black	1,077,119	1,241,469	164,350	15.3%
Asian and Other Pacific Islander	277,024	514,273	237,249	85.6%
American Indian and Alaska Native	15,905	28,778	12,873	80.9%
All Races	7,747,750	8,414,350	666,600	8.6%
Hispanic	747,737	1,117,191	369,454	49.4%
Non-Hispanic	7,000,013	7,297,159	297,146	4.2%
New Jersey Total	7,747,750	8,414,350	666,600	8.6%

*1990 Census Modified Race Data (MARS), prepared by New Jersey Department of Labor.
**2000 U.S. Census Bridged Population Data. Prepared by the National Center for Health Statistics.

Table 3
Changes in Population by Age Group
New Jersey, 1990 to 2000

Age Group	1990 Census	2000 Census	% Change 1990 - 2000	% of Total 2000
Under 5 years	532,637	563,785	5.8%	6.7%
5 - 9 years	493,044	604,529	22.6%	7.2%
10 - 14 years	480,983	590,577	22.8%	7.0%
15 - 19 years	505,388	525,216	3.9%	6.2%
20 - 24 years	566,594	480,079	-15.3%	5.7%
25 - 34 years	1,360,651	1,189,040	-12.6%	14.1%
35 - 44 years	1,196,659	1,435,106	19.9%	17.1%
45 - 54 years	843,009	1,158,898	37.5%	13.8%
55 - 59 years	355,677	423,338	19.0%	5.0%
60 - 64 years	363,521	330,646	-9.0%	3.9%
65 - 74 years	610,192	574,669	-5.8%	6.8%
75 - 84 years	326,286	402,468	23.3%	4.8%
85 years and over	95,547	135,999	42.3%	1.6%
New Jersey Total	7,730,188	8,414,350	8.9%	100.0%
Median age (years)	34.4	36.7	6.7%	---
21 years and over	5,604,647	6,033,473	7.7%	71.7%
62 years and over	1,249,833	1,303,854	4.3%	15.5%

Source: U.S. Bureau of the Census

Table 4
Changes in Population by Age Group and Gender
New Jersey, 1990 to 2000

Gender	1990 Census	2000 Census	% Change 1990 to 2000	% Distribution 2000
Male	3,735,685	4,082,813	9.3%	48.5%
Female	3,994,503	4,331,537	8.4%	51.5%
Age and Gender				
17 years and under	1,799,462	2,087,558	16.0%	24.8%
Male	921,383	1,069, 1475	16.1%	12.7%
Female	878,079	1,018,083	15.9%	12.1%
18 years and older	5,930,726	6,326,792	6.7%	75.2%
Male	2,814,302	3,013,338	7.1%	35.8%
Female	3,116,424	3,313,454	6.3%	39.4%
45 years and older	2,594,232	3,026,018	16.6%	36.0%
Male	1,157,027	1,366,614	18.1%	16.2%
Female	1,437,205	1,659,404	15.5%	19.7%
65 years and older	1,032,025	1,113,136	7.9%	13.2%
Male	408,957	446,780	9.2%	5.3%
Female	623,068	666,356	6.9%	7.9%
New Jersey Total	7,730,188	8,414,350	8.9%	100.0%

Source: U.S. Bureau of the Census

Table 5
Total Population and 45 and Over Population by Race and Gender
New Jersey, 2000

Race/Gender	Total		45 and Older	
	Number	Percent	Number	Percent
White	6,104,705	100.0%	2,449,106	100.0%
Male	2,958,412	48.5%	1,109,262	45.3%
Female	3,146,293	51.5%	1,339,844	54.7%
Black	1,141,821	100.0%	319,927	100.0%
Male	538,209	47.1%	135,907	42.5%
Female	603,612	52.9%	184,020	57.5%
Other (Includes Multiracial)	1,167,824	100.0%	256,985	100.0%
Male	586,192	50.2%	121,445	47.3%
Female	581,632	49.8%	135,540	52.7%
Total	8,414,350	100.0%	3,026,018	100.0%
Male	4,082,813	48.5%	1,366,614	45.2%
Female	4,331,537	51.5%	1,659,404	54.8%

Source: U.S. Bureau of the Census

Table 6
Population of Persons of Hispanic Origin by Age
New Jersey, 2000

Age	Total	Percent*	Cumulative Percent
0-4	99,371	8.9%	8.9%
5-14	187,002	16.7%	25.6%
15-24	194,460	17.4%	43.0%
25-34	213,141	19.1%	62.1%
35-44	184,971	16.6%	78.7%
45-54	114,738	10.3%	88.9%
55-64	66,795	6.0%	94.9%
65-74	36,959	3.3%	98.2%
75-84	15,270	1.4%	99.6%
85+	4,484	0.4%	100.0%
Total	1,117,191	100.0%	100.0%

*Numbers may not add to total because of rounding.
Source: U.S. Bureau of the Census

Table 7
Population of Persons of Hispanic Origin 45 Years and Over by Gender
New Jersey, 2000

		45 and Over					
		45 to 64		65 and Over		Total 45 and Over	
Gender	Total	Number	Percent	Number	Percent	Number	Percent
Male	65,545	86,617	15.3%	23,120	4.1%	109,737	19.4%
Female	51,646	94,916	17.2%	33,593	6.1%	128,509	23.3%
Total	1,117,191	181,533	16.2%	56,713	5.1%	238,246	21.3%

Source: U.S. Bureau of the Census

Table 8A
Population by County, Race, and Percent of County Population
New Jersey, 2000

County	Total Population	One Race													Two or More Races	
			White		Black or African American		American Indian or Alaska Native		Asian		Native Hawian and Other Pacific Islander		Some Other Race			
		Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Atlantic	252,552	246,027	172,632	68.4	44,534	17.6	669	.26	12,771	5.1	114	.05	15,307	6.1	6,525	2.6
Bergen	884,118	864,160	693,236	78.4	46,568	5.3	1,336	.15	94,324	10.7	193	.02	28,503	3.2	19,958	2.3
Burlington	423,394	414,644	331,898	8.4	64,071	15.1	898	.21	11,378	2.7	144	.03	6,255	1.5	8,750	2.1
Camden	508,932	499,121	360,756	0.9	92,059	18.1	1,300	.26	18,910	3.7	187	.04	25,909	5.1	9,811	1.9
Cape May	102,326	101,144	93,700	1.6	5,178	5.1	186	.18	661	0.6	40	.04	1,379	1.3	1,182	1.2
Cumberland	146,438	142,261	96,478	65.9	29,585	20.2	1,419	.97	1,397	1.0	82	.06	13,300	9.1	4,177	2.9
Essex	793,633	766,478	352,859	44.5	327,324	41.2	1,861	.23	29,429	3.7	417	.05	54,588	6.9	27,155	3.4
Gloucester	254,673	251,366	221,742	87.1	23,084	9.1	487	.19	3,805	1.5	75	.03	2,173	0.9	3,307	1.3
Hudson	608,975	574,680	338,457	55.6	82,098	13.5	2,547	.42	56,942	9.4	383	.06	94,253	15.5	34,295	5.6
Hunterdon	121,989	120,779	114,563	93.9	2,743	2.2	169	.14	2,348	1.9	35	.03	921	0.8	1,210	1.0
Mercer	350,761	343,142	240,206	68.5	69,502	19.8	688	.20	17,340	4.9	352	.10	15,054	4.3	7,619	2.2
Middlesex	750,162	730,665	513,298	68.4	68,467	9.1	1,521	.20	104,212	13.9	300	.04	42,867	5.7	19,497	2.6
Monmouth	615,301	604,990	519,261	84.4	49,609	8.1	879	.14	24,403	4.0	153	.02	10,685	1.7	10,311	1.7
Morris	470,212	462,886	410,042	87.2	13,181	2.8	572	.12	29,432	6.3	188	.04	9,471	2.0	7,326	1.6
Ocean	510,916	504,347	475,391	93.0	15,268	3.0	702	.14	6,550	1.3	103	.02	6,333	1.2	6,569	1.3
Passaic	489,049	469,261	304,786	62.3	64,647	13.2	2,166	.44	18,064	3.7	175	.04	79,423	16.2	19,788	4.0
Salem	64,285	63,344	52,195	81.2	9,498	14.8	226	.35	396	0.6	19	.03	1,010	1.6	941	1.5
Somerset	297,490	292,033	236,042	79.3	22,396	7.5	375	.13	24,941	8.4	121	.04	8,158	2.7	5,457	1.8
Sussex	144,166	142,516	138,015	95.7	1,502	1.0	161	.11	1,738	1.2	28	.02	1,072	0.7	1,650	1.1
Union	522,541	505,581	342,302	65.5	108,593	20.8	1,215	.23	19,993	3.8	201	.04	33,277	6.4	16,960	3.2
Warren	102,437	101,170	96,846	94.5	1,914	1.9	115	.11	1,242	1.2	19	.02	1,034	1.0	1,267	1.2
NJ Total	8,414,350	8,200,595	6,104,705	72.6	1,141,821	13.6	19,492	.23	480,276	5.7	3,329	.04	450,972	5.4	213,755	2.5

Source: U.S. Census Bureau, Census 2000, Redistricting Data Summary File.
Prepared by: New Jersey State Data Center, New Jersey Department of Labor, March 2001.

Table 8B
Population by County, Hispanic Origin, Percent of County Population, and Percent Change
New Jersey, 1990 to 2000

County	1990					2000					% Change in Number of Hispanics 1990-2000
	Total	Non Hispanic		Hispanic		Total	Non Hispanic		Hispanic		
		Number	Percent	Number	Percent		Number	Percent	Number	Percent	
Atlantic	224,327	208,210	92.8%	16,117	7.2%	252,552	221,823	87.8%	30,729	12.2%	90.7%
Bergen	825,380	777,604	94.2%	49,776	5.8%	884,118	792,741	89.7%	91,377	10.3%	83.6%
Burlington	395,066	382,247	96.8%	12,819	3.2%	423,394	405,762	95.8%	17,632	4.2%	37.5%
Camden	502,824	466,802	92.8%	36,022	7.2%	508,932	459,766	90.3%	49,166	9.7%	36.5%
Cape May	95,089	93,234	98.0%	1,855	2.0%	102,326	98,948	96.7%	3,378	3.3%	82.1%
Cumberland	138,053	119,705	86.7%	18,348	13.3%	146,438	118,615	81.0%	27,823	19.0%	51.6%
Essex	778,206	680,429	87.4%	97,777	12.6%	793,633	671,286	84.6%	122,347	15.4%	25.1%
Gloucester	230,082	225,951	98.2%	4,131	1.8%	254,673	248,090	97.4%	6,583	2.6%	59.4%
Hudson	553,099	369,634	66.8%	183,465	33.2%	608,975	366,852	60.2%	242,123	39.8%	32.0%
Hunterdon	107,776	106,044	98.4%	1,732	1.6%	121,989	118,618	97.2%	3,371	2.8%	94.6%
Mercer	325,824	306,159	94.0%	19,665	6.0%	350,761	316,863	90.3%	33,898	9.7%	72.4%
Middlesex	671,780	612,004	91.1%	59,776	8.9%	750,162	648,222	86.4%	101,940	13.6%	70.5%
Monmouth	553,124	530,717	95.9%	22,407	4.1%	615,301	577,126	93.8%	38,175	6.2%	70.4%
Morris	421,353	401,539	95.3%	19,814	4.7%	470,212	433,586	92.2%	36,626	7.8%	84.8%
Ocean	433,203	419,253	96.8%	13,950	3.2%	510,916	485,278	95.0%	25,638	5.0%	83.8%
Passaic	453,060	354,968	78.3%	98,092	21.7%	489,049	342,557	70.0%	146,492	30.0%	49.3%
Salem	65,294	63,858	97.8%	1,436	2.2%	64,285	61,787	96.1%	2,498	3.9%	74.0%
Somerset	240,279	230,092	95.8%	10,187	4.2%	297,490	271,679	91.3%	25,811	8.7%	153.4%
Sussex	130,943	128,032	97.8%	2,911	2.2%	144,166	139,344	96.7%	4,822	3.3%	65.6%
Union	493,819	426,022	86.3%	67,797	13.7%	522,541	419,530	80.3%	103,011	19.7%	51.9%
Warren	91,607	89,823	98.1%	1,784	1.9%	102,437	98,686	96.3%	3,751	3.7%	110.4%
NJ Total	7,730,188	6,992,327	90.5%	739,861	9.5%	8,414,350	7,297,159	86.7%	1,117,191	13.3%	51.0%

Source: U.S. Bureau of the Census.

Table 8C
Population by Hispanic Ethnicity for the 15 Largest Municipalities
New Jersey, 1990 to 2000

Municipality (County)	1990		2000		Percent Change in Number of Hispanics from 1990 to 2000
	Non Hispanic	Hispanic	Non Hispanic	Hispanic	
Newark city (Essex)	203,460	71,761	192,924	80,622	12.3%
Jersey City city (Hudson)	173,142	55,395	172,103	67,952	22.7%
Paterson city (Passaic)	83,180	57,711	74,448	74,774	29.6%
Elizabeth city (Union)	66,952	43,050	60,941	59,627	38.5%
Edison township (Middlesex County)	84,841	3,839	91,461	6,226	62.2%
Woodbridge township (Middlesex County)	87,906	5,180	88,247	8,956	72.9%
Dover township (Ocean County)	74,427	1,944	85,636	4,070	109.4%
Hamilton township (Mercer County)	84,547	2,006	82,638	4,471	122.9%
Trenton city (Mercer)	76,145	12,530	67,012	18,391	46.8%
Camden city (Camden)	60,219	27,273	48,885	31,019	13.7%
Clifton city (Passaic)	66,865	4,877	63,064	15,608	220.0%
Brick township (Ocean County)	64,758	1,715	73,189	2,930	70.8%
Cherry Hill township (Camden County)	67,968	1,380	68,187	1,778	28.8%
East Orange city (Essex)	70,571	2,981	66,540	3,284	10.2%
Passaic city (Passaic)	29,013	29,028	25,474	42,387	46.0%

Source: U.S. Census Bureau, Census 2000 Redistricting Data (P.L. 94-171) Summary File, Table PL1.

Table 8D
Population by Race for the 15 Largest Municipalities in New Jersey
New Jersey, 2000

Municipality (County)	Total Population	One Race							Two or More Races
		Total One Race	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	
Newark city (Essex)	273,546	261,620	72,537	146,250	1,005	3,263	135	38,430	11,926
Jersey City city (Hudson)	240,055	226,044	81,637	67,994	1,071	38,881	181	36,280	14,011
Paterson city (Passaic)	149,222	140,008	45,913	49,095	901	2,831	84	41,184	9,214
Elizabeth city (Union)	120,568	113,507	67,250	24,090	580	2,830	55	18,702	7,061
Edison township (Middlesex County)	97,687	95,583	58,116	6,728	132	28,597	37	1,973	2,104
Woodbridge township (Middlesex County)	97,203	94,812	68,848	8,507	167	14,054	24	3,212	2,391
Dover township (Ocean County)	89,706	88,702	83,939	1,568	117	2,207	21	850	1,004
Hamilton township (Mercer County)	87,109	85,579	74,173	7,112	121	2,234	31	1,908	1,530
Trenton city (Mercer)	85,403	82,672	27,802	44,465	300	716	199	9,190	2,731
Camden city (Camden)	79,904	76,773	13,454	42,628	435	1,958	59	18,239	3,131
Clifton city (Passaic)	78,672	75,075	59,960	2,277	192	5,066	27	7,553	3,597
Brick township (Ocean County)	76,119	75,325	72,932	751	76	904	12	650	794
Cherry Hill township (Camden County)	69,965	69,152	59,240	3,121	71	6,205	24	491	813
East Orange city (Essex)	69,824	67,171	2,683	62,462	177	302	51	1,496	2,653
Passaic city (Passaic)	67,861	64,438	24,044	9,385	531	3,740	29	26,709	3,423

Source: U.S. Census Bureau, Census 2000 Redistricting Data (P.L. 94-171) Summary File, Table PL1.

Table 9A
Percent of Population in Age Group by County
New Jersey, 2000

County	Age					Total Population
	Under 18	18-44	45-64	65-74	75 & Over	
Atlantic	25.3%	38.7%	22.4%	7.2%	6.4%	252,552
Bergen	23.0%	37.3%	24.5%	7.8%	7.5%	884,118
Burlington	25.2%	39.0%	23.3%	6.9%	5.7%	423,394
Camden	26.8%	38.6%	22.1%	6.5%	6.1%	508,932
Cape May	22.3%	31.9%	25.6%	10.4%	9.8%	102,326
Cumberland	25.4%	39.7%	21.9%	6.6%	6.4%	146,438
Essex	26.1%	40.5%	21.5%	6.2%	5.7%	793,633
Gloucester	26.4%	39.3%	22.6%	6.3%	5.3%	254,673
Hudson	22.6%	46.0%	20.0%	6.0%	5.3%	608,975
Hunterdon	25.7%	37.1%	27.1%	5.6%	4.5%	121,989
Mercer	24.0%	40.8%	22.5%	6.4%	6.1%	350,761
Middlesex	23.7%	42.3%	21.7%	6.5%	5.8%	750,162
Monmouth	26.1%	37.3%	24.1%	6.5%	6.0%	615,301
Morris	24.8%	38.3%	25.3%	6.3%	5.3%	470,212
Ocean	23.3%	32.6%	21.9%	10.6%	11.5%	510,916
Passaic	26.1%	40.6%	21.3%	6.2%	5.9%	489,049
Salem	25.6%	35.7%	24.2%	7.3%	7.2%	64,285
Somerset	25.5%	39.7%	23.5%	6.0%	5.2%	297,490
Sussex	27.9%	37.7%	25.3%	4.9%	4.2%	144,166
Union	24.9%	39.2%	22.1%	6.8%	7.0%	522,541
Warren	26.1%	37.6%	23.5%	6.6%	6.3%	102,437
NJ Total	24.8%	39.2%	22.7%	6.8%	6.4%	8,414,350

Source: 2000 Census of Population and Housing, US Bureau of the Census, Summary File 1
Prepared by: New Jersey State Data Center, New Jersey Department of Labor, 2/03

Table 9B
County Populations by Selected Age Groups and Percent Changes
New Jersey, 1990 and 2000

County	Total			45 and Over					65 and Over				
				1990		2000			1990		2000		
	1990	2000	Pop. Change	Number	Percent	Number	Percent	Pop. Change	Number	Percent	Number	Percent	Pop. Change
Atlantic	224,327	252,552	12.6%	75,164	33.5%	90,998	36.0%	21.1%	32,594	14.5%	34,437	13.6%	5.7%
Bergen	825,380	884,118	7.1%	317,721	38.5%	351,708	39.8%	10.7%	126,359	15.3%	134,820	15.2%	6.7%
Burlington	395,066	423,394	7.2%	120,684	30.5%	151,823	35.9%	25.8%	42,188	10.7%	53,218	12.6%	26.1%
Camden	502,824	508,932	1.2%	155,184	30.9%	176,237	34.6%	13.6%	61,191	12.2%	63,769	12.5%	4.2%
Cape May	95,089	102,326	7.6%	38,336	40.3%	46,827	45.8%	22.1%	19,131	20.1%	20,681	20.2%	8.1%
Cumberland	138,053	146,438	6.1%	45,138	32.7%	51,107	34.9%	13.2%	18,657	13.5%	19,087	13.0%	2.3%
Essex	778,206	793,633	2.0%	250,794	32.2%	265,236	33.4%	5.8%	98,321	12.6%	94,380	11.9%	-4.0%
Gloucester	230,082	254,673	10.7%	67,390	29.3%	87,354	34.3%	29.6%	24,761	10.8%	29,678	11.7%	19.9%
Hudson	553,099	608,975	10.1%	176,874	32.0%	191,307	31.4%	8.2%	70,401	12.7%	69,271	11.4%	-1.6%
Hunterdon	107,776	121,989	13.2%	33,671	31.2%	45,326	37.2%	34.6%	10,201	9.5%	12,228	10.0%	19.9%
Mercer	325,824	350,761	7.7%	106,370	32.6%	123,218	35.1%	15.8%	42,229	13.0%	44,140	12.6%	4.5%
Middlesex	671,780	750,162	11.7%	210,665	31.4%	255,296	34.0%	21.2%	78,817	11.7%	92,590	12.3%	17.5%
Monmouth	553,124	615,301	11.2%	184,233	33.3%	225,397	36.6%	22.3%	70,387	12.7%	76,923	12.5%	9.3%
Morris	421,353	470,212	11.6%	140,257	33.3%	173,324	36.9%	23.6%	44,422	10.5%	54,530	11.6%	22.8%
Ocean	433,203	510,916	17.9%	178,731	41.3%	225,247	44.1%	26.0%	100,408	23.2%	113,260	22.2%	12.8%
Passaic	453,060	489,049	7.9%	146,932	32.4%	163,066	33.3%	11.0%	58,435	12.9%	59,033	12.1%	1.0%
Salem	65,294	64,285	-1.5%	22,832	35.0%	24,857	38.7%	8.9%	9,558	14.6%	9,311	14.5%	-2.6%
Somerset	240,279	297,490	23.8%	78,012	32.5%	103,320	34.7%	32.4%	26,013	10.8%	33,381	11.2%	28.3%
Sussex	130,943	144,166	10.1%	35,694	27.3%	49,576	34.4%	38.9%	11,684	8.9%	13,152	9.1%	12.6%
Union	493,819	522,541	5.8%	179,442	36.3%	187,544	35.9%	4.5%	74,125	15.0%	72,041	13.8%	-2.8%
Warren	91,607	102,437	11.8%	30,108	32.9%	37,250	36.4%	23.7%	12,143	13.3%	13,206	12.9%	8.8%
NJ Total	7,730,188	8,414,350	8.9%	2,594,232	33.6%	3,026,018	36.0%	16.6%	1,032,025	13.4%	1,113,136	13.2%	7.9%

Source: U.S. Bureau of the Census.

Table 10A
Population of Persons 45 Years and Older
by Selected Races and County, New Jersey, 2000

County	Whites 45 & Over		Blacks 45 & Over		Asians 45 & Over	
	Number	% of White Population	Number	% of Black Population	Number	% of Asian Population
Atlantic	70,907	41.1%	12,752	28.6%	3,498	27.4%
Bergen	300,908	43.4%	15,236	2.2%	25,452	27.0%
Burlington	127,033	38.3%	18,666	29.1%	3,480	30.6%
Camden	139,651	38.7%	24,601	26.7%	5,629	29.8%
Cape May	44,581	47.6%	1,592	30.7%	231	34.9%
Cumberland	40,306	41.8%	6,756	22.8%	496	35.5%
Essex	145,886	41.3%	94,006	28.7%	8,532	29.0%
Gloucester	77,861	57.8%	7,287	31.6%	1,139	29.9%
Hudson	128,095	37.8%	20,660	25.2%	15,180	26.7%
Hunterdon	43,790	38.2%	428	15.6%	725	30.9%
Mercer	95,618	39.8%	19,260	27.7%	4,674	27.0%
Middlesex	204,169	39.8%	17,227	25.2%	23,020	22.1%
Monmouth	199,857	38.5%	14,714	29.7%	6,993	28.7%
Morris	157,714	38.5%	4,134	31.4%	8,345	28.4%
Ocean	216,833	45.6%	4,071	26.7%	1,941	29.6%
Passaic	121,458	40.6%	16,800	26.0%	5,068	28.1%
Salem	21,181	37.6%	3,094	32.6%	141	35.6%
Somerset	88,767	37.6%	6,236	27.8%	6,090	24.4%
Sussex	48,091	34.8%	406	27.0%	474	27.3%
Union	140,418	41.0%	31,485	29.0%	5,611	28.1%
Warren	35,982	37.2%	516	27.0%	296	23.8%
NJ Total	2,449,106	40.1%	319,927	28.0%	127,015	26.4%

Source: U.S. Bureau of the Census
Prepared by the New Jersey State Data Center

Table 10B
Population of Persons of Hispanic Origin,
Total, and 45 years and Older by County,
New Jersey, 2000

County	Total Hispanic	45 and Over	
		Number	Percent
Atlantic	30,729	5,158	16.8%
Bergen	91,377	21,494	23.5%
Burlington	17,632	3,405	19.3%
Camden	49,166	8,445	17.2%
Cape May	3,378	517	15.3%
Cumberland	27,823	5,147	18.5%
Essex	122,347	25,834	21.1%
Gloucester	6,583	1,196	18.2%
Hudson	242,123	63,804	26.4%
Hunterdon	3,371	625	18.5%
Mercer	33,898	5,284	15.6%
Middlesex	101,940	18,940	18.6%
Monmouth	38,175	6,955	18.2%
Morris	36,626	7,143	19.5%
Ocean	25,638	5,137	20.0%
Passaic	146,492	29,899	20.4%
Salem	2,498	377	15.1%
Somerset	25,811	4,160	16.1%
Sussex	4,822	1,014	21.0%
Union	103,011	23,029	22.4%
Warren	3,751	683	18.2%
NJ Total	1,117,191	238,246	21.3%

Source: 2000 Census of Population and Housing, US Bureau of the Census, Summary File 1
Prepared by: New Jersey State Data Center, New Jersey Department of Labor, 2/03

Table 11A
Percentage of Households Where a Foreign Language is Spoken by County
New Jersey, 2000

County	Foreign Language Spoken in Household
Atlantic	20.3%
Bergen	32.4%
Burlington	10.3%
Camden	15.6%
Cape May	6.6%
Cumberland	20.4%
Essex	29.7%
Gloucester	6.5%
Hudson	56.1%
Hunterdon	8.6%
Mercer	20.2%
Middlesex	33.4%
Monmouth	14.7%
Morris	19.7%
Ocean	10.9%
Passaic	41.9%
Salem	6.3%
Somerset	22.9%
Sussex	8.3%
Union	35.2%
Warren	8.4%
NJ Total	25.5%

Source: U.S. Census Bureau, Census 2000 Summary File 3

Table 11B
Total Population of Persons 5 Years and Over Who Speak Selected Foreign Languages at Home by County
New Jersey, 2000

County	Total	Spanish or Spanish Creole	Italian	Chinese	Polish	Portuguese or Portuguese Creole	Tagalog	Korean	Gujarathi	French (incl. Patois, Cajun)	Arabic	Other
Atlantic	48,029	26,047	2,656	2,055	676	71	1,745	539	1,527	1,198	747	10,768
Bergen	269,112	79,959	21,960	11,402	16,876	4,484	11,637	32,803	4,035	4,102	6,753	75,101
Burlington	41,013	15,483	2,590	1,283	1,331	1,195	1,461	1,698	984	2,171	726	12,091
Camden	73,950	40,475	3,836	3,693	1,847	306	2,740	1,473	1,655	1,725	766	15,434
Cape May	6,452	2,917	919	66	187	41	230	8	108	507	89	1,380
Cumberland	28,133	22,898	1,263	185	364	35	128	74	42	545	72	2,527
Essex	218,613	108,723	10,350	5,630	3,091	23,744	5,772	2,290	2,005	10,943	2,627	43,438
Gloucester	15,374	5,324	2,396	620	581	214	916	284	286	819	278	3,656
Hudson	320,636	214,949	9,658	6,150	6,165	10,894	15,912	2,815	7,942	3,997	11,302	30,852
Hunterdon	9,813	2,750	1,141	491	558	109	143	120	121	844	73	3,463
Mercer	66,252	29,167	4,414	4,270	3,548	297	715	1,428	1,293	2,525	1,279	17,316
Middlesex	233,939	85,403	8,072	19,387	9,306	5,913	8,969	4,513	15,143	2,959	7,080	67,194
Monmouth	84,345	30,137	8,255	8,102	2,267	3,372	2,417	1,417	1,208	2,965	1,697	22,508
Morris	86,287	31,704	6,991	8,392	2,833	1,147	2,429	2,071	3,204	2,428	1,294	23,794
Ocean	52,394	20,058	7,046	939	3,088	1,147	1,896	244	321	1,467	609	15,579
Passaic	189,715	127,055	10,498	1,680	8,623	788	2,644	1,384	3,348	1,496	7,892	24,307
Salem	3,825	2,153	457	60	32	49	60	46	36	148	35	749
Somerset	63,214	22,593	4,194	6,312	3,018	1,041	2,184	1,077	2,243	1,430	1,375	17,747
Sussex	11,218	3,949	1,210	201	752	319	270	70	38	484	388	3,537
Union	171,336	92,910	7,745	3,279	9,014	17,394	4,499	943	1,712	4,159	1,873	27,808
Warren	8,040	3,087	714	148	506	310	84	43	73	313	97	2,665
NJ Total	2,001,690	967,741	116,365	84,345	74,663	72,870	66,851	55,340	47,324	47,225	47,052	421,914

Source: U.S. Census Bureau, Census 2000 Summary File 3, QT-P16

Table 11C
Total Households, Households Linguistically Isolated and Foreign Language Spoken in Household by County, New Jersey, 2000

County	Total Households	Languages of Households Linguistically Isolated			
		Spanish	Other Indo-European	Asian and Pacific Islander	Other Languages
Atlantic	95,025	2,471	1,206	931	97
Bergen	330,891	6,319	8,880	9,145	903
Burlington	154,571	647	1,279	765	92
Camden	185,837	3,524	1,283	1,298	114
Cape May	42,140	318	241	19	23
Cumberland	49,096	1,788	433	65	40
Essex	283,692	11,492	8,531	1,357	510
Gloucester	90,755	256	436	129	45
Hudson	230,698	29,236	6,463	2,951	1,341
Hunterdon	43,730	188	232	66	19
Mercer	125,787	2,896	2,255	725	158
Middlesex	265,898	7,363	5,990	3,748	1,051
Monmouth	224,447	2,666	2,328	1,192	132
Morris	169,794	2,742	1,818	1,410	107
Ocean	200,553	1,693	2,351	332	174
Passaic	163,917	13,009	4,548	873	706
Salem	24,316	199	110	28	21
Somerset	109,070	2,124	1,392	980	208
Sussex	50,789	119	314	64	57
Union	186,093	10,427	6,059	800	330
Warren	38,675	148	276	37	30
NJ Total	3,065,774	99,625	56,425	26,915	6,158

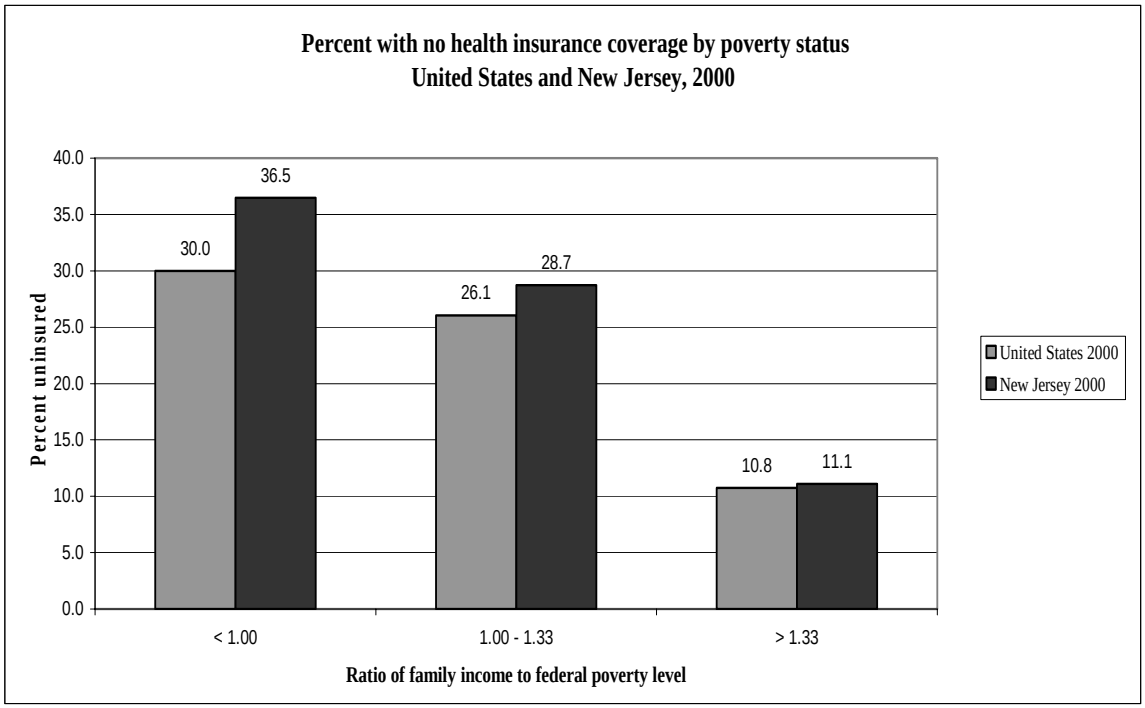
Source: U.S.Census Bureau, Census 2000, Summary File 3.

Table 12
Changes in Poverty Rate by County
New Jersey, 1989 to 1999

	Poverty Rate		
	1989	**1999**	**% Change**
New Jersey	**7.60%**	**8.5%**	**7.5%**
Atlantic	9.4%	10.5%	9.5%
Bergen	3.9%	5.0%	4.0%
Burlington	4.2%	4.7%	3.7%
Camden	10.3%	10.4%	9.4%
Cape May	8.3%	8.6%	7.6%
Cumberland	13.0%	15.0%	14.0%
Essex	14.3%	15.6%	14.6%
Gloucester	6.2%	6.2%	5.2%
Hudson	14.8%	15.5%	14.5%
Hunterdon	2.6%	2.6%	1.6%
Mercer	7.4%	8.6%	7.6%
Middlesex	5.1%	6.6%	5.6%
Monmouth	5.0%	6.3%	5.3%
Morris	2.8%	3.9%	2.9%
Ocean	6.0%	7.0%	6.0%
Passaic	10.0%	12.3%	11.3%
Salem	10.6%	9.5%	8.5%
Somerset	2.6%	3.8%	2.8%
Sussex	3.4%	4.0%	3.0%
Union	7.2%	8.4%	7.4%
Warren	5.4%	5.4%	4.4%

Source: 2000 Census of Population & Housing, Summary File 3.
Prepared by: New Jersey State Data Center, New Jersey Department of Labor, August, 2002.

Figure 1



Source: Current Population Survey, March 2001 and March 2000.

CHAPTER 2

The estimation of prevalence of diabetes is an important step in determining the burden of the disease on the population and provides guidance to what extent resources should be expended on diabetes relative to other health conditions. Prevalence rates can also demonstrate which demographic population groups are most at risk for diabetes and plans can be made for allocating scarce resources for preventive and treatment interventions.

Diabetes prevalence rates in New Jersey have been estimated for demographic, socioeconomic, and other characteristics, such as race, ethnicity, age, gender, obesity, residence, income, and education. It is estimated that about 444,000 New Jersey residents have been diagnosed with diabetes. The data tables presented in this chapter are confined to diagnosed diabetes. Using model-based estimates calculated from the National Health and Nutrition Examination Survey (NHANES), it is further calculated that about 178,000 have diabetes but are unaware that they have the disease. New Jersey specific estimates of the number of people with pre-diabetes are also not presented in the tables. People with pre-diabetes have an impaired fasting glucose in which the fasting blood sugar level is elevated (100 to 125 milligrams per deciliter or mg/dL), after an overnight fast, but is not high enough to be classified as diabetes. According to the American Diabetes Association, nationally, about 41 million people, ages 40 to 74, have pre-diabetes. This figure is more than double the combined national estimates for the number of people with diagnosed and undiagnosed diabetes.

We are rapidly approaching the time when a half a million people in New Jersey will have been diagnosed with diabetes. Yet, in considering the undiagnosed population and the population with pre-diabetes, the known diagnosed figure is truly just the tip of the iceberg.

- According to Behavior Risk Factor Surveillance System (BRFSS) survey results for the time period 2001 through 2003, New Jersey had an estimated 444,000 persons 18 years and over diagnosed with diabetes, for an age adjusted rate of 6.5% of the adult population. Non-Hispanic blacks had the highest age-adjusted rate of persons diagnosed with diabetes at 11.3%. For the same time period, non-Hispanic whites had the lowest age adjusted rate at 5.4%. Non-Hispanic Asian and Pacific Islanders had a rate of 9.2%. Hispanic Americans in New Jersey had an age-adjusted rate of 6.6% (Table 1 and Figure 1).

- Aggregate data from the 2001-2003 BRFSS surveys also indicated that New Jersey male residents had a higher rate of diagnosed diabetes (7.2%) than female residents (6.6%). Although rates were higher among males, there were a greater estimated number of New Jersey females diagnosed with diabetes (223,000) than males (221,000). Surprisingly, the BRFSS data indicate that the rate of individuals diagnosed with diabetes for both genders in the 18 through 44 age group showed no difference at 2.3%. The survey data also indicate that in the 45 through 64 year old age group, the black, non–Hispanic race category had the highest estimated prevalence rate at 16.1%, followed by Asian or Pacific Islanders, non-Hispanic category at 13.9%. The black, non-Hispanic race category also had the highest rate of diagnosed diabetes (29%) in the 65 years and over age group (Table 2).

- The 2001 through 2003 BRFSS survey results also showed that the highest rate of diagnosed diabetes in all race, gender, and age categories (34.9%) was in the 65 and over black, non–

Hispanic male group. The second highest rate (25.7%) was found among black, non-Hispanic females in the same age group (Table 3).

- The referenced survey results also indicated that New Jerseyans of Hispanic ethnicity had the lowest estimated mean age at the time of diabetes diagnosis at 41.2 years. This may be due to factors such as the high rate of immigration and the age distribution of this population (Table 4).

- The New Jersey BRFSS 2001 through 2003 survey data also suggested that Cumberland County had the highest age-adjusted rate of persons diagnosed with diabetes at over 10.6%, followed by Atlantic and Union counties. Thirteen of New Jersey's 21 counties fall within the range of 4.8% to 6.7% (Figure 2).

- The counties of Middlesex, Essex, and Bergen had the greatest number of residents diagnosed with diabetes, with each having about 33,000 or more residents with diabetes. The Sussex, Salem, Hunterdon, Cape May, Somerset, and Warren counties had the least number of residents diagnosed with diabetes, ranging from 4,200 to 13,776 residents (Figure 3).

- Further analysis of the BRFSS data showed that there was an inverse relationship between education and diabetes prevalence rates. Individuals with less than a high school education had the highest diabetes prevalence rate at 12.5% and individuals that had at least a college education had a rate of only 4.7% (Figure 4).

- An inverse relationship also existed between income level and the rate of diabetes diagnosis. Individuals with an income level less than $15,000 had the highest diabetes prevalence rate at 15.3% and individuals with an income level of over $75,000 had a rate of only 3.6% (Figure 5).

- New Jersey and United States BRFSS diabetes data reflected similar trends for the 1991 through 2003 time period. The prevalence of diabetes in the United States ranged from 4.8% in 1991 to 7.1% in 2003. Likewise, New Jersey rates ranged from 4.3% in 1991 to 7.1% in 2003 (Figure 6).

- Although the rates of diagnosed diabetes had increased with age, the estimated number of persons diagnosed was highest in the 45 through 64 year age group because of the size of the age group. The estimate for that age group was about 186,000 persons diagnosed as compared to 181,000 diagnosed for the 65 and over group (Table 2 and Figure 7).

- For New Jersey and the nation as a whole, increases in the rates of diabetes have paralleled increases in rates of obesity between 1991 and 2002. Since 1991, the New Jersey rates of diagnosed diabetes and obesity increased by 42% and 92% respectively. Nationally, the rates of diagnosed diabetes and obesity have increased by 40% and 75%, respectively, since 1991 (Figure 8).

Table 1
Estimated Diabetes Age Adjusted Prevalence Rates
by Race/Ethnicity
New Jersey, 2001 through 2003

Race/Ethnicity	Number	Rate	95% CL
All Racial/Ethnic Classifications	441,062	6.5	(6.1-6.9)
White, Non-Hispanic	270,354	5.4	(5.0-5.9)
Black, Non-Hispanic	82,098	11.3	(9.7-13.3)
Asian or Pacific Islander, Non-Hispanic	21,934	9.2	(6.9-12.1)
Other, Non-Hispanic	14,154	9.7	(6.4-14.6)
Hispanic	44,147	6.6	(5.4-8.0)

Source: New Jersey Behavioral Risk Factor Survey.

Table 2
Estimated Number and Rate of Persons Diagnosed with Diabetes
by Age, Gender, and Race/Ethnicity
New Jersey, 2001 through 2003

	Age			
Gender	**18 - 44**	**45 - 64**	**65 & Over**	**Total**
Male				
Population	1,617,215	984,172	463,897	3,089,609
Diagnosed	37,484	100,589	82,155	221,107
Rate	2.3%	10.2%	17.7%	7.2%
95% Confidence Interval	(1.8-3.0)	(8.9-11.7)	(15.5-20.2)	(6.5-7.9)
Female				
Population	1,605,068	1,042,851	693,409	3,393,334
Diagnosed	36,540	85,511	98,782	227,727
Rate	2.3%	8.2%	14.2%	6.6%
95% Confidence Interval	(1.8-2.9)	(7.1-9.4)	(12.5-16.2)	(6.0-7.2)
Race/Ethnicity				
White, Not Hispanic				
Population	1,895,636	1,401,450	940,007	4,279,710
Diagnosed	38,054	100,985	131,316	272,324
Rate	2.0%	7.2%	14.0%	6.4%
95% Confidence Interval	(1.6-2.6)	(6.4-8.1)	(12.6-15.5)	(5.9-6.9)
Black, Not Hispanic				
Population	382,282	232,983	106,092	726,999
Diagnosed	13,847	337,479	30,772	82,449
Rate	3.6%	16.1%	29.0%	11.3%
95% Confidence Interval	(2.5-5.1)	(12.5-20.5)	(22.2-36.8)	(9.5-13.4)
Asian or Pacific Islander, Not Hispanic				
Population	239,339	100,189	16,390	360,956
Diagnosed	3,989	13,883	*	21,934
Rate	1.7%	13.9%	*	6.1%
95% Confidence Interval	(.08-3.3)	(9.0-20.7)	*	(4.4-8.4)
Other, Not Hispanic				
Population	76,137	52,436	21,107	151,648
Diagnosed	3,503	5,475	5,175	14,190
Rate	4.6%	10.4%	24.5%	9.4%
95% Confidence Interval	(1.4-14.2)	(5.98-17.8)	(12.8-41.8)	(6.1-14.2)
Hispanic				
Population	587,022	218,040	60,941	868,618
Diagnosed	11,113	25,202	7,832	44,147
Rate	1.9%	11.6%	12.9%	5.1%
95% Confidence Interval	(1.2-2.9)	(8.9-14.9)	(8.5-19.0)	(4.2-6.2)
NJ Total				
Population	3,222,283	2,027,022	1,157,306	6,482,943
Diagnosed	74,024	186,100	180,937	443,834
Rate	2.3%	9.2%	15.6%	6.8%
95% Confidence Interval	(1.9-2.8)	(8.3-10.1)	(14.2-17.1)	(6.4-7.3)

Source: New Jersey Behavioral Risk Factor Survey.
* The estimated number of New Jersey residents sampled in this group was too small to provide estimates.

Table 3
Estimated Prevalence of Persons Diagnosed with Diabetes by Race/Ethnicity, Gender, and Age
New Jersey, 2001 through 2003

Age/Gender	White, Non-Hispanic		Black, Non-Hispanic		Asian or Pacific Islander, Non-Hispanic		Other, Non-Hispanic		Hispanic	
Male										
18-44	2.0	(1.4-2.9)	3.2	(1.7-5.7)	2.5	(1.1-5.4)	8.7	(2.3-27.8)	1.9	(1.0-3.5)
45-64	8.7	(7.4-10.2)	14.4	(9.0-22.3)	15.3	(8.6-25.7)	10.5	(4.5-22.7)	14.4	(9.0-22.3)
65+	16.3	(14.1-18.8)	34.9	(23.6-48.3)	*	*	*	*	12.3	(5.4-25.4)
All Ages	7.0	(6.3-7.8)	10.8	(8.0-14.3)	7.1	(4.6-10.6)	10.4	(5.3-19.2)	4.7	(3.5-6.4)
Female										
18-44	2.0	(1.4-2.8)	4.0	(2.6-6.1)	0.5	(0.2-1.9)	1.0	(0.2-4.8)	1.9	(1.1-3.2)
45-64	5.7	(4.8-6.9)	17.3	(12.9-22.9)	11.7	(6.2-21.1)	10.4	(4.8-21.0)	11.2	(7.8-15.9)
65+	12.4	(10.7-14.3)	25.7	(17.8-35.5)	*	*	*	*	13.1	(8.1-20.6)
All Ages	5.8	(5.20-6.5)	11.8	(9..5-15.5)	4.6	(2.8-7.7)	8.4	(4.9-14.2)	5.4	(4.2-7.0)

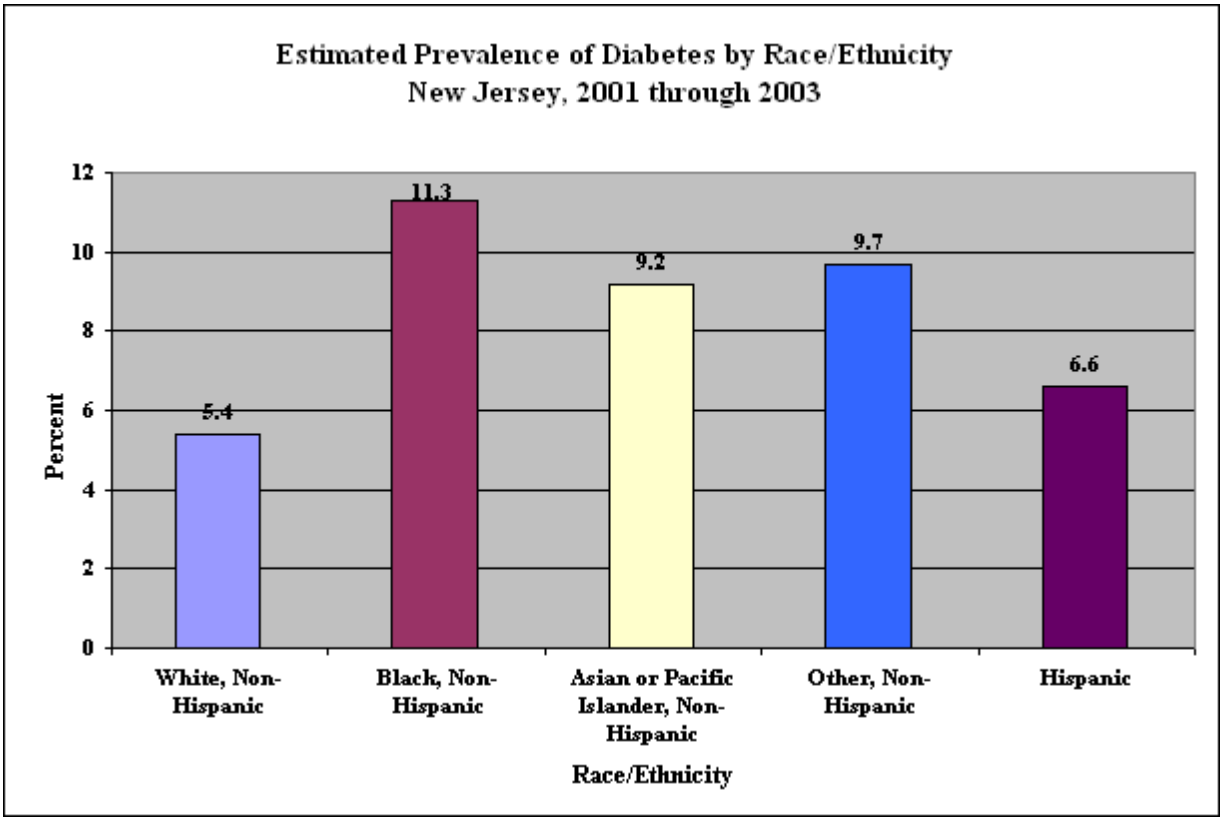
Source: New Jersey Behavioral Risk Factor Survey.
* The number of New Jersey residents sampled in this group was too small to derive reliable prevalence estimates.

Table 4
Estimated Mean Age at the Time of Diagnosis of Diabetes
by Race and Hispanic Origin, Persons 18 Years and Older
New Jersey, 2001 through 2003

Gender, Race/Ethnicity	Mean Age	95% CI
Male	50.6	(48.0-53.1)
Female	49.4	(46.8-52.0)
White, Non-Hispanic	51.4	(49.2-53.5)
Black, Non-Hispanic	51.1	(47.2-55.0)
Other	50.3	(46.0-54.5)
Hispanic	41.2	(36.9-45.6)
Total	49.9	(48.1-51.8)

Source: New Jersey Behavioral Risk Factor Survey.

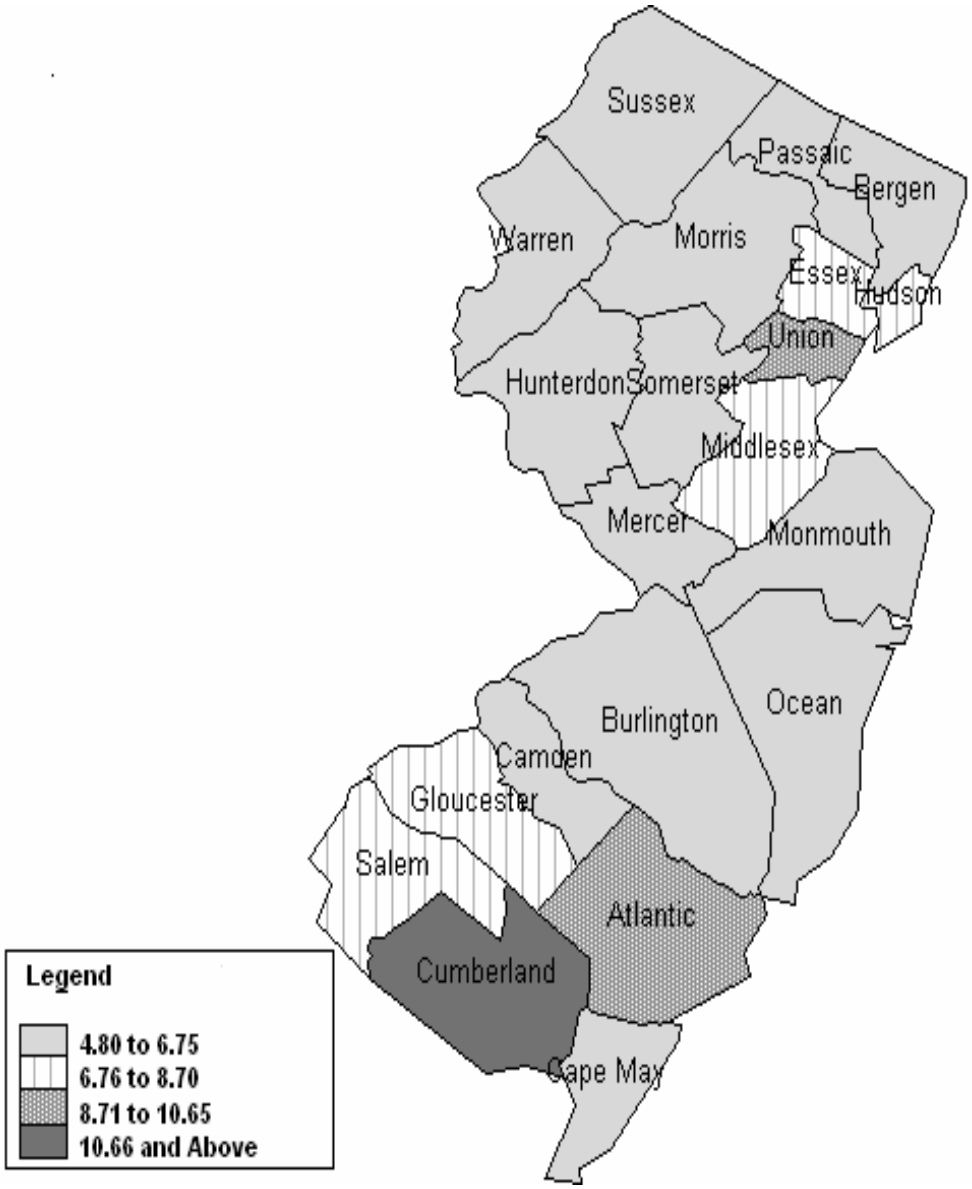
Figure 1



Source: New Jersey Behavioral Risk Factor Survey.

Figure 2

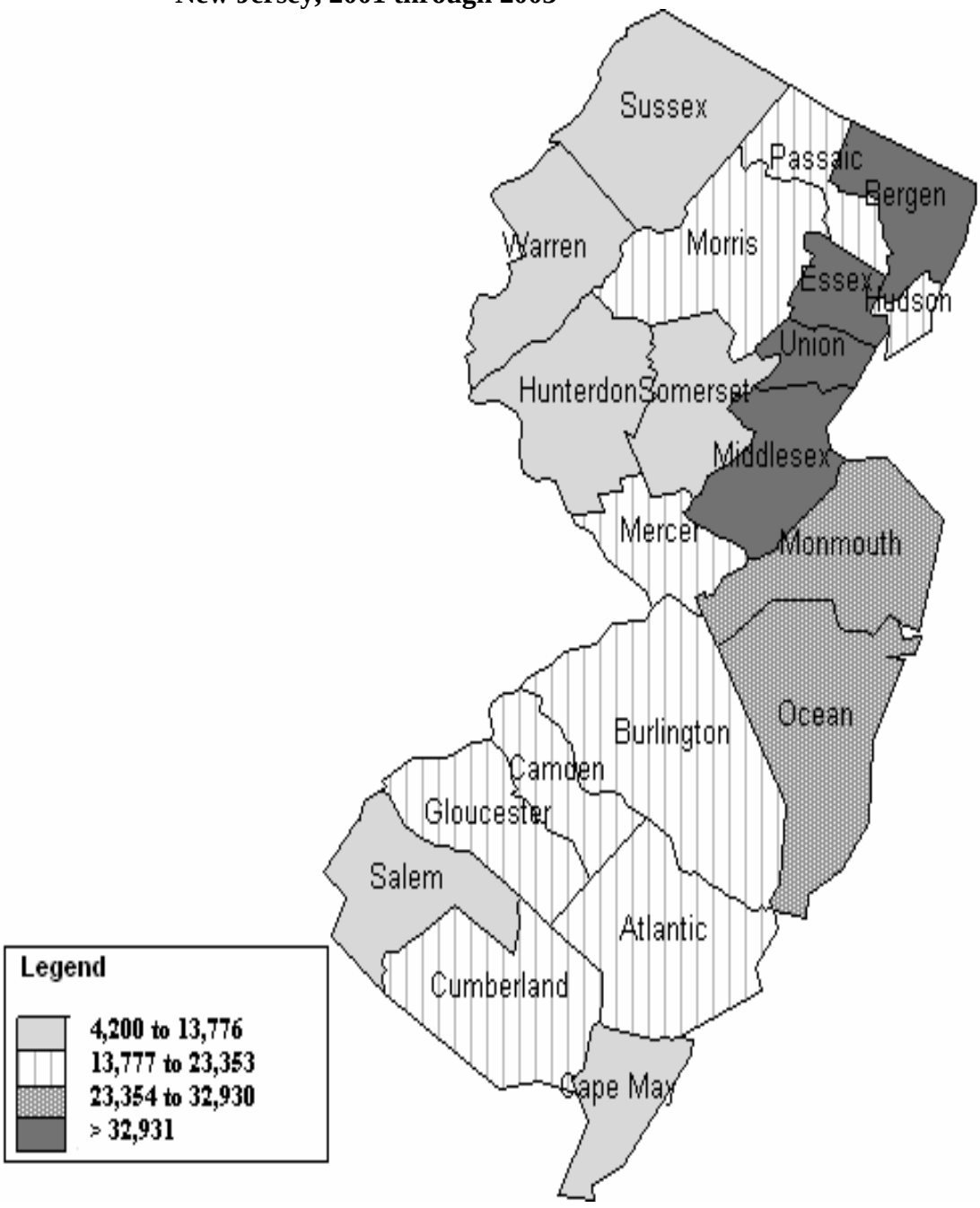
Estimated Age Adjusted Rate* of Persons 18 Years and Over with Diagnosed Diabetes by County New Jersey, 2001 through 2003



Source: New Jersey Behavioral Risk Factor Survey.
* Rate/100 population

Figure 3

Estimated Number of Persons 18 Years and Over Diagnosed with Diabetes by County New Jersey, 2001 through 2003



Source: New Jersey Behavioral Risk Factor Survey.

Figure 4

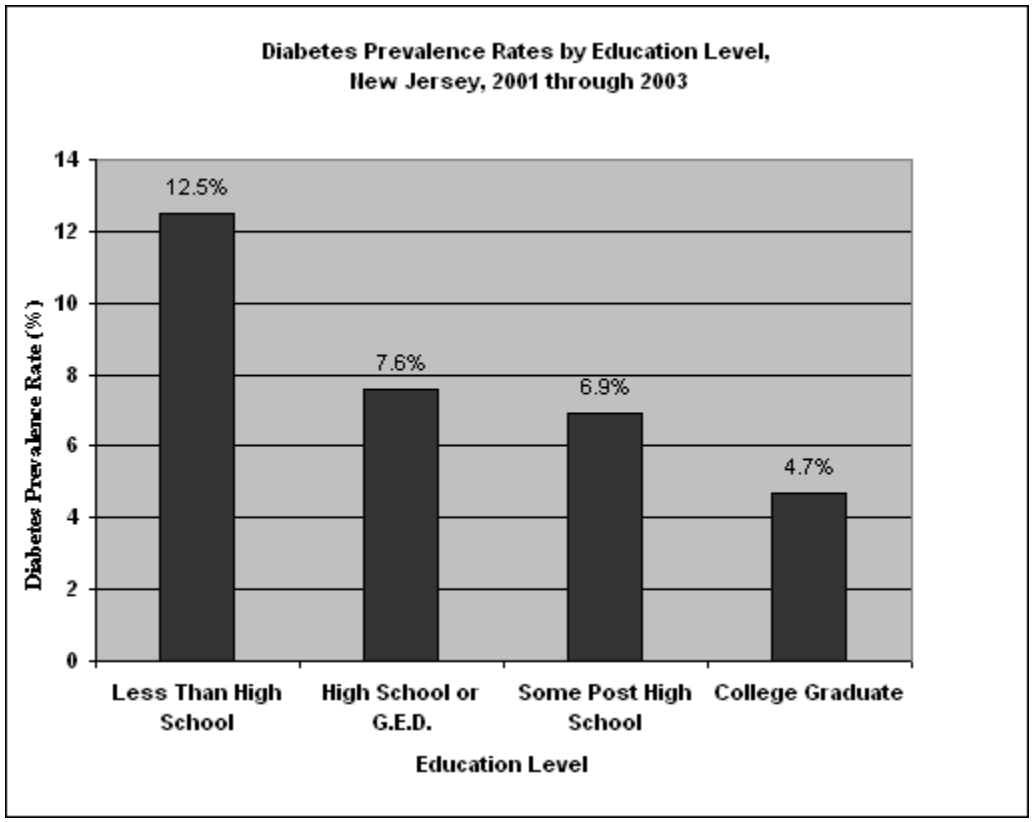
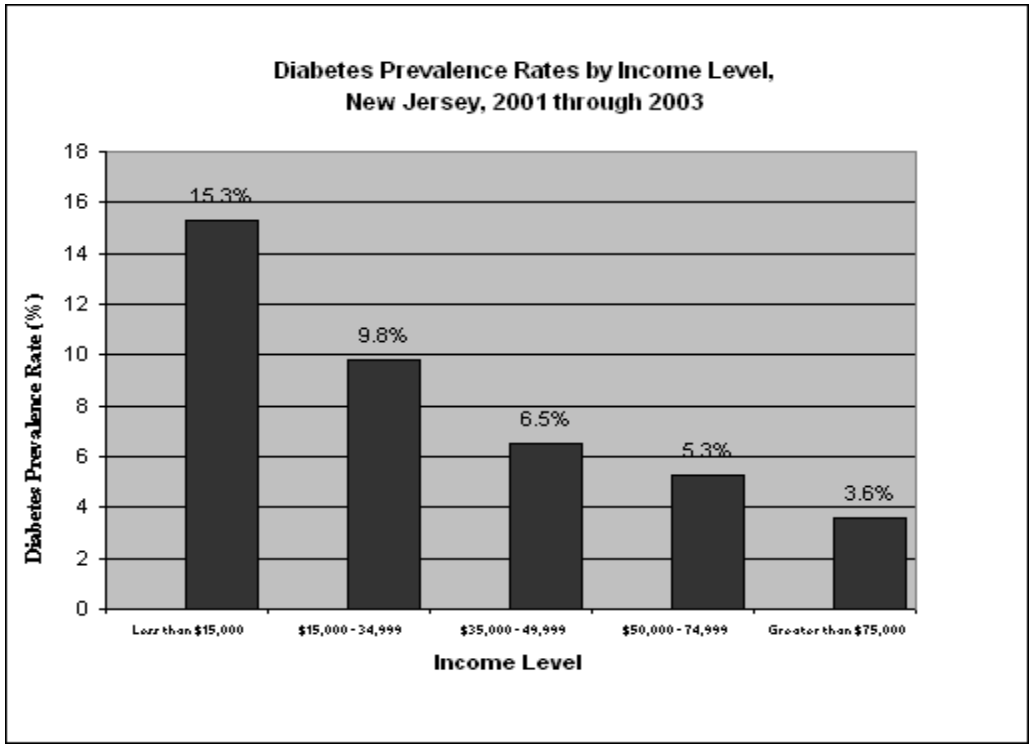
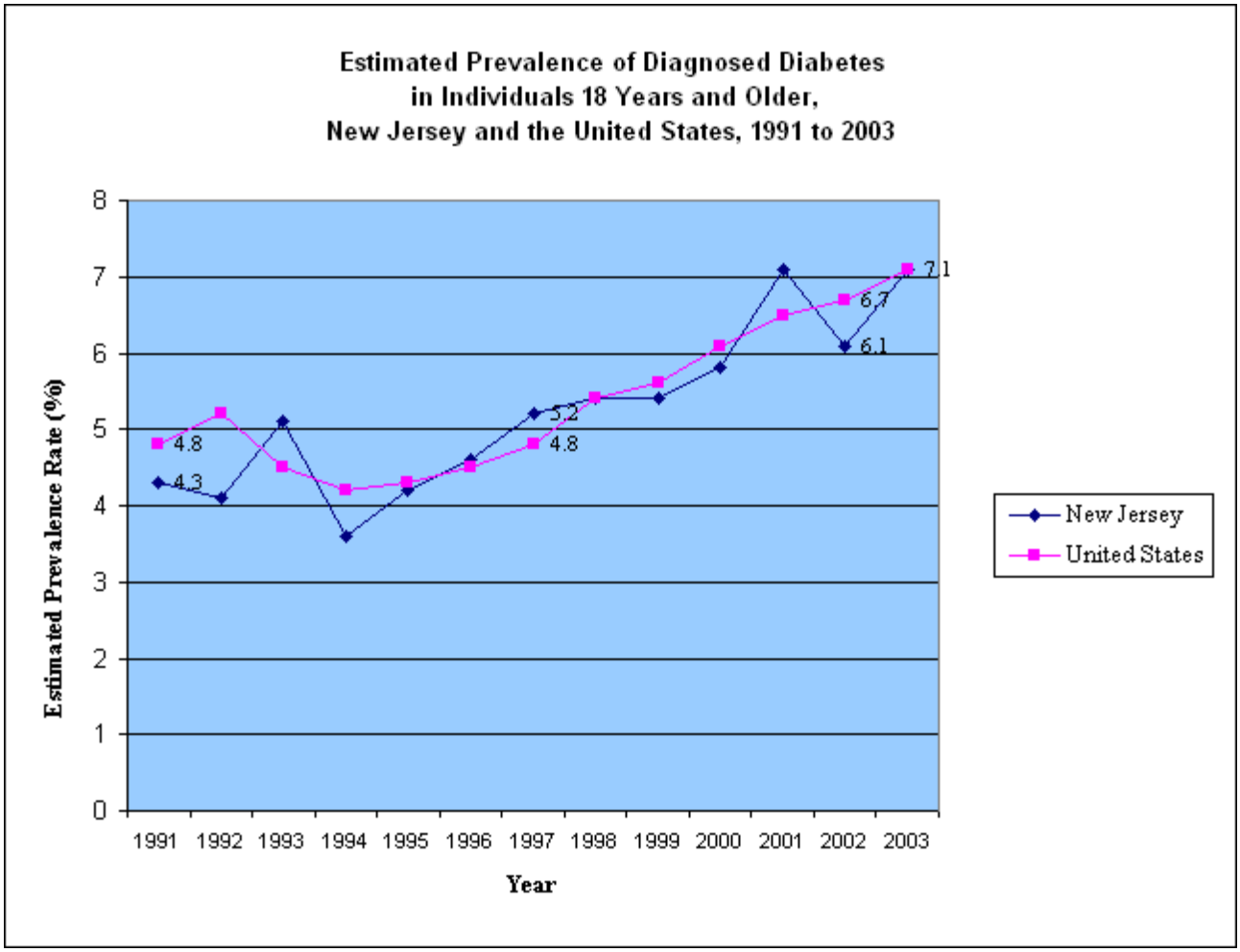


Figure 5



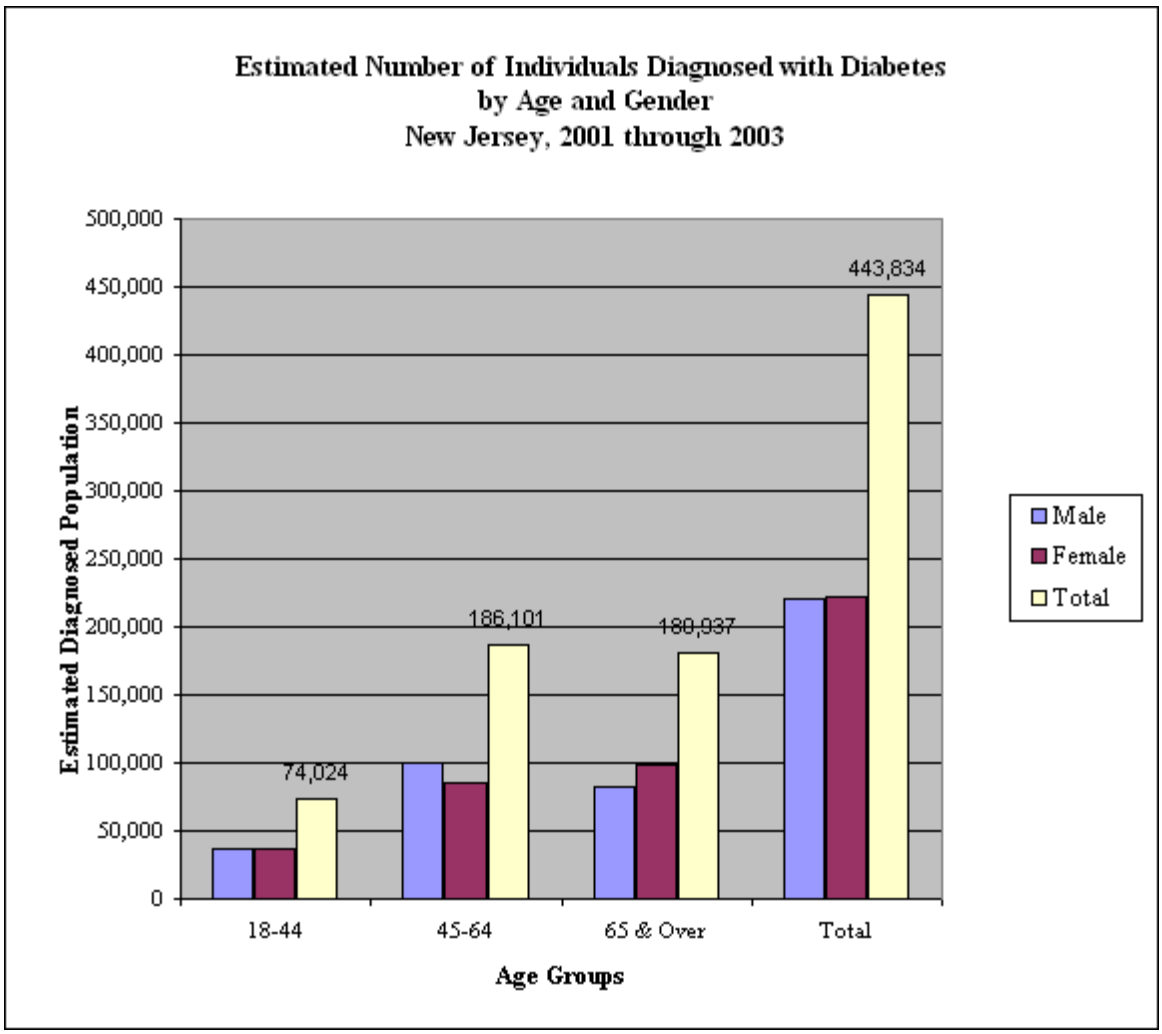
Source: New Jersey Behavioral Risk Factor Survey.

Figure 6



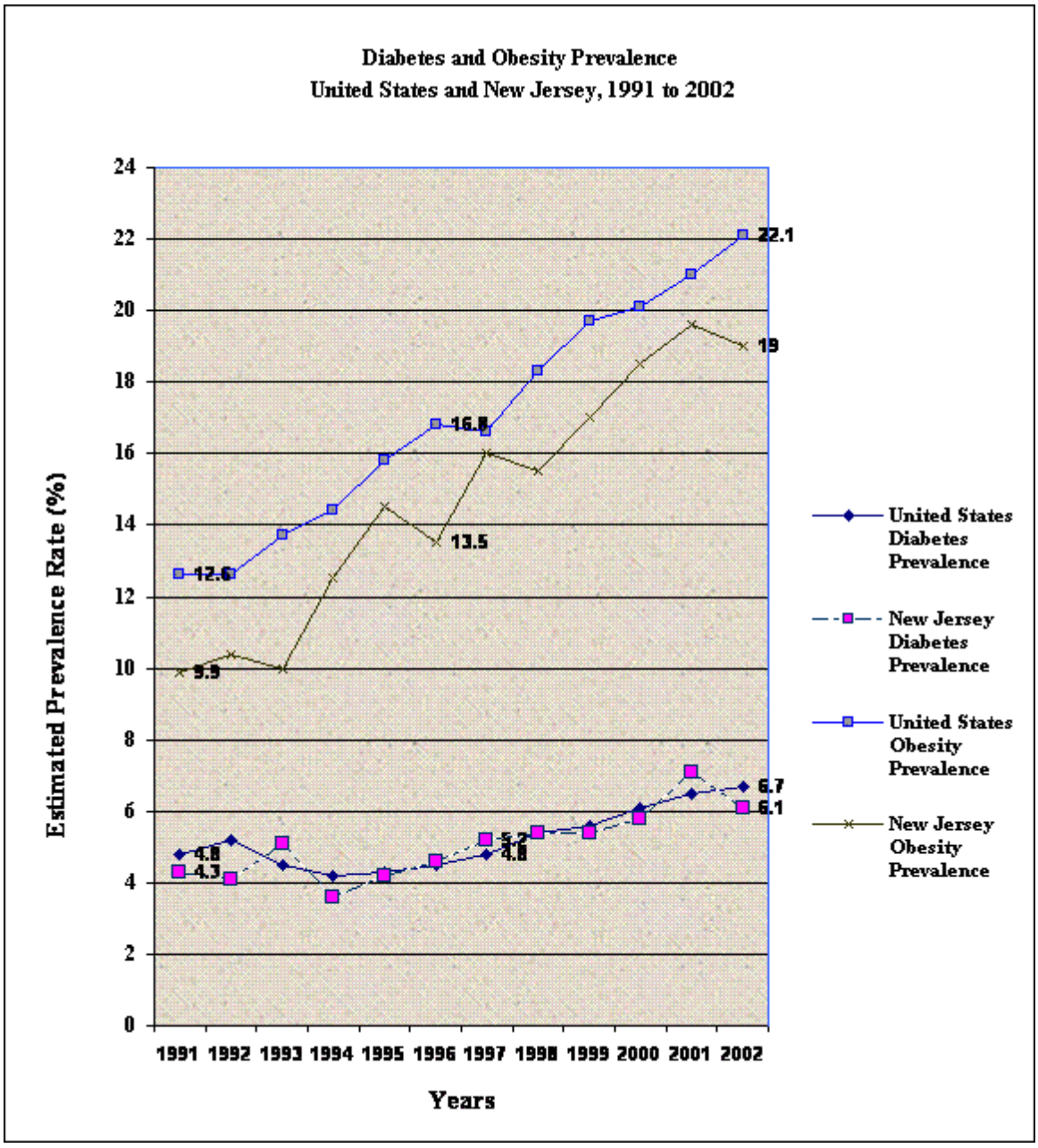
CDC: Behavioral Risk Factor Survey System, 1991 to 2002.

Figure 7



Source: New Jersey Behavioral Risk Factor Survey.

Figure 8



CDC: Behavioral Risk Factor Surveillance System, 1991 to 2002.

CHAPTER 3

Diabetes as a complication of pregnancy, whether pre-existing or gestational diabetes mellitus (GDM), is an important public health concern. Pre-existing diabetes comprises approximately ten percent of cases of diabetes in pregnancy; correspondingly the remaining 90 percent of cases are classified as gestational diabetes mellitus. Increases in the prevalence of diabetes mellitus in the female population age 15-44 have been documented in national health statistics and New Jersey data as well.[1]

GDM is defined as any degree of glucose intolerance that either has its onset or is first recognized during pregnancy.[2] This definition is used whether the mother is treated with diet modification alone or with insulin. The diagnosis of GDM applies whether or not the condition persists after pregnancy. It does not exclude the possibility that unrecognized glucose intolerance may have started before the pregnancy rather than concomitantly with the pregnancy. In the United States, the current guideline for detection and diagnosis of GDM calls for glucose testing in the presence of certain risk factors.

Pre-existing diabetes mellitus, whether type 1 or type 2, is associated with an increased risk of both maternal complications and adverse pregnancy outcomes affecting the fetus. Higher rates of major congenital malformations, prematurity, fetal growth restrictions, and, to a lesser extent, spontaneous abortions are observed in pregnancies complicated by pre-existing diabetes.[3] Congenital malformations occur in the first trimester; thus rates are not increased in GDM which usually has its onset in the latter half of pregnancy. Fetal macrosomia (excessively large infant) is a potential adverse fetal effect of either pre-existing or gestational diabetes. Macrosomia increases the risk of birth trauma and is linked with an increased risk of childhood, and later, obesity. Of growing concern is the fact that epidemiologic and experimental data are accumulating that identify interactions between the fetal genome and specific in-utero nutrient availabilities. These interactions may result in the development of insulin receptors that are patterned in ways that may lead to insulin resistance and adverse metabolic consequences later in life for offspring of diabetic mothers.[4]

There is also growing epidemiologic and metabolic study evidence that GDM is likely to represent a stage in a continuum from pre-pregnancy insulin resistance, to GDM while pregnant, to post-pregnancy type 2 diabetes. Post-pregnancy type 2 diabetes may not be clinically manifest until a decade after the affected pregnancy in some women.[5,6]

Maternal risks for women with pre-existing diabetes include development or worsening of diabetic retinopathy, worsening of pre-existing nephropathy, and development of pre-eclampsia. Optimal maternal medical care can reduce perinatal mortality rates for babies of women with diabetes to levels nearly equivalent to those observed in normal pregnancies. Furthermore, there is evidence suggesting that tight control of diabetes prior to conception and throughout the first trimester reduces the rate of congenital malformations. Thus, critical issues for women with pre-existing diabetes include pre-conception counseling and metabolic control as well as an early pregnancy diabetes control program.[7]

[1] NJ DOH Data

[2] Diabetes Care, Vol. 27, Supplement 1, Jan. 2004; *Gestational Diabetes Mellitus- Clinical Practice Recommendations of the American Diabetes Association.*

[3] Diabetes Care, Vol. 27, Supplement 1, Jan. 2004; *Preconception Care of Women with Diabetes- Clinical Practice Recommendations of the American Diabetes Association.*

[4] Van Assche F,Holemans K,Aerts L : *Long Term consequences for offspring of diabetes during pregnancy.* British Medical Bulletin 2001;60:173-182

[5] Verma, et.al. *Insulin Resistance Syndrome in Women with Prior History of Gestational Diabetes Mellitus*. J Clin Endocrinol Metab 76:3227-3235, 2002.

[6] Kousta, et.al. *Insulin Resistance and Beta Cell dysfunction in normoglycemic European women with a history of gestational diabetes*. Clinical Endocrinology (2003) 59: 289-297

[7] (same as reference 5) Diabetes Care, Vol. 27, Supplement 1, Jan. 2004; *Preconception Care of Women with Diabetes- Clinical Practice Recommendations of the American Diabetes Association.*

- According to the New Jersey Behavior Risk Factor Surveillance System (BRFSS), diabetes affected about 2% of women in their child bearing years. This does not include females reported to have had diabetes only during pregnancy. Black, non-Hispanic females in the 18 years to 44 age group were reported to have the highest rate of diabetes at 2.7% (Table 1).

- Data from the New Jersey Department of Health and Senior Services, Center for Health Statistics for the year 2000 indicate that diabetes as a medical risk during pregnancy varied by county from 30.0 per 1,000 births in Cape May County to 56 per 1,000 births in Middlesex. The differences among county rates possibly may be explained by county demographics and hospital data collection procedures. Also small denominators may have artificially inflated or deflated some rate calculations (Table 2).

- New Jersey (BRFSS) data from 1995 to 2002 for females indicated that females who reported ever having been told they had diabetes but only during pregnancy had ranged from a low of 1.1 per 100 respondents in 1995 to 3.9 per 100 respondents in 2002 (Table 3).

- Data as reported on New Jersey's resident live birth certificates showed an increase in rates of diabetes as a medical risk during pregnancy from 40 per 1,000 New Jersey births in 1998 to 44.5 per 1,000 births in 2002. Asian and Pacific Islanders of non-Hispanic ethnicity had the highest rate per 1,000 births; 79.0 per 1,000 New Jersey births in 1998 and 90.7 per 1,000 births in 2002 (Table 4).

- Data on the residents live birth certificates indicated that diabetes as a medical risk during pregnancy especially affected older birthing mothers. In the 2002 data, only 23 per 1,000 birthing mothers in the 20 to 24 age group had diabetes as a medical risk during pregnancy. In comparison, 86 per 1,000 birthing mothers in the 40 and over age group had diabetes as a medical risk for the same year (Table 5 and Figure 1).

- Data from the residents live birth file for the five year time period 1996 to 2000 showed that the rates of diabetes as a medical risk were associated with the birthing mother's racial and ethnic make up. For the years 1996 to 2000, Asian Indian birth mothers had the highest rate of diabetes as a medical risk of pregnancy (89.1 per 1,000 births) of all racial groups. The total New Jersey birthing mother population had a rate of 38.1 per 1,000 births over the same time period (Table 6).

- The 2000 residents live birth file also indicated that birthing mothers with diabetes as a medical risk had an 11.8% increased risk of having a medical complication at delivery and a 51.6% increased risk of having a primary C-section delivery (Table 7).

- New Jersey residents live birth certificates data demonstrated that birthing mothers with diabetes as a medical risk during pregnancy had a 46.5% increased risk of having a macrocosmic child and 36% increased risk of delivering a low birth weight child. Also, birthing mothers with diabetes during pregnancy had a 69.2% increased risk of having an outcome defined as "Abnormal Condition of the Newborn" such as anemia, birth injury, fetal alcohol syndrome, hyaline membrane disease, meconium aspiration syndrome, assisted ventilation, and seizures (Table 8).

- New Jersey birthing mothers with diabetes during pregnancy had a 45.6% increased risk of having a delivery outcome defined as " Congenital Anomaly" such as anencephalus, spina bifida/meningocele, hydrocephalus, microcephalus, heart malformation, rectal atresia/stenosis, tracheo-esophageal fistula/esophageal atresia, omphalocele/gastroschisis, malformed genitalia, renal agenesis, cleft lip/palate, polydactyly/syndactyly/adactyly, club foot, diaphragmatic hernia, Down's syndrome, and other chromosomal anomalies (Table 8).

Table 1
Estimated Prevalence of Diabetes in Females 18 Through 44 Years of Age Who Reported Having Diabetes Except During Pregnancy by Race and Ethnicity, New Jersey, 2000 through 2002

	Weighted Size	Number Diagnosed	Rate* Diagnosed	95% Confidence Level
All Race/Ethnicity Categories	1,601,933	30,641	1.9	(1.3 - 2.8)
Black, Non-Hispanic	198,621	5,350	2.7	(1.5 - 4.7)
White, Non-Hispanic	963,443	18,541	1.9	(1.2 - 3.1)
Hispanic	284,566	3,029	1.1	(0.5 - 2.3)
Other	133,388	385	0.3	(0.1 - 1.2)

Source: New Jersey Behavioral Risk Factor Surveillance System.
* Rate/100 population.

Table 2
Total and Percentage of Birthing Mothers With and Without Diabetes as a Medical Risk Factor of Pregnancy, and Rate of Diabetes as a Medical Risk Factor, by County, New Jersey, 2000

County/Place	New Jersey Birthing Mothers		New Jersey Birthing Mothers with Diabetes as a Medical Risk		Rate* of Diabetes as a Medical Risk
	Number	% of Total of NJ Birthing Mothers	Number	% of Total of NJ Birthing Mothers with Diabetes	
Atlantic	2,983	2.95	130	3.1	43.6
Bergen	9,381	9.3	347	8.27	37.0
Burlngton	4,216	4.17	144	3.43	34.2
Camden	5,702	5.64	206	4.91	36.1
Cape May	901	0.89	27	0.64	30.0
Cumberland	1,758	1.74	77	1.84	43.8
Essex	11,141	11.02	500	11.92	44.9
Gloucester	2,398	2.37	97	2.31	40.5
Hudson	7,804	7.72	320	7.63	41.0
Hunterdon	1,190	1.18	40	0.95	33.6
Mercer	4,216	4.17	177	4.22	42.0
Middlesex	9,546	9.44	535	12.76	56.0
Monmouth	7,054	6.98	235	5.6	33.3
Morris	5,568	5.51	220	5.25	39.5
Ocean	5,888	5.82	288	6.87	48.9
Passaic	7,394	7.31	268	6.39	36.2
Salem	532	0.53	**	**	**
Somerset	3,852	3.81	171	4.08	44.4
Sussex	1,451	1.43	77	1.84	53.1
Union	7,109	7.03	287	6.84	40.4
Warren	1,034	1.02	36	0.86	34.8
Total	101,118	100	4,194	100	41.5

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
* Rate/1000 Births.
** The estimated number of New Jersey residents in this group was too small to derive reliable rates.

Table 3
Estimated Rates* of Females 18 Years Old and Over Who Reported Ever Having Been Diagnosed with Diabetes, but Only During Pregnancy, New Jersey, 1995 through 2002

Year	Rate*	95% Confidence Level
1995	2.2	(0.9 - 3.5)
1996	1.1	(0.5 - 1.8)
1997	1.6	(0.8 - 2.4)
1998	1.1	(0.5 - 1.7)
1999	1.4	(0.8 - 1.9)
2000	1.7	(1.1 - 2.2)
2001	2.3	(1.7 - 2.8)
2002	3.9	(2.3 - 5.4)

CDC Behavioral Risk Factor Surveillance System, New Jersey Data 1995 through 2002.
* Rate/100 Population.

Table 4
Rates* of Diabetes as a Medical Risk Factor of Pregnancy as Reported on Certificates of Live Birth, by Maternal Race and Hispanic Origin, New Jersey, 1998 - 2002

Year	Total	White, Non-Hispanic	Black, Non-Hispanic	Hispanic	Asian/Pacific Islander, Non-Hispanic
1998	40.0	36.0	40.0	42.0	79.0
1999	38.0	34.0	40.0	38.0	74.0
2000	40.0	36.0	43.0	39.0	79.0
2001	43.3	38.1	43.2	41.8	83.6
2002	44.5	37.0	44.0	45.7	90.7

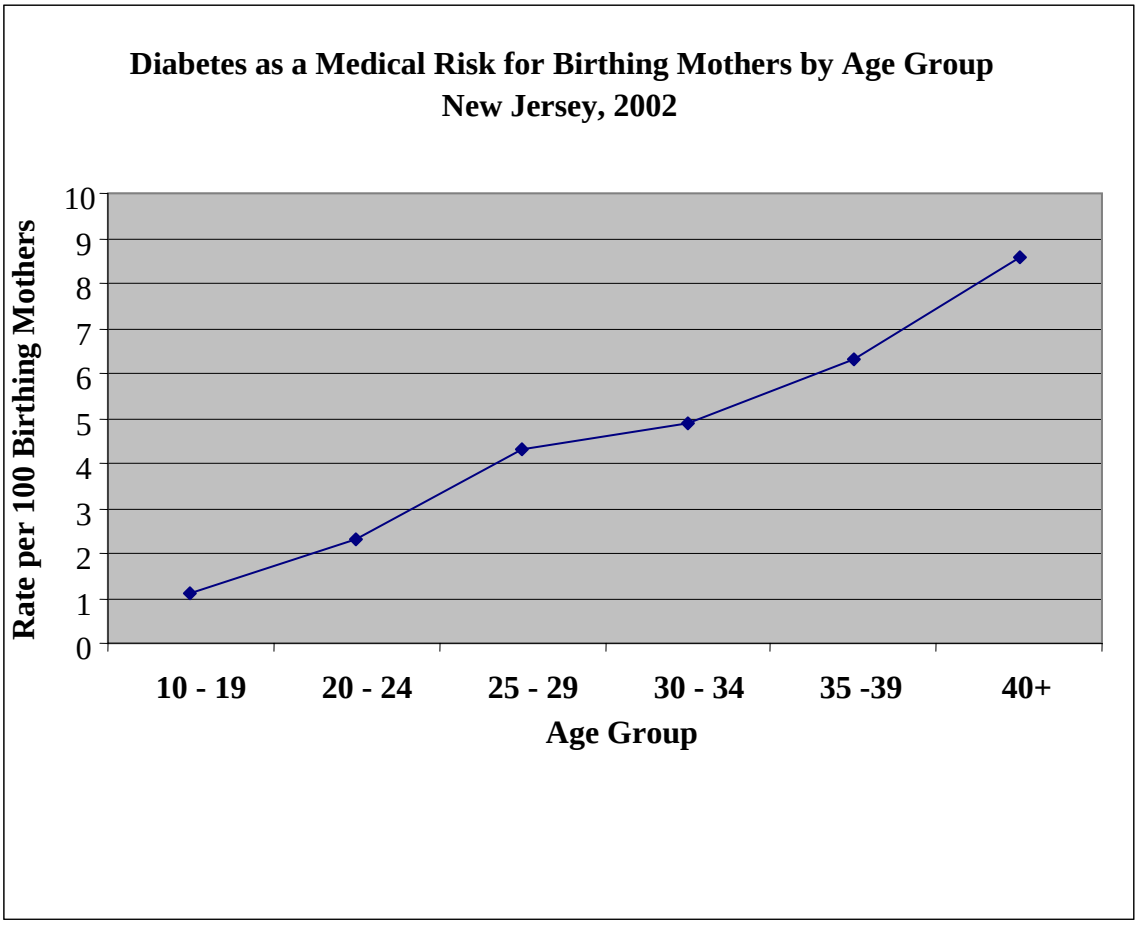
Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
* Rate/1000 Births.

Table 5
Number and Rates* of Birthing Mothers with Diabetes as a Medical Risk Factor of Pregnancy as Reported on Certificates of Live Birth, by Year and Selected Age Groups
New Jersey, 1998 - 2002

	Total		Rates of Diabetes as a Medical Risk by Age Group					
	Number	Rate	10 - 19	20 - 24	25 - 29	30 - 34	35 -39	40+
1998	4,564	40	12	22	36	45	61	83
1999	4,294	38	10	21	36	42	55	73
2000	4,657	40	10	21	36	46	59	80
2001	5,014	43	11	23	40	49	63	77
2002	5,095	44	11	23	43	49	63	86

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
* Rate/1000 Births.

Figure 1



Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

Table 6
Numbers and Rates of Birthing Mothers and Birthing Mothers with Diabetes as a Medical Risk Factor of Pregnancy by Year
New Jersey, 1996 - 2000

Race	1996		1997		1998		1999		2000		Total 1996 - 2000		
	Frequency		Frequency		Frequency		Frequency		Frequency		Frequency		Avg. Rate* per 1000 Births for Five Years
	Number of Birthing Mothers	Diabetes as a Medical Risk Factor	Number of Birthing Mothers	Diabetes as a Medical Risk Factor	Number of Birthing Mothers	Diabetes as a Medical Risk Factor	Number of Birthing Mothers	Diabetes as a Medical Risk Factor	Number of Birthing Mothers	Diabetes as a Medical Risk Factor	Number of Birthing Mothers	Diabetes as a Medical Risk Factor	
White, Non-Hispanic	63,180	2,011	61,638	1,956	60,597	2,128	57,213	1,926	54,540	1,987	297,168	10,008	33.7
Black, Non-Hispanic	18,413	605	18,285	648	18,263	722	17,710	705	17,030	731	89,701	3,411	38.0
Indian/American, Non-Hispanic	183	*	140	*	132	11	131	*	127	6	713	29	40.7
Asian and Pacific Islander, Non-Hispanic:	6,575	414	6,886	496	7,190	551	7,471	539	8,204	640	36,326	2,640	72.7
Chinese	1,185	78	1,219	94	1,265	97	1,249	93	1,445	122	6,363	484	76.1
Japaneese	273	7	250	10	256	6	236	*	220	11	1,235	38	30.8
Hawiian, Samoan and Guamian	18	*	24	*	17	*	13	0	20	0	92	*	43.5
Filipino	1,274	79	1,312	82	1,322	111	1,312	96	1,300	90	6,520	458	70.2
Asian Indian	2,160	177	2,431	215	2,746	263	3,018	257	3,302	305	13,657	1,217	89.1
Korean	731	18	732	19	679	13	654	15	813	29	3,609	94	26.0
Vietnamese	245	11	284	17	277	11	332	14	346	22	1,484	75	50.5
Other Asian/Pacific Islander	689	43	634	58	628	48	657	60	758	61	3,366	270	80.2
Race not Stated	329	11	262	10	373	17	396	15	356	15	1,716	68	39.6
Other	418	21	505	38	611	42	612	39	271	18	2,417	158	65.4
Hispanic:	18,773	654	18,934	699	19,638	808	20,365	760	20,590	797	98,300	3,718	37.8
Mexican	2,252	64	2,357	83	2,645	97	3,058	118	3,199	136	13,511	498	36.9
Puerto Rican	6,927	266	6,687	273	6,773	300	6,696	259	6,457	265	33,540	1,363	40.6
Cuban	819	39	855	32	833	32	788	28	807	27	4,102	158	38.5
Central or South America	8,608	282	8,809	300	9,081	362	9,554	346	9,921	365	45,973	1,655	36.0
Other Hispanic Country	167	*	226	11	306	17	269	9	206	*	1,174	44	37.5
Total	107,871	3,720	106,650	3,852	106,804	4,279	103,898	3,987	101,118	4,194	526,341	20,032	38.1

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics. Public use Birth Files 1996 through 2000.
* Events that occur five or fewer times are not reportable.

Table 7
Number and Rate of Labor and Delivery Complications and Primary Caesarian Section Deliveries for Birthing Mothers With and Without Diabetes as a Medical Risk Factor of Pregnancy
New Jersey, 2000

Complications/Method of Delivery	Birthing Mothers without Diabetes		Birthing Mothers with Diabetes		Increased Risk for Mothers with Diabetes
	Number	Rate*	Number	Rate*	
Febrile (>100 F. or 38 C.)	1,870	19.3	83	19.8	2.6%
Meconium, moderate/heavy	7,341	75.7	274	65.3	-13.7%
Premature Rupture of Membrane (>12 Hours)	1,718	17.7	73	17.4	-1.8%
Abruptio Placenta	593	6.1	31	7.4	20.8%
Placenta Previa	399	4.1	19	4.5	10.0%
Other Excessive Bleeding	1,623	16.7	101	24.1	43.8%
Seizures During Labor	18	**	**	**	**
Precipitous Labor (<3 hrs.)	4,212	43.5	170	40.5	-6.7%
Prolonged Labor (> 20 hrs.)	1,857	19.2	97	23.1	20.7%
Dysfunctional Labor	1,258	13.0	83	19.8	52.5%
Breech/Malpresentation	3,327	34.3	190	45.3	32.0%
Cephalopelvic Disproportion	1,603	16.5	90	21.5	29.8%
Cord Prolapse	208	2.1	16	3.8	77.8%
Fetal Distress	6,720	69.3	356	84.9	22.5%
Anesthetic Complications	50	0.5	**	**	**
Total Complications:	32,797	338.2	1,586	378.2	11.8%
Primary C - Section	15,044	155.0	986	235.0	51.6%

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics, Public use birth files, data year 2000.
* Rate/1000 Births.
** Number of New Jersey residents in this group was too small to provide reliable rates.

Table 8
Number and Rate of Adverse Delivery Outcomes for Births with Mothers Having and not Having Diabetes as a Medical Risk Factor of Pregnancy
New Jersey, 2000

Outcome	Adverse Outcomes of Live Births with Mothers not Having Diabetes		Adverse Outcomes of Live Births with Mothers Having Diabetes		Increased Risk
	Number	Rate*	Number	Rate*	
Macrosomia: >4000 Grams	10,466	101.0	660	148.0	46.5%
Low Birth Weight: <2500 Grams	7,617	73.5	446	100.0	36.0%
Abnormal Conditions of Newborn:	2,021	19.5	147	33.0	69.2%
Congenital Anomalies:	1,445	13.4	87	19.5	45.6%

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics, Public use Birth files, Data year 2000.
* Rate/1000 Births.

Chapter 4

Diabetes is a disease that can cause serious medical complications and premature death. However, individuals can take steps to prevent or delay the development of the disease and prevent diabetes complications if the disease is present.

Factors such as genetics, obesity, life style, environment, and age may play a part in determining the individual's chance of developing diabetes mellitus. Research has indicated that certain individuals may be genetically susceptible to type 1 or type 2 diabetes. Studies have shown that if a parent or sibling has type 1 diabetes then the risk of the individual for developing type 1 diabetes is 10 to 20 times the risk for the general population. If a parent or sibling has type 2 diabetes, the risk of an individual developing type 2 diabetes is three times the risk of someone in the general population developing type 2 diabetes. If both parents have type 2 diabetes, the risk of a child developing diabetes may be as high as 50%.[1] However, even though these genetic factors for type 2 diabetes may influence an individual's susceptibility to developing diabetes mellitus, other actions by an individual may delay or prevent the progression of the disease. Studies have indicated that an increase in physical activity and weight loss may contribute to the prevention or delay of type 2 diabetes. Although life style changes appear to be more effective in general, research has demonstrated that certain medications taken at the pre-diabetes stage may also prevent or delay the development of diabetes.[2]

The U.S. Preventative Services Task Forces' Guide to Clinical Preventive Services (2d edition, 1996) defines primary prevention measures as "those provided to individuals provided to prevent the onset of a targeted condition." (pp xli) Primary prevention measures include activities that help avoid a given health care problem. Secondary prevention refers to early detection of disease (e.g., screening) in people who are asymptomatic. The prevention or delay of complications caused by diabetes is referred to as tertiary prevention. Individuals who are diagnosed with diabetes have a high risk of developing serious medical complications, such as heart disease, stroke, kidney disease, eye complications, neuropathy, nerve damage, foot problems, skin disorders, gastroparesis, and acute respiratory disease. Many of these conditions can be delayed or prevented by proper glucose control, diet, exercise, medication, control of cholesterol and blood pressure ranges, and the securing of pneumonia and annual flu vaccinations.

This chapter includes data that depict the prevalence of these risk factors among New Jersey residents with and without diabetes. Obesity and sedentary life styles are risk factors that may impact primary prevention efforts.[3] Good nutritional habits have an impact on tertiary prevention.[4] The chapter also contains data that show the status of the New Jersey Diabetes Prevention and Control Program's secondary prevention goals, including increasing the percentage of the diabetic population receiving eye exams, foot exams, A1C tests, and influenza vaccinations on an annual basis and having a one-time pneumococcal vaccination. Also presented are data that measure how often New Jersey adults with diabetes monitor their blood glucose and indicate what medications they are prescribed by type and purpose.

References:

[1]Joslin Diabetes Center. Genetics & Diabetes: What's Your Risk? Available at: http://www.joslin.org/managing_your_diabetes_687.asp.

[2]Centers for Disease Control and Prevention. National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2003. Rev ed. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2004. Available at: http://www.cdc.gov/diabetes/pubs/factsheet.htm.

[3] Centers for Disease Control and Prevention . Overweight and Obesity. Available at: http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm

[4]Centers for Disease Control and Prevention. *Take Charge of Your Diabetes.* 3rd edition. Atlanta: U.S. Department of Health and Human Services, 2003.

- Nationally, the estimated prevalence of obesity among adults increased from 13% in 1991 to 22% in 2002. During the same time period in New Jersey, the estimated prevalence of obesity among adults increased from 10% to 19%. Similarly, during the same time period, the estimated prevalence of diagnosed diabetes has increased from 5% to 7% nationally and from 4% to 6% in New Jersey (Figure 1).

- According to the New Jersey Behavioral Risk Factor Survey (NJBRFS) for the time period 2003 through 2005, New Jersey adults diagnosed with diabetes have a significantly greater prevalence of obesity (50%) and sedentary life style (68%) than New Jersey adults without diabetes (20% and 53%, respectively) (Figure 2).

- The estimates for both Hispanic and black, non-Hispanic adults tend to be higher than those for white, non-Hispanic adults, regardless of age and sex, but this is not necessarily true among diabetic adults (tables 1a and 1b).

- The same survey suggests that the age and gender group group with the highest prevalence of obesity is found among females in the 45 through 64 age group with New Jersey women diagnosed with diabetes at 58% and without diabetes at 22%. The lowest prevalence of obesity is in the male 65 and over age group at 30% for males diagnosed with diabetes, and 17% for males without diabetes (Tables 2A and 2B).

- According to NJBRFS results for the time period 2003 through 2005, an estimated 58% of New Jersey adults are in either the obese or the overweight (non-obese) weight categories. Cumberland County had the highest percentage of obese and overweight (non-obese) residents (67%) among all New Jersey counties while Salem County had the highest prevalence of obesity (31%) among all State counties (Table 3).

- The NJBRFS indicates that approximately 53% of New Jersey adults diagnosed with diabetes and 27% of New Jersey adults not diagnosed with diabetes have received an annual flu vaccination. Among New Jersey residents aged 65 years and over,

approximately 71% of those diagnosed with diabetes and 65% of those not diagnosed with diabetes have received an annual flu vaccination (Figure 3).

- The survey results show similar trends for pneumococcal vaccinations: 46% of New Jersey adults diagnosed with diabetes and 21% of New Jersey adults not diagnosed with diabetes have received a pneumococcal vaccination. Among New Jersey residents aged 65 years and over, approximately 67% of those diagnosed with diabetes and 63% of those not diagnosed with diabetes have received a pneumococcal vaccination (Figure 4).

- The survey data show that 72% of the New Jersey adults diagnosed with diabetes had an annual retinal exam, 71% had an annual foot exam, and 78% had an annual A1C test. The New Jersey Hispanic population had the lowest rate in the A1C testing category at 61% (Table 4).

- Survey results point out that only 62% of New Jersey adults who were diagnosed with diabetes tested their blood glucose at least daily and 10% of residents did not test their blood glucose in the past year (Figure 5).

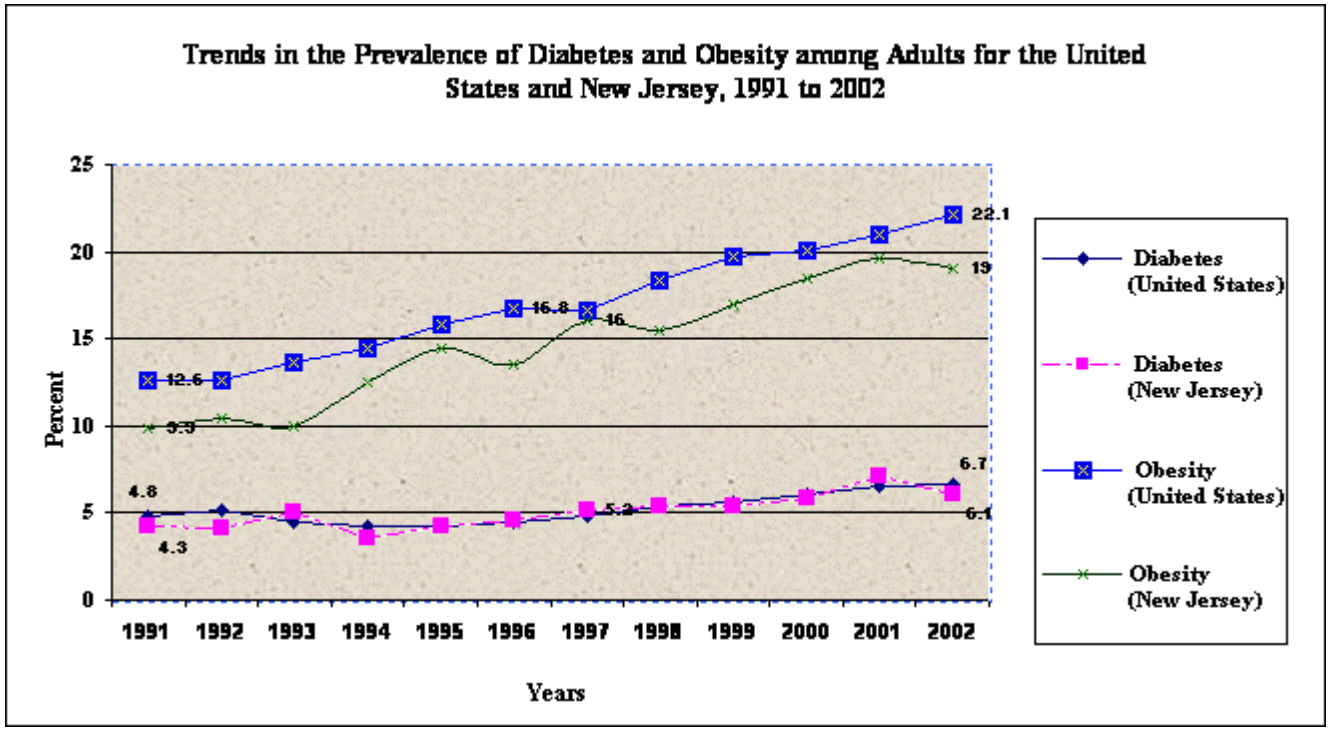
- According to NJBRFS data, 63% of New Jersey residents diagnosed with diabetes had high blood pressure and 58% had high cholesterol as risk factors. In comparison, only 24% the New Jersey residents who were not diagnosed with diabetes had high blood pressure and 33% of that group had high cholesterol as risk factors. New Jersey white, non – Hispanic residents who were diagnosed with diabetes had the highest prevalence of high blood pressure (64%) and cholesterol (59%) among all race/ethnicity groups (Tables 5A and 5B).

- NJBRFS results for the time period 2003 through 2005 show that 12% of the New Jersey adults diagnosed with diabetes take insulin solely. While, 61% of the adults with diabetes take oral medication, only 11% of the adults take a combination of insulin and oral medication. At least 15% of the New Jersey adults diagnosed with diabetes take no diabetes-related medication (Figure 6).

- NJBRFS results reveal that insulin use in the treatment of diabetes has decreased from 38% in the time period 1994 through 1996 to 24% in the time period 2003 through 2005 (Figure 7)

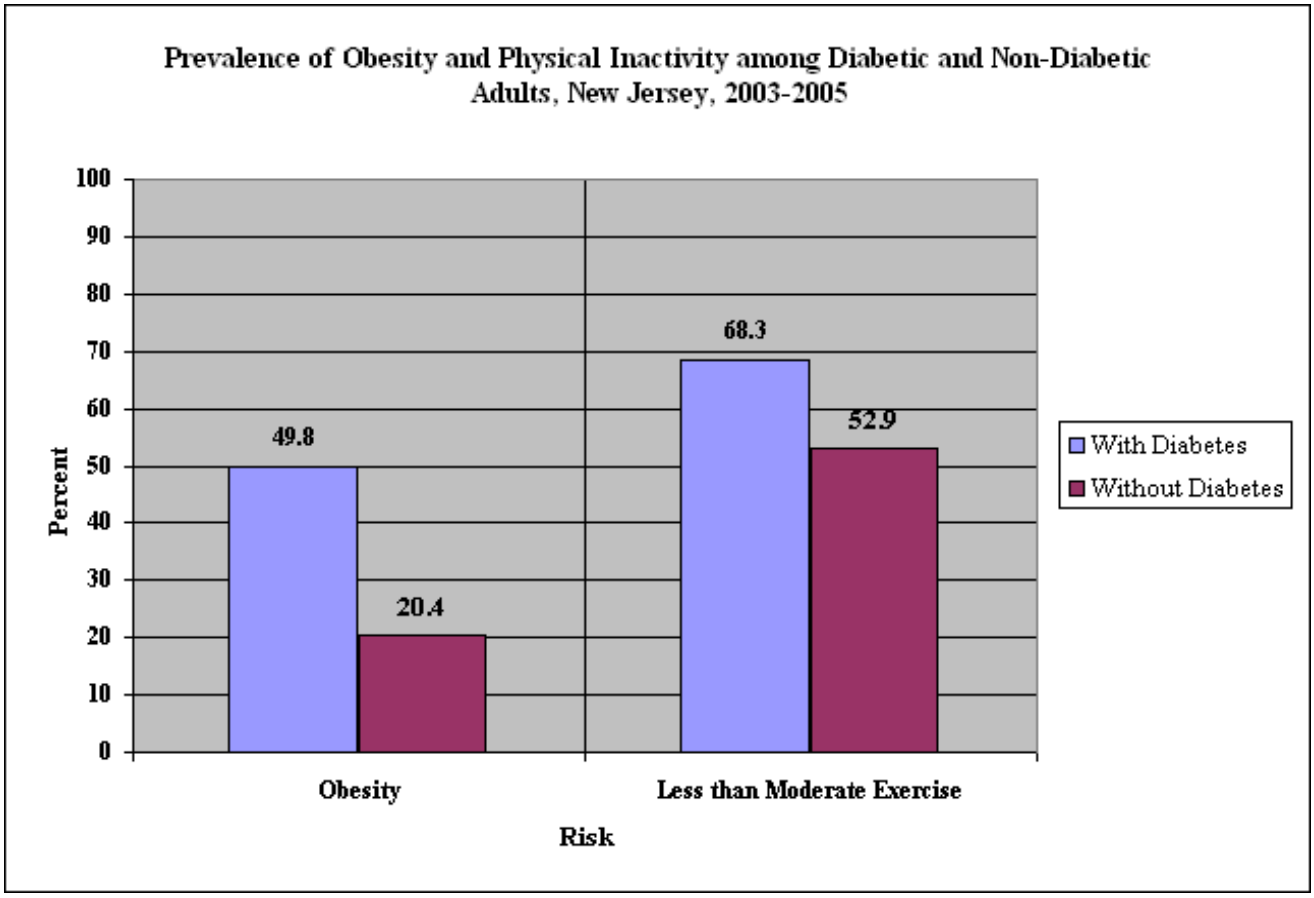
- According to NJBRFS results for the time period 2002 through 2004, an estimated 88% of the New Jersey population diagnosed with both diabetes and hypertension are taking blood pressure medication compared to 74% of New Jersey adults diagnosed with hypertension alone (Table 6).

Figure 1



Source: Centers for Disease Control and Prevention, .

Figure 2



Source: New Jersey Behavioral Risk Factor Survey, data years 2003 through 2005.

Table 1A
Percentage of Women Having Less than Moderate Exercise by Race/Ethnicity, Age, and Diabetes Status
New Jersey, 2003 through 2005

	All Women			18-44			45-64			65+		
Race/Ethnicity	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**
White, Non-Hispanic:	52.1	70.7	51.0	45.1	54.7	45.0	52.0	70.6	50.8	64.7	74.5	63.4
95% Confidence Interval	51.1 – 53.1	67.3 – 73.9	50.0 – 52.0	43.3 – 46.9	42.6 – 66.3	43.2 – 46.8	50.5 – 53.5	65.1 – 75.6	49.2 – 52.3	63.0 – 66.4	69.9 – 78.6	61.6 – 65.2
Black, Non-Hispanic:	60.5	69.3	59.3	54.3	63.4	53.8	62.1	63.9	61.9	76.6	80.7	75.0
95% Confidence Interval	57.8 – 63.2	61.7 – 75.9	56.4 – 62.2	50.3 – 58.2	44.1 – 79.3	49.8 – 57.8	57.4 – 66.6	51.8 – 74.6	56.8 – 66.8	70.3 – 81.9	70.0 – 88.3	67.1 – 81.5
Other, Non-Hispanic:	62.3	70.6	62.0	61.8	43.7	62.1	63.1	72.8	62.3	65.4	71.9	63.5
95% Confidence Interval	58.3 – 66.1	51.2 – 84.5	57.9 – 65.9	56.6 – 66.9	10.2 – 84.1	56.8 – 67.1	56.1 – 69.6	46.8 – 89.0	55.0 – 69.1	50.4 – 77.9	33.8 – 92.8	46.9 – 77.4
Hispanic:	65.8	77.7	64.9	62.7	67.5	62.6	68.7	78.0	67.6	79.0	85.0	76.9
95% Confidence Interval	63.2 – 68.4	69.5 – 84.2	62.1 – 67.6	59.2 – 66.1	48.3 – 82.2	59.0 – 66.0	63.8 – 73.3	64.9 – 87.1	62.3 – 72.6	71.5 – 85.0	70.4 – 93.1	67.7 – 84.1
All Race/Ethnicity Categories:	55.9	71.8	54.8	51.3	60.4	51.1	56.1	71.0	54.8	66.9	77.0	65.1
95% Confidence Interval	55.0 – 56.8	68.9 – 74.5	53.9 – 55.7	49.9 – 52.8	51.3 – 68.8	49.7 – 52.6	54.7 – 57.5	66.2 – 75.3	53.3 – 56.2	65.3 – 68.4	73.0 – 80.5	63.3 – 65.2

Source: New Jersey Behavioral Risk Factor Survey, data years 2003 through 2005.

Table 1B
Percentage of Men Having Less than Moderate Exercise by Race/Ethnicity, Age, and Diabetes Status, New Jersey, 2003 through 2005

	All Men			18-44			45-64			65+		
Race/Ethnicity	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**
White, Non-Hispanic:	48.1	63.9	46.8	41.1	60.5	40.8	51.2	62.0	50.1	59.0	67.5	57.1
95% Confidence Interval	46.9 – 49.3	60.2 – 67.4	45.5 – 48.0	39.1 – 43.1	47.0 -72.6	38.8 – 42.8	49.4 – 53.0	56.3 – 67.3	48.2 – 52.0	56.8 – 61.2	62.2 – 72.3	54.7 -59.5
Black, Non-Hispanic:	54.4	63.1	53.2	48.8	63.1	48.2	56.4	56.2	56.5	72.7	74.6	71.9
95% Confidence Interval	50.5 – 58.4	51.1 -73.6	49.0 – 57.4	43.1 – 54.5	33.8 – 85.2	42.4 – 54.0	49.8 – 62.8	38.8 – 72.1	49.4 – 63.3	63.7 – 80.2	55.5 – 87.4	61.4 – 80.4
Other, Non-Hispanic:	59.9	64.3	59.5	61.1	58.8	61.1	58.5	70.3	56.0	56.3	53.6	56.9
95% Confidence Interval	55.5 – 64.2	50.4 – 76.2	54.8 – 64.0	55.1 – 66.8	25.9 – 85.4	55.0 – 66.9	50.8 – 65.9	51.4 – 84.1	47.4 – 64.2	42.1 – 69.5	30.1 – 75.6	40.5 – 71.8
Hispanic:	60.9	74.6	60.0	59.9	79.2	59.4	64.1	75.7	62.2	60.1	66.4	58.5
95% Confidence Interval	57.5 – 64.3	63.0 – 83.5	56.4 – 63.5	55.6 – 64.1	56.0 – 92.0	55.1 – 63.7	57.7 – 70.0	58.9 – 87.1	55.2 – 68.7	48.8 – 70.4	42.6 – 84.0	45.7 – 70.3
All Race/Ethnicity Categories:	51.8	65.1	50.7	48.1	64.6	50.6	53.9	64.1	52.5	60.0	67.1	58.3
95% Confidence Interval	50.7 – 52.9	61.7 – 68.4	49.5 – 51.8	46.4 – 49.8	53.9 – 73.9	48.3 - 52.9	52.2 – 55.6	58.9 – 69.0	50.7 – 54.3	57.8 – 62.1	62.2 – 71.6	55.9 – 60.7

Source: New Jersey Behavioral Risk Factor Survey, data years 2003 through 2005.

Table 2A
Percentage of Women Who are Obese by Race/Ethnicity, Age, and Diabetes Status, New Jersey, 2003 through 2005

	All Women			18-44			45-64			65+		
Race/Ethnicity	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**
White, Non-Hispanic:	17.8	49.3	16.0	14.2	48.2	13.6	21.2	62.5	18.7	19.6	44.9	16.7
95% Confidence Interval	17.1 – 18.6	45.7 – 52.9	15.3 – 16.7	13.0 – 15.4	36.4 – 60.3	12.5 – 14.9	20.0 – 22.4	56.5 – 68.1	17.6 – 19.9	18.3 – 21.0	36.9 – 46.5	15.4 – 18.0
Black, Non-Hispanic:	36.0	55.3	33.3	31.7	48.4	30.9	43.1	59.4	39.5	36.1	53.6	29.6
95% Confidence Interval	33.5 – 38.5	47.9 – 62.4	30.7 – 36.0	28.4 – 35.3	29.8 – 67.4	27.5 – 34.5	38.6 – 47.6	47.7 – 70.2	34.8 – 44.5	30.3 – 42.4	43.2 – 63.7	22.9 – 37.3
Other, Non-Hispanic:	11.3	39.8	9.8	10.0	0*	9.9	12.4	45.2	9.0	21.4	43.9	15.3
95% Confidence Interval	9.2 – 14.0	26.1 – 55.3	7.7 – 12.4	7.2 – 13.7	0*	7.0 – 13.6	9.0 – 16.8	25.7 – 66.3	6.2 – 12.9	13.0 – 33.1	20.1 – 70.8	7.5 – 28.8
Hispanic:	23.6	47.6	21.6	19.0	40.7	18.2	33.1	50.8	30.7	25.3	49.7	17.5
95% Confidence Interval	21.4 – 25.9	38.3 – 57.0	19.4 – 23.9	16.5 – 21.7	24.0 – 59.9	15.8 – 21.0	28.6 – 38.0	37.6 – 63.8	25.9 – 35.9	18.8 – 33.2	32.7 – 66.7	12.0 – 24.9
All Race/Ethnicity Categories:	20.4	49.8	18.3	17.0	43.9	16.4	24.8	58.3	21.8	21.7	44.9	17.7
95% Confidence Interval	19.8 – 21.1	46.7 – 52.9	17.6 – 19.0	16.0 – 18.1	35.3 – 52.9	15.4 – 17.4	23.6 – 26.0	53.2 – 63.2	20.6 – 23.1	20.4 – 23.1	40.7 – 49.3	16.4 – 19.1

Source: New Jersey Behavioral Risk Factor Survey.

* The number of New Jersey residents sampled in this group was too small to provide reliable prevalence estimates.

Table 2B
Percentage of Men Who are Obese by Race/Ethnicity, Age, and Diabetes Status,
New Jersey, 2003 through 2005

	All Men			18-44			45-64			65+		
Race/Ethnicity	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**	**Any Diagnostic Status**	**Diagnosed with Diabetes**	**Never Diagnosed with Diabetes**
White, Non-Hispanic:	22.4	41.8	21.4	20.5	54.3	19.9	29.0	60.1	25.8	18.8	29.2	16.5
95 % Confidence Interval	22.2 – 24.1	41.6 – 48.8	20.4 – 22.4	19.1 – 22.1	41.2 – 66.8	18.5 – 21.5	27.5 – 30.7	54.5 – 65.4	24.2 – 27.5	17.2 – 20.5	25.0 – 33.9	14.8 – 18.3
Black, Non-Hispanic:	29.8	37.8	28.7	31.1	45.9	30.5	30.8	35.9	29.8	22.3	36.6	15.4
95 % Confidence Interval	26.5 – 33.3	28.2 – 48.4	25.2 – 32.4	26.4 – 36.2	21.6 – 72.3	25.7 – 35.7	25.4 – 36.9	22.7 – 51.6	23.9 – 36.4	15.6 – 30.8	22.0 – 54.2	9.6 – 23.7
Other, Non-Hispanic:	12.5	22.3	11.6	11.1	0*	10.1	16.1	18.6	15.6	12.9	10.3	13.5
95 % Confidence Interval	9.9 – 15.7	12.1 – 37.4	9.1 – 14.8	7.8 – 15.4	0*	7.0 – 14.2	11.4 – 22.3	8.8 – 35.0	10.5 – 22.5	6.5 – 24.0	3.1 – 29.1	6.1 – 26.9
Hispanic:	20.8	43.7	19.2	20.1	61.5	19.2	21.8	39.7	18.8	25.3	35.8	22.4
95 % Confidence Interval	18.3 – 23.6	32.5 – 55.6	16.7 – 22.0	17.0 – 23.6	36.1 – 81.8	16.1 – 22.6	17.4 – 27.0	25.4 – 55.9	14.5 – 24.2	16.7 – 36.4	18.3 – 58.2	13.1 – 35.5
All Race/Ethnicity Categories:	22.4	41.8	20.8	20.4	52.1	19.7	27.3	48.5	24.6	19.2	30.1	16.6
95 % Confidence Interval	21.6 – 23.3	38.5 – 45.2	19.9 – 21.7	19.2 – 21.7	41.3 – 62.6	18.5 – 21.0	25.9 – 28.8	43.4 – 53.7	23.1 – 26.1	17.6 – 20.9	25.9 – 34.7	14.9 – 18.4

Source: New Jersey Behavioral Risk Factor Survey.

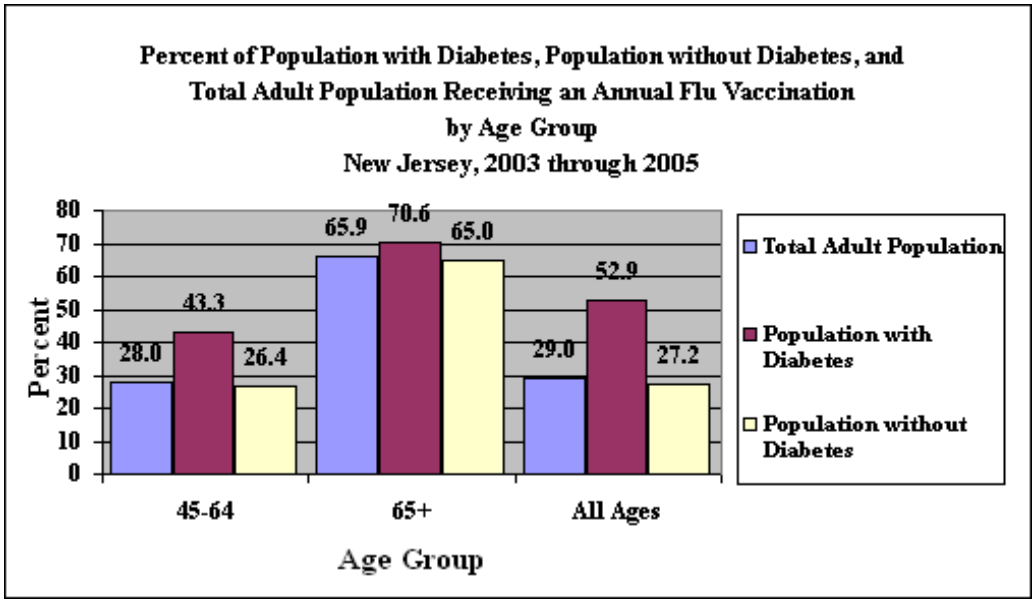
Table 3
Estimated Percentage* of Adults Who Were Overweight (non-Obese) or Obese by County of Residence, New Jersey, 2003-2005

	Overweight (Non obese)		Obese		Total Overweight and Obese
County	**Percent**	**95% CI**	**Percent**	**95% CI**	**Percent**
Atlantic	37.4	33.9 – 41.1	24.5	21.8 – 27.4	61.9
Bergen	37.1	34.8 – 39.5	16.3	14.7 – 18.1	53.4
Burlington	36.4	33.6 – 39.3	22.0	19.5 – 24.7	58.4
Camden	36.1	33.4 – 39.0	24.6	22.2 – 27.3	60.7
Cape May	40.6	36.1 – 45.3	22.4	19.0 – 26.1	63.0
Cumberland	38.8	34.4 – 43.4	28.3	24.4 – 32.5	67.1
Essex	35.5	33.1 – 37.9	24.7	22.6 – 26.9	60.2
Gloucester	35.1	32.0 – 38.4	24.4	21.4 –27.6	59.5
Hudson	35.7	32.9 – 38.6	22.8	20.4 – 25.3	58.5
Hunterdon	34.2	30.3 – 38.3	16.2	13.3 – 19.6	50.4
Mercer	34.0	31.0 – 37.2	23.2	20.6 – 26.1	57.2
Middlesex	37.7	35.3 – 40.1	18.4	16.7 – 20.2	56.1
Monmouth	37.0	34.4 – 39.8	18.4	16.4 – 20.6	55.4
Morris	38.0	35.1 – 41.1	15.9	14.0 – 18.0	53.9
Ocean	37.5	34.8 – 40.3	22.9	20.7 – 25.3	60.4
Passaic	40.8	37.7 – 44.1	21.8	19.6 – 24.3	62.6
Salem	35.5	30.0 – 41.4	31.0	25.3 – 37.3	66.5
Somerset	36.0	32.8 – 39.4	17.4	14.9 – 20.3	53.4
Sussex	34.6	30.8 – 38.6	25.2	20.5 – 27.9	59.8
Union	37.2	34.2 – 40.3	19.9	17.6 – 22.2	57.1
Warren	39.1	34.3 – 44.1	24.5	20.9 – 28.6	63.6
Statewide	37.0	36.3 – 37.7	21.2	20.6 – 21.7	58.2

* Age adjusted estimates using U.S. 2000 population as standard.

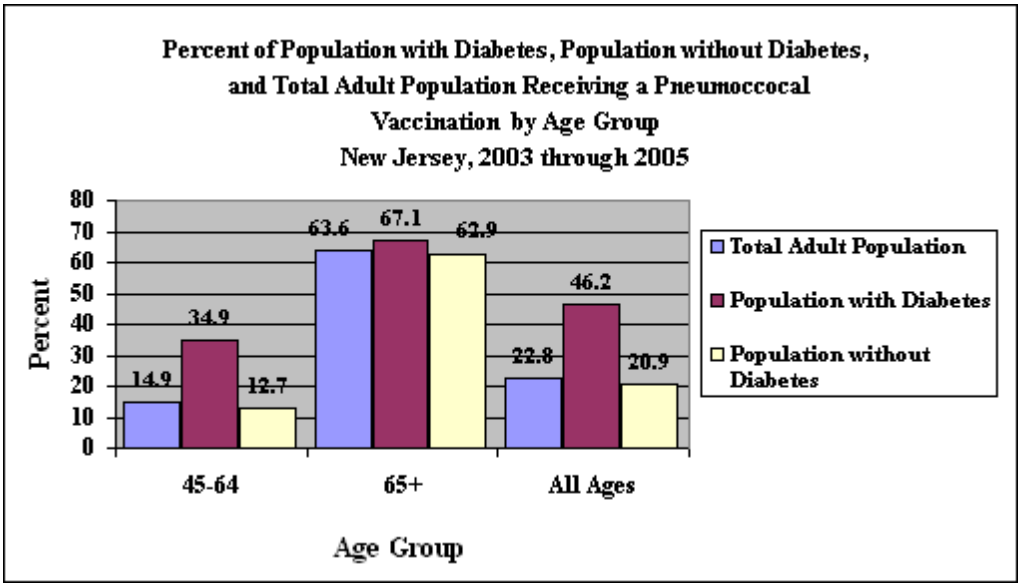
Source: New Jersey Behavioral Risk Factor Survey

Figure 3



Source: New Jersey Behavioral Risk Factor Survey

Figure 4



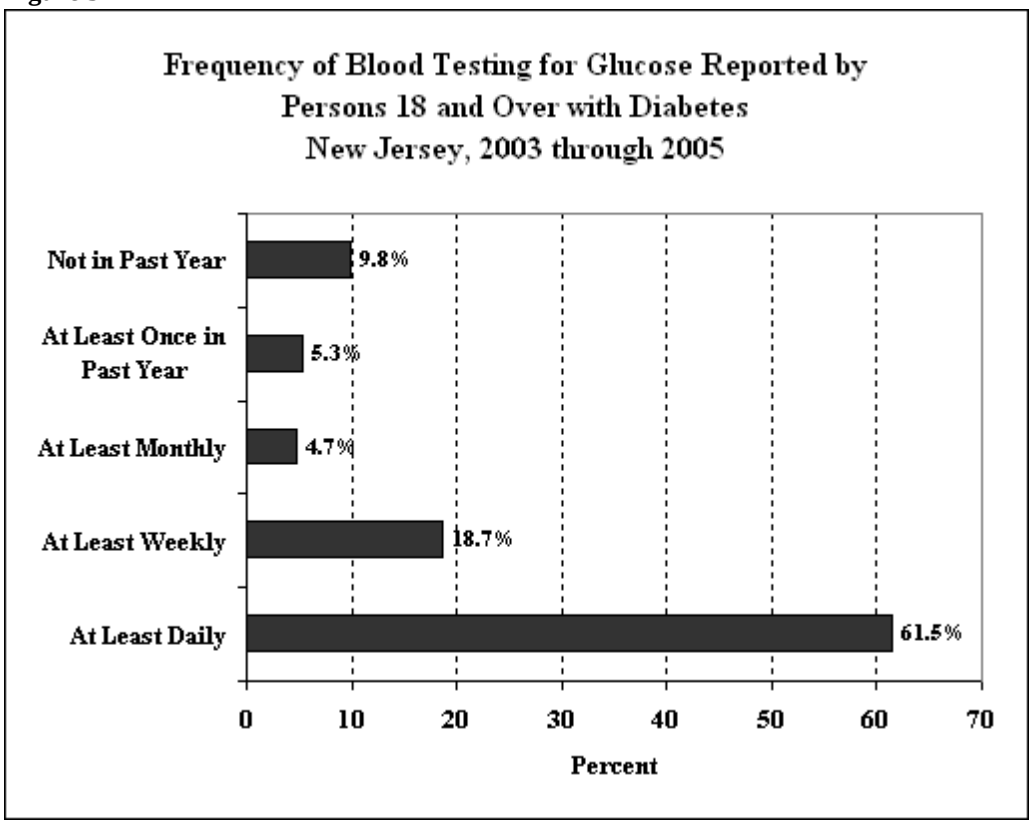
Source: New Jersey Behavioral Risk Factor Survey

Table 4
Percentage of Adult Population Diagnosed with Diabetes who had a Retinal Exam, a Foot Exam, or A1C Test within the Previous Year by Race/Ethnicity, New Jersey, 2003 Through 2005

	Retinal Exam		Foot Exam		A1C Test	
Race/Ethnicity	**Percent**	**95% CI**	**Percent**	**95% CI**	**Percent**	**95% CI**
All Races/Ethnicities	72.1	68.4 - 75.5	70.7	66.8 - 74.4	77.6	77.6 - 84.4
Black, Non Hispanic	78.3	69.0 - 85.4	74.7	64.8 - 82.6	85.7	76.4 - 91.8
White, Non Hispanic	71.7	67.3 - 75.7	72.7	68.3 - 76.7	84.1	80.2 - 87.3
Asian Indian/Pacific Islander, Non Hispanic	50.3	28.3 - 72.2	54.0	30.2 - 76.1	63.3	37.7 - 83.1
Hispanic	76.0	61.8 - 86.1	61.5	46.6 - 74.5	61.4	44.8 - 75.7

Source: New Jersey Behavioral Risk Factor Survey

Figure 5



Source: New Jersey Behavioral Risk Factor Survey.

Table 5A

Percentage of Adults with High Blood Pressure as a Risk Factor by Race/Ethnicity, and Diabetes Status, New Jersey, 2003 through 2005

	Total Adult Population		Adult Population Diagnosed with Diabetes		Adult Population without Diabetes	
Race/Ethnicity	**Percent**	**95% CI**	**Percent**	**95% CI**	**Percent**	**95% CI**
All Races/Ethnicities	26.7	25.9 - 27.5	62.8	59.5 - 65.9	24.0%	23.2 - 24.8
Black, Non Hispanic	35.3	32.5 - 38.3	67.5	59.0 - 74.9	30.9%	28.1 - 34.1
White, Non Hispanic	27.6	26.7 - 28.4	64.3	60.6 - 67.8	25.1%	24.2 - 25.9
Asian Indian/Pacific Islander, Non Hispanic	13	10.3 - 16.3	42.4	25.7 - 61.0	11.4%	8.8 - 14.7
Hispanic	20.8	18.6 - 23.3	53.1	42.0 - 63.8	18.7%	16.5 - 21.2

Source: New Jersey Behavioral Risk Factor Surveillance System.

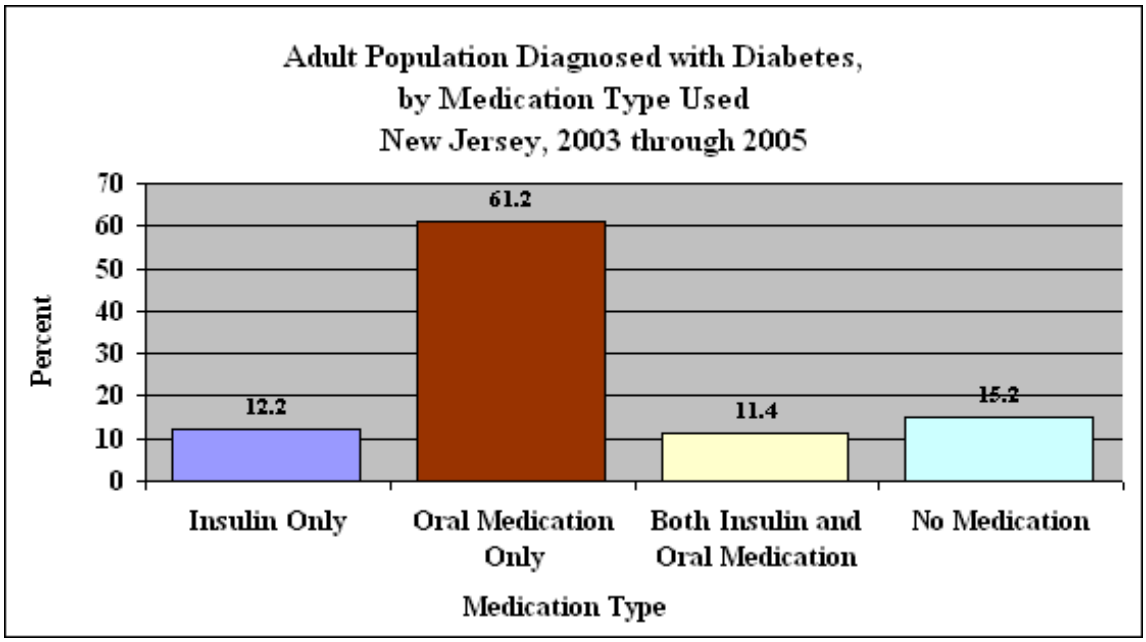
Table 5B

Percentage of Adults with High Cholesterol as a Risk Factor by Race/Ethnicity, and Diabetes Status, New Jersey, 2003 through 2005

	Total		With Diabetes		Without Diabetes	
Race/Ethnicity	**Percent**	**95% CI**	**Percent**	**95% CI**	**Percent**	**95% CI**
All Races/Ethnicities	35.4%	34.6 - 36.2	57.8%	55.0 - 60.6	33.3%	32.5 - 34.1
Black, Non Hispanic	30.8%	28.1 - 33.5	54.6%	46.7 - 62.3	26.8%	24.1 - 29.7
White, Non Hispanic	37.2%	36.3 - 38.1	58.5%	55.5 - 61.5	35.5%	34.5 - 36.4
Other, Non Hispanic	29.9%	26.4 - 33.6	51.5%	37.9 - 64.9	28.3%	24.7 - 32.2
Hispanic	26.8%	29.8 - 35.7	57.0%	53.1 - 71.8	24.3%	26.7 - 32.6

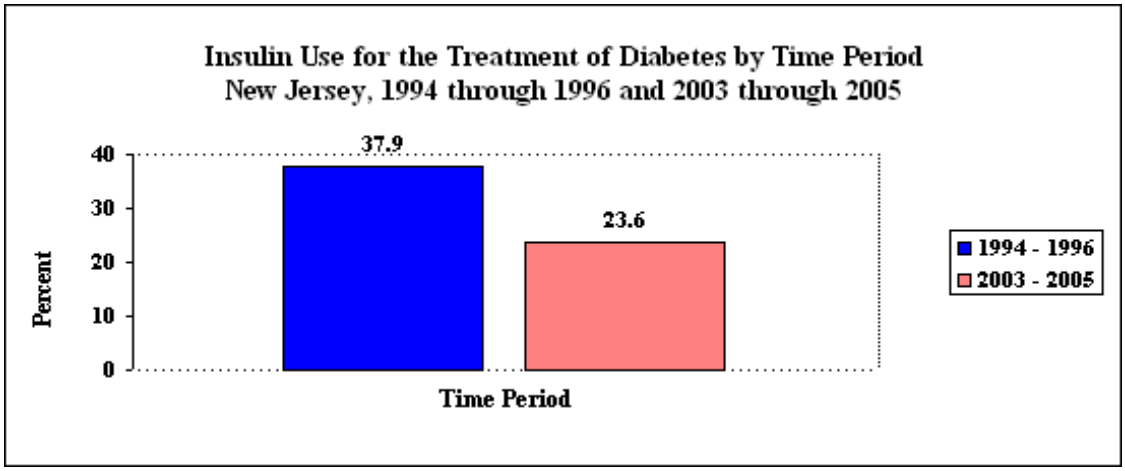
Source: New Jersey Behavioral Risk Factor Survey.

Figure 6



Source: New Jersey Behavioral Risk Factor Survey.

Figure 7



Source: New Jersey Behavioral Risk Factor Survey.

Table 6
Percentage of Hypertensive Adults
Taking Blood Pressure Medication, by Age and Gender, and Diabetes Status,
New Jersey, 2002 and 2004

	Total		With Diabetes		Without Diabetes	
Age/Gender	**Percent**	**95% CI**	**Percent**	**95% CI**	**Percent**	**95% CI**
Age						
18 to 44	43.1	38.1 - 48.3	77.4	59.4 - 88.9	39.5	34.5 - 44.8
45 to 64	77.7	74.9 - 80.4	82.5	74.8 - 88.2	76.7	73.6 - 79.6
65 and Over	92.6	90.9 - 94.0	95.4	92.2 - 97.3	92.0	90.0 - 93.6
Gender						
Male	70.5	67.3 - 73.4	84.7	77.9 - 89.7	67.3	63.8 - 70.7
Female	81.9	79.7 - 84.0	91	86.1 - 94.3	80.3	77.8 - 82.6
Total	76.5	74.6 - 78.3	87.7	83.6 - 90.9	74.3	72.2 - 76.3

Source: New Jersey Behavioral Risk Factor Survey, data years 2002 through 2004.

Chapter 5

Death certificate data are important in the measurement of a nation and/or state's health. These data provides a snapshot of a disease's impact on population mortality. The disease that is identified as the underlying cause of death is considered to have a direct impact as a cause of death. If the disease is a listed contributing cause but not identified as the underlying cause of death, the impact is considered to be indirect or contributory to the death of the individual. Data from death certificates have become a major source of information for evaluating the burden and impact of chronic diseases, such as diabetes, in specific population sets. Public health policy makers use these mortality data to identify diseases and conditions that cause large numbers of deaths and allocate resources to reduce the impact of these conditions.[1]

The collection and analysis of death certificate data is an important component in the surveillance of diabetes as a cause of death. In reviewing diabetes death certificate data, the Surveillance Task Force of the New Jersey Diabetes Council found evidence to suggest that these data might not show the full impact of diabetes as an underlying or contributing cause of death. Furthermore, *Diabetes Surveillance, 1991*, from the National Center for Chronic Disease Prevention and Health Promotion reports:[2] "In each year, the number of deaths from diabetes as any listed cause were about four times greater than the number of deaths from diabetes as an underlying cause. Similarly, rates based on underlying cause of death, the usual measure of diabetes mortality, reflect only about one-quarter of the deaths to which diabetes may have contributed. Total diabetes-related deaths, and the corresponding mortality rates, more accurately reflect the considerable disease burden that diabetes imposes upon society."

In addition to the finding that diabetes is more frequently characterized on the death certificate as a contributing cause of death other than the underlying cause, studies have shown that there is a tendency toward underreporting of diabetes on the death certificate altogether. *Diabetes Surveillance 1991*[2] reported findings from studies that showed that "diabetes is recorded on the death certificate of only about 40% of the people who are known to have had diabetes." Although reporting of diabetes on the death certificate may have improved from the time of these studies, underreporting is still believed to be a problem. In an effort to better define diabetes-associated mortality, New Jersey added a check-off box on the death certificate in 2004. The check-off box asks whether the decedent had diabetes. The addition of this item to the certificate made New Jersey one of only three states known to have this information on the death certificate. The Surveillance Task Force will be investigating the best methodology for analyzing the resulting data.

References:

1. Mendlein, James M., Lentzner, Harold R. and Franks Adele L. Using Chronic Disease Data: A Handbook for Public Health Practitioners. U.S. Department of Health and Human Services, Public Health Service Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office of Surveillance and Analysis. (1992). Chapter 2, Mortality Data. Atlanta, GA.

[2]. Geiss LS, Editor. Diabetes Surveillance, 1991. The Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion. Diabetes Supplement, 1991.

- The Compressed Mortality File (CMF) produced by the Centers for Disease Control and Prevention and based on 2000-2002 NCHS multiple cause-of death records, contains data on any mention of diabetes listed as a contributing cause of death. These data, ranked by state, were age adjusted and averaged for the years 2000 through 2002. New Jersey ranked 14th in age-adjusted rate of deaths in which diabetes was listed as a cause of death. The highest rate was in Louisiana (41.8); second was West Virginia (37.6); the District of Columbia was third (36.8) and Utah was fourth (32.8). Hawaii was the state with the lowest rate of diabetes listed as a contributing cause of death per 100,000 (14.9) (Table 1).

- Data on deaths of New Jersey residents from 1999 through 2003 show small annual fluctuations in the calculated rates of deaths per 100,000 population in which diabetes was listed as the underlying cause in the single cause of death file. The annual proportion of total deaths that diabetes represents over this period has remained essentially unchanged, about 3.4 percent. However, in terms of absolute numbers, there was an increase of 1.4 percent (2,436 in 1999 to 2,470 in 2003) in diabetes-related deaths (Table 2).

- For total deaths under age 45 in which diabetes was listed as the underlying cause in the 2002 New Jersey death certificate file, the percentage of females was lower than the percentage of males. Females under age 45 accounted for 49.3 percent of total diabetes deaths in that age range. Of deaths due to diabetes in the 45 through 54 age group, 35.3 percent were attributed to females. For the 55 through 64 age group, the figure was 41.4 percent. After age 75, there was a reversal in the ratio of female to male deaths with diabetes as an underlying cause. The percentage of deaths due to diabetes that are female surpasses that of males in the older age groups. In the 75 through 84 age group, 57.1 percent of diabetes deaths were female; while in the 85 and over age group, females represented 70.6 percent of deaths with diabetes as an underlying cause of death. This shift is likely due to females having a longer life expectancy than males and the number of females in these age groups substantially exceeding the number of males (Table 3).

- In the 2002 New Jersey death certificate file, about 79.9 percent of deaths in which diabetes was listed as the underlying cause were recorded among whites; slightly more than 18.3 percent were ascribed to blacks; and approximately 2 percent of diabetes deaths were attributed to persons of other racial classifications. The rate of deaths in which diabetes was listed as the underlying cause was 30.1 per 100,000 population for whites, 40.1 per 100,000 population for blacks, and 7.9 per 100,000 population for other racial classifications. Overall, males had a rate of 27.9 deaths with diabetes listed as the underlying cause per 100,000 population and females had a rate of 31.0. For males age 65 and over, the diabetes death rate was calculated at 186.7 per 100,000 and for females in that age group the rate was 170.2. The highest rate among all race and age group categories was in black females aged 65 years and over with a diabetes death rate of 300.7 per 100,000 population; white females of the

same age group had a rate less than half that of black females in the 65 and over group (159.7) (Table 4).

- Years of Potential Life Lost (YPLL) is a measure of premature death. In this report YPLL is measured for persons who died before age 65 and is calculated by subtracting age at death in years from 65. In 2002, the total YPLL associated with diabetes deaths in New Jersey was 5,950 years. The overall YPLL for males under age 65 with an underlying cause of death of diabetes was 3,490. For females, it was 2,460. The YPLL rate was 80.5 years per 100,000 population under age 65. The YPLL rate in males was 93.8 years of potential life lost per 100,000 population under age 65. Females had a substantially lower YPLL rate than males, 65.6 per 100,000 population. These figures represented a 42.1 percent higher YPLL rate among males under age 65 than among females in that age group. The YPLL rate from diabetes was highest among blacks, 171.6 years per 100,000 black population under 65 years old. The black YPLL rate is more than twice that of whites (66.0) (Table 5).

- The 2,532 deaths designated as having diabetes as an underlying cause of death occurring among New Jerseyans in 2002 reflect an age-adjusted rate of 27.8 per 100,000 standard population. The age-adjusted death rate for diabetes as the underlying cause of death for males of all races was 31.4 diabetes deaths per 100,000 standard population, while the comparable figure for females was 24.9. A higher age-adjusted rate for diabetes deaths among males was also observed in the white population. Among whites, males had an age-adjusted rate of 29.7 diabetes deaths per 100,000 standard population, while females had a rate of 21.9. The age-adjusted diabetes death rate for black females was very similar to that of their male counterparts, 51.5 and 51.7 per 100,000 standard population, respectively. Blacks had the highest overall age-adjusted diabetes death rate of all racial and/or ethnic groups; over 51 deaths with diabetes listed as an underlying cause per 100,000 standard population (Table 6).

- In 2002, five of the twenty-one New Jersey counties had age-adjusted diabetes-related death rates in excess of 34 deaths per 100,000 standard population. These counties were Atlantic (38.4 diabetes deaths per 100,000 standard population); Camden (37.3) Hudson (35.2) Essex (34.8); and Cumberland (34.3). There were six other counties with rates of diabetes-related deaths in excess of the state-wide rate of 27.8 deaths per 100,000 standard population. They were Gloucester (33.2) diabetes deaths per 100,000 population), Passaic (33.0), Hunterdon (29.7), Warren (29.3), Monmouth (29.1), and Union (28.1) (Table 7).

- Deaths having an underlying cause of diabetes may be analyzed further by subdividing the deaths according to associated complications. The subclassification "diabetes without mention of complications" E(10.9, 11.9, 12.9, 13.9 & 14.9) was indicated on 83.1 percent of the records in which diabetes was the underlying cause of death. The subclassification "diabetes with peripheral circulatory disorders" E(10.5, 11.5, 12.5, 13.5, & 14.5) was indicated on 11.3 percent of records; "diabetes with ketoacidosis" E(10.1, 11.1, 12.1, 13.1, & 14.1) was listed on 2.1 percent of records; and "diabetes with renal manifestations" E(10.2, 11.2, 12.2, 13.2, & 14.2) was the designation given on 1.7 percent of the records (Table 8).

- Females, while accounting for 54.1 percent of total diabetes-related deaths, also accounted for 54 percent or more of deaths in all of the diabetes subclassifications except two. This may be due, at least in part, to the larger number of older females (see demographic chapter). Deaths from diabetes subclassifications for females included: "diabetes with coma" - 66.7 percent; "diabetes with ophthalmic or neurological manifestations" combined with "diabetes with other unspecified complications" – 62.5 percent; "diabetes with other specified manifestations" – 60.0 percent; "diabetes with renal manifestations" – 54.5 percent; "diabetes without mention of complications" - 54.0 percent; "diabetes with peripheral circulatory disorders" – 54.0 percent; "diabetes with ketoacidosis" – 51.9 percent, and "diabetes with multiple complication" – 50.0 percent (Table 8).

- In 2002, a total of 74,009 deaths of residents were recorded for New Jersey. In 5,609 of those deaths (7.6%), diabetes was designated in the causal chain or was mentioned as one of the contributory causes of death (Table 9).

- In addition to identifying an underlying cause of death, the multiple cause of death file allows for designation of up to 20 mentioned contributing causes of death. In 2002, the total number of New Jersey records for which diabetes was mentioned as a contributing cause of death, but was not designated as the underlying cause, was 3,077 (Table 10).

- Almost 97 percent (96.8%) of the 2002 death records with diabetes as a mentioned (but not underlying) cause of death, had diabetes designated as one of the first six listed conditions. There were no records of diabetes listed as one of the multiple causes beyond the 13th position (Table 10).

- Diabetes was mentioned as a cause of death in 7.7 percent (2,663) of the 34,805 male deaths in 2002. Female deaths with any mention of diabetes as a cause of death represented 7.5 percent of all female deaths for that year (2,946 out of 39,204). Of the total number of deaths with any mention of diabetes, males represented 47.0 percent while females accounted for 53.0 percent. This gender difference in the proportion of deaths related to diabetes may be attributed to the higher survival rates of females; i.e. there are more females than males at older ages. Because of the greater number of older females, a higher number of diabetes deaths for females is a reasonable expectation. Although females showed higher numbers of diabetes-related deaths than males, they had lower diabetes death rates than males when the figures were adjusted for age. In relative terms, the diabetes age-adjusted mortality rate is about 36 percent higher in males than in females. The calculated age-adjusted rate for any mention of diabetes was 72.5 per 100,000 standard population for males and 53.3 for females. For the total population, the age-adjusted rate was calculated at 63.8 deaths with any mention of diabetes per 100,000 standard population (Table 11).

- About 97.8 percent of deaths with any mention of diabetes occurred among persons 45 years of age and older. The under 45 age group had the lowest death rate for diabetes as a mentioned cause, 2.3 deaths per 100,000 population. Persons 45 through 64 years of age had a rate of 48.1 diabetes-related deaths per 100,000 population. The 65 through 84 age group had a diabetes-related mortality rate of 336.6 per 100,000 population. Those aged 85 years and over had the highest rate, 818.5 deaths per 100,000 population (Table 12).

- In New Jersey's 2002 multiple cause of death file, diabetes was mentioned as a cause of death in 5,609 records. "All heart diseases" (ICD-10 codes I00-51) was the underlying cause of death listed on 1,403 records with a mention of diabetes (25.0%). Cerebrovascular diseases (stroke): (ICD-10 codes I60-69) was the underlying cause listed on 218 records with a mention of diabetes (3.9%). Pneumonia (ICD-10 codes J10-18) was the underlying cause listed on 75 records of diabetes-related deaths (1.3%). Diabetes was mentioned in 516 deaths in which malignant neoplasms or leukemia (ICD-10 codes C00-97) was the underlying cause (9.2 %). Infectious disease (ICD-10 codes A00-97, B01-99) was listed as the underlying cause in 123 deaths in which diabetes was mentioned among the causes of death (2.2%). All other causes, including external causes, accounted for 742 death records with any mention of diabetes as a cause of death (13.2%) (Table 13).

- In 2002, there were 74,009 New Jersey resident deaths; 23,022 or 31.1 percent of them had heart disease (ICD-10: I00-51) listed as the underlying cause.[2] Diabetes was a factor in 6.1 percent of the deaths due to heart disease. Diabetes was mentioned in 2.9 percent of the 17,827 deaths having cancer as the underlying cause of death (ICD-10: C00-97); and in 5.4 percent of the 4,016 stroke deaths (ICD-10: I60-69). In the 1,973 records with pneumonia or influenza given as the underlying cause (ICD-10: J10-18), diabetes was mentioned in 75 or 3.8 percent of the records. The 3,191 records with infectious or parasitic diseases listed as the underlying cause (ICD-10: A00-97, B01-99) had a mention of diabetes in 3.9 percent of the records (Table 13).

- Of the 5,609 deaths in which there was any mention of diabetes, that disease was designated as the underlying cause in 28.2 male deaths per 100,000 standard population and 31.2 female deaths per 100,000 standard population. When diabetes-related death records having a listed underlying cause of death of "all heart disease," cerebrovascular disease, infectious diseases, pneumonia and influenza, malignant neoplasm, and all other causes, the death rates for males were 17.8, 1.8, 1.5, .8, 6.3, and 8.3, respectively, per 100,000 standard population. A similar analysis of female death records with any mention of diabetes revealed that when diabetes-related death records had an underlying cause of death of "all heart disease," cerebrovascular disease, infectious diseases, pneumonia and influenza, malignant neoplasm, and all other causes the death rates for females were 18.0, 2.8, 1.7, .9, 5.6, and 9.0, respectively, per 100,000 standard population. Death records with any mention of diabetes for the black male population were higher than those for whites in every classification except for "all heart diseases" (15.6 and 17.9, respectively) and all other causes (7.5 and 9.0, respectively). Black females had higher rates than whites in every category. They had rates of 19.2 for "all heart disease", 3.0 for cerebrovascular disease, 2.0 for infectious diseases, 1.5 for pneumonia and influenza, 8.0 for malignant neoplasm, and 9.9 for all other causes of death compared to the white female rates of 16.5, 2.9, 1.3, 1.2, 5.3, and 9.6, respectively, per 100,000 standard population (Table 14).

- New Jersey death records for 2002 indicate that when combining all specific conditions with diabetes mentioned as a multiple cause, the black male population has the highest age-adjusted rate at 113.4 per 100,000 standard population. This is closely followed by the black female population at 107.1, white males at 69.0, and white females at 47.5, per 100,000 population (Table 15).

Table 1
Rank of Crude and Age Adjusted Rates for Diabetes Listed as an Underlying Cause of Death per 100,000 Population, by State, United States, 2000 through 2002

State	Crude Rate	Rank	Age Adjusted* Rate	Rank
Alabama	31.0	6	30.2	8
Alaska	13.3	51	23.8	35
Arizona	20.8	43	21.0	44
Arkansas	28.0	14	25.8	24
California	18.7	46	21.6	42
Colorado	14.8	50	18.4	48
Connecticut	20.6	44	18.3	49
Delaware	26.2	25	26.0	22
Dist of Columbia	36.2	3	36.8	3
Florida	27.9	16	21.7	41
Georgia	18.0	47	22.4	39
Hawaii	15.8	48	14.9	51
Idaho	23.8	34	25.9	23
Illinois	24.2	33	24.9	30
Indiana	27.4	19	27.7	15
Iowa	23.6	36	19.6	47
Kansas	26.6	23	25.0	29
Kentucky	28.4	13	28.7	13
Louisiana	38.8	2	41.8	1
Maine	30.1	8	26.3	21
Maryland	27.8	17	30.1	9
Massachusetts	21.9	42	20.1	45
Michigan	26.8	21	27.2	17
Minnesota	25.0	30	24.9	31
Mississippi	23.4	38	24.4	32
Missouri	27.3	20	25.6	25
Montana	24.5	32	22.5	37
Nebraska	23.3	39	21.3	43
Nevada	15.0	49	16.9	50
New Hampshire	23.8	35	24.4	33
New Jersey	29.7	10	28.2	14
New Mexico	29.2	12	31.2	7
New York	20.4	45	19.7	46
North Carolina	26.3	24	27.6	16
North Dakota	32.0	5	26.4	20
Ohio	33.0	4	31.5	6
Oklahoma	29.8	9	28.8	11
Oregon	27.8	18	26.6	18
Pennsylvania	30.7	7	25.4	27
Rhode Island	25.8	26	22.4	40
South Carolina	28.0	15	28.8	12
South Dakota	25.8	27	22.5	38
Tennessee	29.5	11	29.8	10
Texas	25.5	28	31.6	5
Utah	22.7	40	32.8	4
Vermont	26.8	22	25.6	26
Virginia	22.0	41	24.0	34
Washington	23.5	37	25.2	28
West Virginia	44.4	1	37.6	2
Wisconsin	24.7	31	23.3	36
Wyoming	25.3	29	26.6	19

Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Compressed Mortality File (CMF) compiled from CMF 1968-1988, Series 20, No. 2A 2000, CMF 1989-1998, Series 20, No. 2E 2003 and CMF 1999-2002, Series 20, No. 2H 2004 on CDC WONDER On-line Database.

Table 2
Diabetes Designated as the Underlying Cause of Death for Selected Years by Number of Deaths, Crude Rate,[1] and Percentage of Total, New Jersey Residents, 1999 through 2003

Year	Diabetes Deaths	New Jersey Population	Crude Rate	Total Deaths	Percent with Diabetes
1999	2,436	8,143,412	29.9	73,981	3.3%
2000	2,483	8,414,347	29.5	74,800	3.3%
2001	2,556	8,506,267	30.0	74,710	3.4%
2002	2,532	8,577,250	29.5	74,009	3.4%
2003	2,470	8,642,416	28.6	73,410	3.4%

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

[1]Rate/100,000 population.

Table 3
Diabetes Listed as the Underlying Cause of Death by Age and Gender, New Jersey Residents, 2002

	Male		Female		
Age	Number	Percent	Number	Percent	Total
Under 45	34	50.7%	33	49.3%	67
45-54	108	64.7%	59	35.3%	167
55-64	184	58.6%	130	41.4%	314
65-74	326	52.1%	300	47.9%	626
75-84	356	42.9%	474	57.1%	830
85+	155	29.4%	372	70.6%	527
Total	1,153	45.6%	1,318	52.0%	2,531

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

Table 4
Diabetes Listed as the Underlying Cause of Death by Gender, Age, Race and Rate*,
New Jersey Residents, 2002

Race & Gender	Under 65		65 and Over		Total	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
White	375	6.5	1,647	167.8	2,022	30.1
Male	238	8.3	714	179.8	952	29.1
Female	137	4.8	933	159.7	1,070	31.1
Black	161	13.7	302	291.8	463	40.1
Male	78	13.7	110	277.5	188	31.0
Female	83	13.6	192	300.7	275	40.7
Other	13	2.3	34	93.8	47	7.9
Male	2	0.7	21	132.3	23	7.8
Female	11	3.9	13	63.8	24	7.9
Total	549	7.4	1,983	177.3	2,532	29.5
Male	318	8.5	845	186.7	1,163	27.9
Female	231	6.2	1,138	170.2	1,369	31.0

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

*Rate per 100,000 population.

Table 5
YPLL* to Age 65 Due to Diabetes as the Underlying Cause of Death by Gender and Race,
New Jersey, 2002

Gender	Total YPLL	Population Under 65	Rate**
Male	3,490	3,721,307	93.8
Female	2,460	3,747,796	65.6
Race			
White	3,785.0	5,731,499	66.0
Black	2,020.0	1,177,312	171.6
Other	125.0	560,292	22.3
Total	5,950	7,469,103	80.5

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

*Years of Potential Life Lost (YPLL) is a measure of premature death. In this report YPLL is measured for persons who died before age 65 and is calculated by subtracting age at death in years from 65.

**Rate per 100,000 population

Table 6
Age-Adjusted Death Rates
for Diabetes Designated as the Underlying Cause of Death
by Race and Gender, New Jersey Residents, 2002

Gender	Deaths	Rate*
Males	1,164	31.4
Females	1,368	24.9
Race/Gender		
White	2,022	25.4
Males	952	29.7
Females	1,070	21.9
Black	463	51.6
Males	188	51.7
Females	275	51.5
Total**	2,532	27.8

Sources: New Jersey Department of Health and Senior Services, Center for Health Statistics.
*Rate/100,000 U.S. standard population.
** Numbers do not add to total due to omission of other races.

Table 7
Age-Adjusted Death Rates for Diabetes Designated as the Underlying Cause of Death by County of Residence, New Jersey, 2002

County	Total	Rate*
Atlantic	107	38.4
Bergen	212	19.2
Burlington	109	24.5
Camden	193	37.3
Cape May	44	27.0
Cumberland	52	34.3
Essex	270	34.8
Gloucester	83	33.2
Hudson	196	35.2
Hunterdon	32	29.7
Mercer	87	23.7
Middlesex	179	23.9
Monmouth	187	29.1
Morris	96	20.7
Ocean	220	25.3
Passaic	157	33.0
Salem	20	27.2
Somerset	63	22.1
Sussex	28	21.6
Union	164	28.1
Warren	33	29.3
Total	2,532	27.8

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

* Deaths/100,000 population.

Table 8
Diabetes Listed as the Underlying Cause of Death by Gender and Subclassification,
New Jersey Residents, 2002

Diabetes Subclassification	Total Number	Percent Male	Percent Female
Diabetes without mention of complications E(10.9, 11.9, 12.9, 13.9 & 14.9)	2,104	46.0%	54.0%
Diabetes with Ketoacidosis E(10.1, 11.1, 12.1, 13.1, & 14.1)	52	48.1%	51.9%
Diabetes with coma E(10.0, 11.0, 12.0, 13.0, & 14.0)	18	33.3%	66.7%
Diabetes with renal manifestations E(10.2, 11.2, 12.2, 13.2, & 14.2)	44	45.5%	54.5%
Diabetes with ophthalmic or neurological manifestations or with unspecified complications E(10.3, 10.3, 11.3, 12.3, 13.3, & 14.3), E(10.4, 11.4 12.4, 13.4, & 14.4), E(10.8, 11.8, 12.8, 13.8, & 14.8)	8	37.5%	62.5%
Diabetes with peripheral circulatory disorders E(10.5, 11.5, 12.5, 13.5, & 14.5)	287	46.0%	54.0%
Diabetes with other specified manifestations E(10.6, 11.6, 12.6, 13.6, & 14,6)	5	40.0%	60.0%
Diabetes with multiple complications E(10.7, 11.7, 12.7, 13.7, & 14.7)	14	50.0%	50.0%
Total	2,532	45.9%	54.1%

Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Compressed Mortality File (CMF) compiled from CMF 1968-1988, Series 20, No. 2A 2000, CMF 1989-1998, Series 20, No. 2E 2003 and CMF 1999-2002, Series 20, No. 2H 2004 on CDC WONDER On-line Database.

Table 9
Diabetes as a Mentioned Cause of Death on Death Certificates*, New Jersey Residents, 2002

Cause of Death	Number	Percent
Any Mention of Diabetes	5,609	7.6%
No Mention of Diabetes	68,400	92.4%
Total Deaths	74,009	100.00%

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
*Including diabetes as the underlying cause of death.

Table 10
Diabetes as a Listed Cause of Death, but Not the Underlying Cause, by Order of Mention, New Jersey Residents, 2002

Rank	Number	Percent	Cumulative Percent
1st Condition	2	0.1%	0.1%
2nd Condition	620	20.1%	20.2%
3rd Condition	1,067	34.7%	54.9%
4th Condition	722	23.5%	78.4%
5th Condition	397	12.9%	91.3%
6th Condition	172	5.6%	96.8%
7th Condition	61	2.0%	98.8%
8th Condition	20	0.6%	99.5%
9th Condition	9	0.3%	99.8%
10th Condition	5	0.2%	99.9%
11th Condition	1	0.0%	100.0%
13th Condition	1	0.0%	100.0%
Total	3,077	100.0%	100.0%

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

Table 11
Age-Adjusted Rates with Any Mention of Diabetes as a Cause of Death by Gender, New Jersey, 2002

Gender	Number	Rate*
Total Male Deaths	34,805	959.7
- Male Diabetes Deaths	2,663	72.5
Total Female Deaths	39,204	695.6
- Female Diabetes Deaths	2,946	53.3
Total Deaths	74,009	808.8
Total Diabetes Deaths	5,609	63.8

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
*Rate per 100,000 standard population.

Table 12
Any Mention of Diabetes as a Cause of Death by Age and Rate, New Jersey, 2002

Age	New Jersey Population	Diabetes Deaths	
		Number	Rate*
Under 45 Years	5,405,167	123	2.3
45 - 64 Years	2,063,936	993	48.1
65 - 84 Years	972,277	3,273	336.6
85 and Over	148,923	1219	818.5
Not Stated	-	1	
Total	8,590,303	5,609	65.3

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
*Rate per 100,000 population.

Table 13
Any Mention of Diabetes as a Cause of Death by Underlying Cause, New Jersey Residents, 2002

Underlying Cause of Death	Any Mention of Diabetes		Total Deaths	
	Number	% of Total Mentions	Number	% with a Mention of Diabetes
Diabetes Mellitus (E10-14)	2,532	45.1%	2,532	100.0%
All Heart Diseases (I00-51)	1,403	25.0%	23,022	6.1%
Malignant Neoplasms (C00-97)	516	9.2%	17,827	2.9%
Cerebrovascular (Stroke): (I60-69)	218	3.9%	4,016	5.4%
Pneumonia and Influenza (J10-18)	75	1.3%	1,973	3.8%
Infectious Diseases (A00-97, B01-99)	123	2.2%	3,191	3.9%
All Other Causes, Including External	742	13.2%	21,448	3.5%
Total Mentions	5,609	100.0%	74,009	7.6%

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

Table 14
Any Mention of Diabetes as a Cause of Death by Underlying Cause, Gender, and Race, New Jersey Residents, 2002

Underlying Cause of Death	Male								Female								Total*
	White		Black		Other		Total		White		Black		Other		Total		
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
Diabetes Mellitus (E10-14)	952	29.1	188	31.5	24	8.2	1,164	28.2	1,070	31.3	275	41.3	23	7.9	1,368	31.2	2,532
Infectious Diseases (A00-97, B01-99)	41	1.3	18	3.0	**	**	61	1.5	45	1.3	13	2.0	**	**	62	1.7	123
Pneumonia and Influenza (J10-18)	23	0.7	**	**	**	**	25	0.8	40	1.2	10	1.5	**	**	50	0.9	75
Malignant Neoplasms (C00-97)	232	7.1	38	6.4	6	2.1	274	6.3	182	5.3	53	8.0	7	**	242	5.6	516
All Heart Diseases (I00-51)	583	17.9	93	15.6	25	6.2	701	17.8	565	16.5	128	19.2	9	6.5	702	18.0	1,403
Cerebrovascular (Stroke): (I60-69)	76	2.3	17	2.8	**	**	94	1.8	99	2.9	20	3.0	5	**	124	2.8	218
All Other Causes, Including External	293	9.0	45	7.5	6	2.1	344	8.3	327	9.6	66	9.9	5	**	398	9.0	742
Total	2,200	67.6	401	67.1	62	21.2	2,663	64.4	2,328	68	565	84.9	53	18.2	2,946	67.3	5,609

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.

*Numbers may not add to the totals because of the omission of small and missing values.

**Small numbers.

Rate per 100,000 population.

Table 15
Age-Adjusted Rates* of Any Mention of Diabetes as a Multiple Cause by Specific Underlying Condition, Gender and Race, New Jersey Residents, 2002

Underlying Cause of Death	Male								Female								Total**
	White		Black		Other		Total		White		Black		Other		Total		
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	
Diabetes Mellitus (E10-14)	952	29.7	187	51.7	24	18.6	1,163	31.4	1,070	21.9	275	51.5	23	15.7	1,368	24.9	2,531
Infectious Diseases (A00-97, B01-99)	42	1.3	18	4.5	2	***	62	1.6	45	1.0	13	2.4	4	2.3	62	1.2	124
Pneumonia and Influenza (J10-18)	23	0.7	2	0.5	0	***	25	0.7	40	0.8	10	2.1	0	0	50	0.9	75
Malignant Neoplasms (C00-97)	232	7.2	38	12.4	4	***	274	7.5	182	3.8	53	9.9	7	4.3	242	4.5	516
All Heart Diseases (I00-51)	583	18.3	93	26.0	25	17.3	701	19.1	565	11.4	128	25.0	9	5.8	702	12.6	1,403
Cerebrovascular (Stroke): (I60-69)	76	2.5	17	4.9	1	***	94	2.7	99	1.9	20	5.1	5	3.1	124	2.2	218
All Other Causes, Including External	293	9.3	45	13.4	6	7.3	344	9.6	327	6.6	66	12.1	5	3.5	398	7.1	742
Total	2,201	69.0	400	113.4	62	48.7	2,663	72.5	2,328	47.5	565	107.1	53	31.8	2,946	55.7	5,609

Source: New Jersey Department of Health and Senior Services, Center for Health Statistics.
*Rate per 100,000 population.
**Numbers may not add to the totals because of the omission of small and missing values.
***Small numbers.

Chapter 6

Nearly a half of a million New Jerseyans are directly affected by diabetes. Besides the physical impact of the disease on the individual, New Jerseyans in the 21st Century will be challenged as the result of the formidable psychological, sociological, and economic impacts of diabetes. New Jersey diabetes surveillance data indicate that the burden of diabetes-related morbidity and mortality is enormous. New Jersey Behavioral Risk Factor Survey estimates for the survey period of 2002 through 2004 suggest that about 444,000 New Jerseyans aged 18 years and over have diabetes.[1] In 2003, 48 of every 1,000 women who gave birth had diabetes as a medical risk factor. Diabetes was the underlying cause of death for 2,484 New Jerseyans in 2003, ranking fifth among the leading causes of death in the state.

Diabetes should be diagnosed and treated in a timely and appropriate manner; if not severe damage to almost every organ in the human body can result. Diabetes is a leading cause of many diseases including blindness, heart disease, end-stage renal disease, lower-extremity amputations, and stroke. However, many of the complications and deaths from diabetes are preventable with individual awareness, early diagnosis and appropriate management of the disease. Early detection, proper medical treatment, and self-management are the best interventions to prevent complications of diabetes. A study has shown that a 1% reduction in the hemoglobin A1C levels can reduce the risk for death related to diabetes by 21 percent, microvascular complications by 37 percent and heart attack by 14 percent.[2] Additional management of blood pressure and Cholesterol will further reduce these relative risks. Nevertheless, social, cultural, and economic barriers limit access to proper nutrition, exercise, medication and disease management activities to promote the diagnosis and treatment in populations with diabetes. These barriers, in combination with genetic and lifestyle factors, make up the pronounced racial and ethnic disparities seen in health status and outcomes of people with diabetes. In response to this problem, federal and state health-policy makers have formulated approaches to eliminate disparities in health outcomes associated with diabetes. The New Jersey Diabetes Control Program (NJDCP) and its partner the New Jersey Diabetes Council (NJDC) were created to combine federal, state and private resources to reduce the burden of diabetes in New Jersey and, in part, to eliminate ethno-racial disparities associated with diabetes.

The NJDCP and NJDC are involved in diabetes surveillance, community interventions targeted at raising awareness of diabetes and prevention of its complications, and projects aimed at improving diabetes prevention and treatment in New Jersey.

References

1. New Jersey Behavioral Risk Factor Survey (NJBRFS) data from 2002 through 2004. The core BRFS questionnaire gathers responses to the question: “Have you ever been told by a doctor that you have diabetes?” A follow-up question for females clarifies whether the diabetes was present only during pregnancy.
2. Stratton IM, Adler AI, Neil HA, et al. Association of glycaemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study. BMJ 2000; 321:405-12.
3. Adler AI, Stratton IM, Neil HA, et al. Association of systolic blood pressure with macrovascular and microvascular complications of type 2 diabetes (UKPDS 36): prospective observational study. BMJ 2000; 321:412-9.

- According to the National Hospital Discharge Survey (NHDS), the United States had an estimated 597,000 hospital discharges (20.6 per 10,000 population) with diabetes (ICD-9-CM-codes 250.0-250.9) listed as the primary diagnosis in 2003 (Table 1).

- In the same year, New Jersey's UB-92 File showed 17,998 hospital discharges (21.4 per 10,000 population) having diabetes (ICD-9-CM codes 250.0-250.9) listed as the primary diagnosis (Table 1).

- In 2003, the average length of stay (LOS) in hospitals for patients with diabetes was 2.1 days longer in New Jersey than in the nation as a whole. New Jersey's LOS is 6.8 days per discharge while nationally, it is 4.7 days. Also, New Jersey had an average LOS that was 3.0 days longer than the national average in the age group of 65 years and over (Table 1 and Figure 1).

- Statewide and nationally, the average LOS in 2003 was nearly the same for males and females. The national average was 4.8 days for males and 4.7 days for females. New Jersey's LOS showed a similar gender pattern, 6.8 days for males and 6.9 for females (Table 1).

- In 2003, diabetes (ICD-9-CM 250.0-250.9, 251.3, 357.2, 362.01-362.02, 366.41, 648.00-648.04, and 775.1) was listed as the primary diagnosis for 18,554 hospital discharges in New Jersey. Diabetes ranked eighth in terms of average LOS (6.7 days). The diagnoses with longer LOS were chronic rheumatic heart disease (ICD9-CM 393-398) with an average LOS of 8.8 days; nephritis, nephrotic syndrome, and nephrosis (ICD-9-CM 580-589) with 8.7 days; diseases of pulmonary circulation (ICD-9-CM 415-417) with 8.0 days; infectious and parasitic diseases (ICD-9-CM 001-139) with 7.9 days; mental disorders (ICD-9-CM 290-319) with 7.1 days; conditions of the perinatal period (ICD-9-CM 760-779) with 7.0 days; and diseases of the arteries, arterioles, and capillaries (ICD9-CM 440-448) with 6.8 days (Table 2).

- Of all hospital discharges recorded in 2003 in New Jersey hospitals, 207,900 or 13.7 percent had diabetes listed among the nine possible discharge diagnoses. The average LOS for discharges with a mention of diabetes was 5.6 days compared to 3.7 days for discharges without a mention of diabetes. Though these data were not adjusted for age, this implies that the presence of diabetes increased the average LOS by 1.9 days. This is not unexpected, as the presence of diabetes is often a complicating factor in recovery from other diseases (Table 3).

- The LOS for hospital discharges with diabetes as the primary diagnosis was analyzed by race. The average LOS was 6.7 days for whites and blacks, 5.3 for American Indians, 5.5 days for Asians, and 7.2 days for other races. It is important to note that the numbers of discharges among American Indians and Asians are small. With the small numbers in these groups, a few outlier lengths of stay may influence the results. Among non-Hispanics, the average LOS was .4 days longer than among Hispanics: 6.7 and 6.3 days respectively. However, caution should be used in interpreting all of the ethnicity data. The data for both Hispanics and non-Hispanics are probably understated due to the large number of discharges with unknown ethnicity. Because of the small numbers associated with the Hispanic data, the relative degree of understatement is probably much greater for

Hispanic data than non-Hispanic data (Table 4).

- Age-adjusted rates of hospital discharges with any mention of diabetes as a listed diagnosis showed blacks with the highest discharge rate, 378.8 per 10,000 population. This may be reflective of higher rates of hypertension among blacks since hypertension often serves as a co-risk factor with diabetes for many of the long-term complications of diabetes (myocardial infarction, renal disease, etc.). It may also be reflective of the socio-economic and racial factors that affect access to primary care for blacks. Whites had 183.4 discharges per 10,000 population and Asian/Pacific Islander had 78.5 discharges per 10,000 population. Hispanics had 354.9 discharges per 10,000 population and non-Hispanics 177.1. Again, this difference may be reflective of the socio-economic factors that often serve as barriers to good diabetes care. The average LOS for hospital discharges with any mention of diabetes was almost .8 days longer for blacks than for whites (6.3 and 5.5 days). LOS for Hispanics was 5.5 days and for non-Hispanics, 5.7 (Table 5).

- Not surprisingly, crude rates per 10,000 population for hospital discharges with any mention of diabetes increased with age. The older a person gets, the more likely he or she is to be hospitalized. In New Jersey, 50 percent of hospitalizations occur among Medicare patients. Older people are more likely to have other chronic conditions as well as diabetes mellitus, all of which contribute to higher rates of hospitalization. Males in the age group 65 and over had the highest crude rate per 10,000 populations for hospital discharges with any mention of diabetes (1,179.7). The rate for males 65 years and older was three times the rate for males 45 through 64 years old (347.7). Hispanic rates were higher than non-Hispanics rates in most age and gender groups (Table 6).

- The highest crude rates by county in New Jersey per 10,000 population for hospital discharges with any mention of diabetes were Essex County 302.6, Cumberland 299.1, Ocean 289.5, Salem 283.3, Cape May 281.1, and Hudson 274.4. The most striking demographic characteristics of the population in these counties are their relatively high proportions of elderly and/or minorities. The increased likelihood of co-morbid illnesses in the elderly and the socio-economic barriers to access to care among minorities may both contribute to diabetes-related hospitalizations in these counties. Contributing to higher rates in rural counties may be factors such as sparse resources, transportation gaps, and the presence of sub-populations of migrant workers who are largely uninsured and, therefore, seek care for medical problems late (Table 7).

- Essex County, with the second largest county population in the state, had by far the largest number of hospital discharges in 2003 with any mention of diabetes, 24,094. Essex also had the highest age-adjusted rate, 311.4 per 10,000 population, and the second longest average LOS, 6.5 days. The longest average LOS was found in Hudson County, 6.9 days. Bergen had the second largest number of hospital discharges with any mention of diabetes (18,147) and Hudson and Cumberland had the second highest age-adjusted rate, 293.9 per 10,000 population (Table 8).

- There were 12,487 hospital discharges for end stage renal disease (ESRD) (ICD-9-CM Procedure 39.95 or 55.60-55.69 or Disease Code V42.0, V45.1, or 585) and any mention of diabetes. The average LOS for ESRD and any mention of diabetes was 9.5 days, the age-adjusted rate was 13.7 per 10,000 standard population, and the crude rate per 10,000 diabetic population was 283.8. The average LOS was similar for whites and blacks, 9.3

and 9.4 days respectively, however the age-adjusted rate of discharges per 10,000 standard population in blacks was more than four times that of whites (36.9 and 9.1 respectively). Age-adjusted rates per 10,000 standard population were highest for black males (40.4), as was the crude rate per 10,000 diabetic population (473.7). Crude rates per 10,000 diabetic population were approximately 79 percent higher in blacks than in whites, 446.1, and 249.5 respectively. National studies have shown that blacks are less likely to receive kidney transplants. They are also more likely to be hypertensive, obese, and uninsured; these are all factors that negatively influence the likelihood of good blood pressure, diabetes control and higher rates of (ESRD) (Table 9).

- Hispanics discharged with ESRD and any mention of diabetes had a slightly higher average LOS than non-Hispanics, 9.6 and 9.3 respectively. The age-adjusted discharge rate seen in Hispanics (24.3) was more than twice that of non-Hispanics (10.6) (Table 9).

- Essex, Middlesex, Hudson, and Bergen counties combined accounted for 5,117 of the hospital discharges with ESRD and any mention of diabetes; while Essex, Cumberland, and Hudson Counties had the highest age-adjusted discharge rates. The average LOS for ESRD and any mention of diabetes ranged from 6.6 days in Gloucester to 11.6 in Hudson County (Table 10).

- In 2003, there were 20,509 discharges for other kidney diseases and any mention of diabetes. The average LOS for blacks and whites in this category were almost identical, 9.5 and 9.4 respectively, however the age-adjusted discharge rate for blacks was about three times that of whites (47.1 and 17.1). The crude rate per 10,000 diabetic population for this diagnostic category was about 20 percent higher for blacks (567.7) than for whites (475.0). Average LOS for non-Hispanics (9.3 days) was somewhat shorter than for Hispanics (10.3 days). The age-adjusted discharge rate for Hispanics (31.1 per 10,000 standard population) was approximately 70 percent higher than that for non-Hispanics (18.3) (Table 11).

- There were 14,748 hospital discharges with any mention of diabetes as a listed diagnosis and selected vision disorders: diabetes with ophthalmic manifestations (ICD-9-CM 250.5) or disorders of the eye and adnexa (ICD-9-CM 360-379). The average LOS for the selected vision disorders was 4.2 days, the age-adjusted discharge rate was 16.2 per 10,000 standard population, and the crude rate per 10,000 diabetic population was 335.1. In terms of race, ethnicity, and gender, the average LOS was more than a day longer for black males than for white males. However, the age-adjusted discharge rate for blacks (26.8) was about twice that of whites (13.1 per 10,000 population) (Table 12).

- In 2003, New Jerseyans had 4,216 amputations of the lower limb (amputations complete or partial of the toes, feet, or legs ICD-9-CM 895-897 and lower limb amputation, ICD-9-CM Procedure Code 84.1). Diabetes was present as a diagnosis in 2,969 or 70.4 percent of all amputations of the lower limb. Ninety-nine percent (4,206) of all lower limb amputations were non-traumatic (Table 13).

- The average LOS for non-traumatic amputations for diabetics in New Jersey was 15.5 days. Blacks had an average LOS that was 2.5 days longer than whites (17.0 and 14.5 respectively). Black males had the highest age-adjusted rate of hospitalizations for non-traumatic amputations and diabetes (9.3 per 10,000 standard population). For all blacks, the age-adjusted discharge rate was 7.4 per 10,000 standard population; for all whites,

this rate was 2.3 per 10,000. The crude rate per 10,000 diabetic population was 66.9 for whites, 86.7 for blacks, and 9.8 for Asian/Pacific Islanders. The age-adjusted rate was 4.7 per 10,000 standard population for all Hispanics. The average LOS was 1.9 days longer for Hispanics (16.9 days) as compared to non-Hispanics (15.0 days) (Table 14).

- The age-adjusted discharge rate per 10,000 standard population for non-traumatic amputations and any mention of diabetes was highest in Essex County with 4.9 diabetes-related amputations per 10,000 standard population. Passaic had an age-adjusted rate of 4.0 amputations per 10,000 population, Camden County had 3.8 and Atlantic and Salem had rates of 3.7 each. The rates per 10,000 diabetic population showed a similar ranking with Passaic County having the highest rate, by far, of 94.9 per 10,000 diabetic population. Passaic was followed by Essex 93.5, Monmouth 81.3, Hudson 78.6, Ocean 76.7, Camden 76.2 and Bergen 74.6. In eight counties, the average LOS was over 16 days. For Hunterdon it was 23.8 days, Hudson, 20.7, Essex 17.8 days, Middlesex 17.6 days, Mercer 16.6 days, Diabetes together with any of the following ICD9-CM cardiac diagnoses - hypertensive heart disease (402), ischemic heart disease (410-414), cardiomyopathy (425), and heart failure (428) - were mentioned in a total of 127,564 discharges in the 2003 New Jersey hospital discharge file. When both gender and race are considered, the age-adjusted discharge rate for diabetes and hypertensive heart disease per 10,000 standard population was highest for black females (17.5) as compared to a low rate of 4.8 for white males. For ischemic heart disease, the highest rate was among black males (112.1), as compared to a low rate of 51.3 for white males. For heart failure, the highest age-adjusted rate was among black females (83.8), compared to the lowest rate of 37.0 for white females (Table 16).

- For hypertensive heart disease with any mention of diabetes, Union County had the highest crude rate of discharges per 10,000 diabetic population (314.4). Union also had the highest age-adjusted rate, 14.4 per 10,000 standard population. Essex County had the longest average LOS for hypertensive heart disease, 8.1 days. Hudson County had the highest age-adjusted rate for ischemic heart disease with any mention of diabetes, 108.9 per 10,000 standard population followed closely by Cumberland County 104.4. Hudson County also had the longest average LOS for ischemic heart disease, 6.7 days. Cumberland County had the highest age-adjusted rate for heart failure with any mention of diabetes, 69.5 per 10,000 standard population. The longest average LOS for heart failure was in Hudson County, 9.7 days (Table 17).

- For discharges with diabetes and hypertensive disease (ICD-9-CM 401- 405), for blacks, the average LOS was over a day longer than that for whites (6.1 and 5.0 days respectively). The age-adjusted discharge rate for New Jersey's black population was more than two times that of whites (281.9 and 115.0 per 10,000 standard population, respectively) (Table 18).

- Both the numbers and age-adjusted rates of discharges for hypertensive disease with any mention of diabetes were highest in Essex County with 16,663 discharges and an age-adjusted rate per 10,000 standard population of 215.7 and a crude rate per 10,000 diabetic population of 4143.0. Essex also had the second-longest average LOS (6.3 days) after Hudson County (6.6 days) (Table 19).

- There were 173,613 discharges for major cardiovascular diseases (ICD9-CM 390-448) with any mention of diabetes in 2003. For blacks, the average LOS was longer than for

whites (6.4 and 5.6 days respectively). The age-adjusted discharge rate for blacks was more than twice that of whites (323.3 and 153.0 per 10,000 standard population, respectively). However, the crude rate per 10,000 diabetic population was higher for whites than blacks (4,277.8 and 3,763.0 respectively). This may reflect the older age distribution of New Jersey's white population (Table 20).

- For discharges with any mention of diabetes and a major cardiovascular disease, the longest average LOS, found in Hudson County, was 7.2 days. Essex County had the highest age-adjusted discharge rate per 10,000 standard population, 257.8; and Hudson had the highest crude rate per 10,000 diabetic population, 5,543.6 (Table 21).

- In 2003, New Jersey had 15,594 hospital discharges for cerebrovascular disease (stroke, ICD-9-CM 430-438) and diabetes. By race, blacks had the longest average LOS, 7.9 days. This compares to an average LOS of 6.5 for whites and 7.8 for other races. The age-adjusted discharge rate per 10,000 standard population for blacks was more than twice that for whites (33.2 and 13.3 respectively). When discharges were divided by the estimated diabetic population, the crude discharge rate was 375.8 for whites, 363.4 for blacks and 99.9 for Asian and Pacific Islanders. Hispanics had an average LOS that was greater than that of non-Hispanics (7.2 and 6.9 days, respectively), and an age-adjusted discharge rate per 10,000 standard population that was more than twice of non-Hispanics (28.7 and 13.3 respectively) (Table 22).

- Hudson County had the highest age-adjusted rate of stroke with diabetes as a co-morbidity per 10,000 standard population (23.3). Essex County had the second highest rate (23.2), followed by Cumberland County with a rate of 21.3, Camden with a rate of 21.0, and Mercer at 20.0. The highest crude rate of stroke per 10,000 diabetic population was seen in Hudson, 525.3. The longest lengths of stay were seen in three counties: Hudson (9.2), Essex (8.3), and Middlesex (7.6) (Table 23).

- There were 12,994 hospital discharges with any mention of diabetes and pneumonia or influenza (ICD-9-CM 480.0-487.8). In this category, the average LOS was 9.8 days, the age-adjusted rate per 10,000 standard population was 14.2, and the crude rate per 10,000 diabetic population was 295.3. Blacks had an average LOS of 11.3 days, while for whites it was 9.4 days. Age-adjusted discharge rates were higher for blacks (22.7 per 10,000 standard population) than whites (11.6 per 10,000 standard population). This relatively large variation may reflect differences in pneumoccocal and influenza immunization rates by race. The crude discharge rate per 10,000 diabetics was highest for white patients (329.4 per 10,000 diabetic population). Hispanics had a longer average LOS (10.1 days) than non-Hispanics (9.7 days), and a higher age-adjusted rate per 10,000 standard population (21.1) than non-Hispanics (11.3) (Table 24).

- Essex County had the highest age-adjusted discharge rate per 10,000 standard population (20.7) for diabetes and influenza or pneumonia. The highest county rate per 10,000 diabetic population, 457.7, was seen in Cape May County. The longest average LOS was in Essex County, 12.3 days (Table 25).

- In 2003, there were 1,146 discharges of children (18 years or younger) with any mention of diabetes as one of the listed diagnoses. Sixty-seven percent (773) of these had diabetes listed as the primary diagnosis. The average LOS for children with diabetes was slightly longer than the average LOS of those with no mention of diabetes (3.6 and 3.2

days respectively) (Table 26).

- In 2003, there were 163,431 discharges involving diabetes mellitus without mention of complications (ICD9-CM 250.0). Of the ten conditions sub-coded within the diabetes ICD-9 grouping (ICD9-CM 250.0-250.9), the diabetes diagnosis with the longest average LOS was diabetes with peripheral circulatory disorders (ICD9-CM 250.7), 11.6 days. Hispanics had a longer average LOS for this diagnosis (11.8 days) than did non-Hispanics (11.4 days), and blacks had a longer stay, on average, than whites (13.0 and 10.8, respectively). The most frequently recorded complication of diabetes was ICD9-CM 250.4, diabetes with other specific manifestations, with 11,839 discharges (Table 27).

- Diabetes with ketoacidosis (ICD-9-CM 250.1), diabetes with hyperosmolarity (ICD-9CM 250.2), and diabetes with other coma (ICD-9-CM 250.3) have been designated as Ambulatory Care Sensitive (ACS) conditions. As such, it is believed that timely and effective ambulatory care in the 30-60 days prior to hospital admission might have prevented the hospitalization of patients having these ACS diagnoses. For white patients under age 65, these ACS conditions accounted for 29.6 percent of discharges listing diabetes as the primary diagnosis. For blacks, these potentially preventable discharges accounted for 31.5 percent of discharges listing diabetes as the primary diagnosis. There were almost no differences between discharges of non-Hispanics and Hispanics for these conditions (30.4% and 30.5%, respectively) (Table 28).

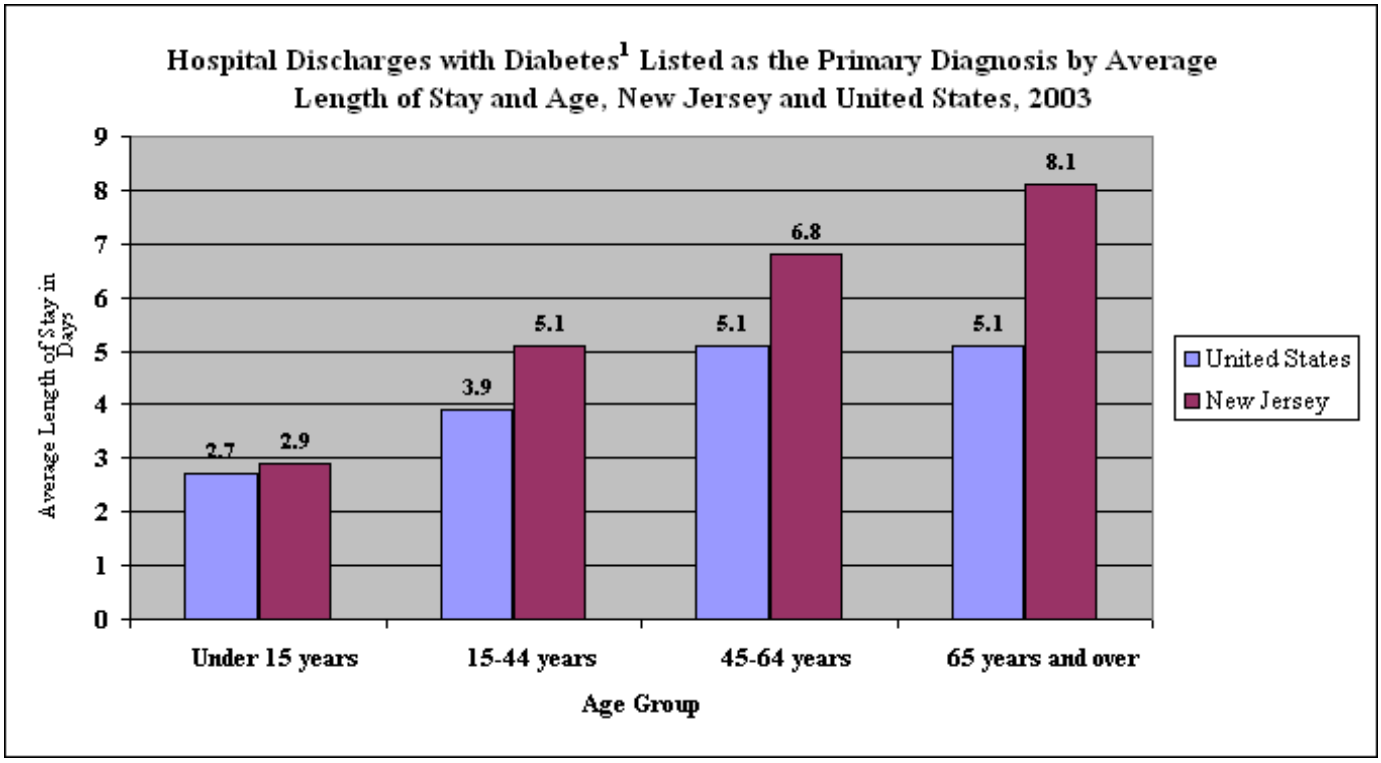
- In 2003, these three ACS conditions represented 30.2 percent of all hospital discharges for persons under age 65 that listed diabetes as the primary diagnosis. Cumberland County had the highest proportion: the three ACS conditions represented 35.2 percent of the discharges with diabetes listed as primary diagnosis. Monmouth, Morris, and Camden, Counties also had relatively high proportions of discharges with ACS diabetes diagnoses (35.0, 34.9, and 34.7%) respectively (Table 29).

Table 1
Hospital Discharges with Diabetes* Listed as the Primary Diagnosis by Age, Gender, Rate and Average Length of Stay in Days, New Jersey and the United Sates, 2003**

Age and Gender	Discharges		Days of Care		Average length of stay in days
	Number of Discharges	Rate per 10,000 Population	Number of Days	Days per 10,000 Population	
U.S.A.					
Age					
Under 15 years	31,000	5.1	83,700	13.9	2.7
15-44 years	156,000	12.6	608,400	49.0	3.9
45-64 years	204,000	29.7	1,040,400	167.9	5.1
65 years and over	205,000	57.1	1,045,500	298.8	5.1
Total***	597,000	20.6	2,805,900	99.7	4.7
Gender			-		
Male	283,000	19.9	1,358,400	98.4	4.8
Female	314,000	21.2	1,475,800	102.9	4.7
Total	597,000	20.6	2,805,900	99.7	4.7
New Jersey					
Age					
Under 15 years	541	3.1	1,593	9.1	2.9
15-44 years	3,825	10.5	19,564	53.9	5.1
45-64 years	6,316	33.0	43,168	225.7	6.8
65 years and over	7,316	65.7	58,858	528.8	8.1
Total	17,998	20.8	123,183	146.4	6.8
Gender			-		
Male	9,565	23.4	65,155	159.6	6.8
Female	8,433	19.5	58,028	134.0	6.9
Total	17,998	21.4	123,183	146.4	6.8

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, 2003 Summary: National Hospital Discharge Survey, and the New Jersey Department of Health and Senior Services, New Jersey Hospital Discharge File (UB-92).
*ICD-9-CM codes 250.0 through
** Rates were calculated using US Census Bureau estimates of the civilian population based
*** Number of Discharges do not total due to rounding.

Figure 1



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, 2003 Summary: National Hospital Discharge Survey, and the New Jersey Department of Health and Senior Services, New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM codes 250.0 through 250.9.

Table 2
Hospital Discharges by Primary Diagnosis, Average Length of Stay in Days and Average Charges in Dollars, New Jersey, 2003

Primary Diagnosis	Total Hospital Discharges	Length of Stay in Days		Charges in Dollars	
		Number of Days	Average Number of Days	Total	Mean
Chronic rheumatic heart disease (393-398)	2,776	24,289	8.8	233,541,148	84,128.66
Nephritis, nephrotic syndrome, and nephrosis (580-589)	7,560	65,597	8.7	485,317,715	64,195.46
Diseases of pulmonary circulation (415-417)	3,263	25,978	8.0	195,813,666	60,010.32
Infectious & parasitic diseases (001-139)	30,818	243,442	7.9	1,764,302,417	57,249.09
Mental disorders (290-319)	61,742	438,396	7.1	1,458,283,487	23,618.99
Conditions of Perinatal Period (760-779)[2]	3,078	21,416	7.0	126,406,308	41,067.68
Arteries, arterioles and capillaries diseases (440-448)	9,542	64,639	6.8	608,315,010	63,751.31
Diabetes[1]	18,554	125,066	6.7	862,401,605	46,480.63
Acute rheumatic fever (390-392)	50	321	6.4	2,317,600	46,352.00
Cerebrovascular disease (430-438)	29,175	177,402	6.1	1,392,574,183	47,731.76
Other forms of heart disease (420-429)	70,477	423,289	6.0	3,820,415,487	54,207.98
Diseases of the respiratory system (460-519)	116,805	680,660	5.8	4,828,662,815	41,339.52
Malignant neoplasm (140-208)	56,874	306,710	5.4	2,492,380,297	43,822.84
Hypertensive disease (401-405)	12,274	65,610	5.4	541,678,113	44,132.16
Other endocrine, nutritional & metabolic disorders (251-279)[2]	27,335	129,130	4.7	906,345,970	33,156.98
Diseases of the blood & blood-forming organs (280-289)	14,672	69,128	4.7	501,045,028	34,149.74
Diseases of the skin and subcutaneous tissue (680-709)	27,071	126,173	4.7	794,213,770	29,338.18
Injury and Poisoning (800-999)	99,513	435,760	4.4	3,720,069,030	37,382.74
Ischemic heart disease (410-414)	73,422	317,901	4.3	4,349,007,018	59,233.02
Factors influencing health status/contact health services (V01-V82)[3]	145,393	516,931	3.6	2,116,438,841	14,556.68
Diseases of the digestive system (520-579)	172,297	551,244	3.2	4,421,991,762	25,664.94
Veins, lymphatic & other circulatory diseases (451-459)	20,679	61,312	3.0	456,794,156	22,089.76
Symptoms, Signs & Ill-defined Conditions (780-799)	87,757	246,512	2.8	1,930,946,948	22,003.34
Complications in Pregnancy, Childbirth & Purpureum (630-677)[2]	138,900	367,373	2.6	1,954,580,303	14,071.85
Disorders of thyroid gland (240-246)	1,933	4,412	2.3	39,110,170	20,232.89
Congenital Anomalies (740-759)	5,626	11,488	2.0	118,903,391	21,134.62
Musculoskeletal and connective tissue diseases (710-739)	87,022	176,688	2.0	1,906,801,610	21,911.72
Other diseases of the genitourinary system (590-629)	92,609	165,289	1.8	1,455,203,920	15,713.42
Diseases of the nervous system & sense organs (320-389)[2]	55,803	82,877	1.5	802,293,223	14,377.24
Other neoplasm (210-239)	43,289	54,468	1.3	583,138,698	13,470.83
Total	1,516,309	5,979,501	3.9	44,869,293,689	29,591.12

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] Except: 251.3; 357.2; 362.01-362.02; 366.41; 640.00-648.04; or 775.1.

[3] Supplementary classification of factors influencing health status and contact with health services (V01-V82).

Table 3
Hospital Discharges by Primary Diagnosis, Mention or Absence of Diabetes and Average Length of Stay, New Jersey, 2003

	Total Discharges		Average Length of Stay in Days	
	Mention of Diabetes	Non-Mention of Diabetes	Mention of Diabetes	Non-Mention of Diabetes
Infectious & parasitic diseases (001-139)	4,989	25,829	9.9	7.5
Malignant neoplasm (140-208)	7,435	49,439	6.1	5.3
Other neoplasm (210-239)	2,541	40,748	2.4	1.2
Disorders of thyroid gland (240-246)	183	1,750	3.5	2.2
Diabetes[1]	18,554	-	6.7	0.0
Other endocrine, nutritional & metabolic disorders (251-279)[2]	5,095	22,240	5.3	4.6
Diseases of the blood & blood-forming organs (280-289)	1,949	12,723	5.0	4.7
Mental disorders (290-319)	4,729	57,013	9.3	6.9
Diseases of the nervous system & sense organs (320-389)[2]	7,131	48,672	1.8	1.4
Acute rheumatic fever (390-392)	*	46	5.0	6.5
Chronic rheumatic heart disease (393-398)	602	2,174	7.5	9.1
Hypertensive disease (401-405)	4,014	8,260	6.0	5.0
Ischemic heart disease (410-414)	22,535	50,887	4.4	4.3
Diseases of pulmonary circulation (415-417)	587	2,676	8.1	7.9
Other forms of heart disease (420-429)	20,868	49,609	6.3	5.9
Cerebrovascular disease (430-438)	7,945	21,230	6.2	6.0
Arteries, arterioles and capillaries diseases (440-448)	2,586	6,956	7.6	6.5
Veins, lymphatic & other circulatory diseases (451-459)	2,421	18,258	5.3	2.7
Diseases of the respiratory system (460-519)	18,051	98,754	7.6	5.5
Diseases of the digestive system (520-579)	18,239	154,058	5.2	3.0
Nephritis, nephrotic syndrome, and nephrosis (580‑589)	2,102	5,458	8.7	8.7
Other diseases of the genitourinary system (590-629)	8,638	83,971	3.9	1.6
Complications in Pregnancy, Childbirth & Purpureum (630-677)[2]	813	138,087	3.9	2.6
Diseases of the skin and subcutaneous tissue (680-709)	5,705	21,366	6.8	4.1
Musculoskeletal and connective tissue diseases (710-739)	8,336	78,686	4.0	1.8
Congenital Anomalies (740-759)	90	5,536	3.6	2.0
Conditions of Perinatal Period (760-779)[2]	*	3,074	2.8	6.9
Symptoms, Signs & Ill-defined Conditions (780-799)	14,918	72,839	3.6	2.7
Injury and Poisoning (800-999)	14,207	85,306	5.9	4.1
Factors influencing health status/contact health services (V01-V82)[3]	2,637	142,756	5.0	3.5
Total	207,900	1,308,401	5.6	3.7

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] Except: 251.3, 357.2, 362.01-362.02, 366.41, 648.00-648.04 and 775.1.

[3] Supplementary classification of factors influencing health status and contact with health services (V01-V82).

* Number of Hospital Discharges less than 5.

Table 4

Hospital Discharges with Diabetes[1] Listed as the Primary Diagnosis by Race, Ethnicity, Gender, Number of Discharges, Number of Days and Average Length of Stay, New Jersey, 2003

Race, Ethnicity, and Gender	Number of Hospital Discharges	Total Number of Days	Average Length of Stay in Days[2]
Race and Gender			
White	10,869	73,356	6.7
Male	5,742	38,988	6.8
Female	5,127	34,368	6.7
Black	5,122	34,362	6.7
Male	2,566	17,205	6.7
Female	2,556	17,157	6.7
American Indian	125	662	5.3
Male	64	379	5.9
Female	61	283	4.6
Asian/Pacific Islander	193	1,063	5.5
Male	92	491	5.3
Female	101	572	5.7
Other	1,746	12,597	7.2
Male	851	6,545	7.7
Female	895	6,052	6.8
Unknown	499	3,026	6.1
Male	250	1,547	6.2
Female	249	1,479	5.9
Hispanic Ethnicity[3] and Gender			
Non-Hispanic	13,280	89,619	6.7
Male	6,899	46,832	6.8
Female	6,381	42,787	6.7
Hispanic	2,563	16,191	6.3
Male	1,302	8,199	6.3
Female	1,261	7,992	6.3
Unknown	2,711	19,256	7.1
Male	1,364	10,124	7.4
Female	1,347	9,132	6.8
Total	18,554	125,066	6.7
Male	9,565	65,155	6.8
Female	8,989	59,911	6.7

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal

[2] Number of days divided by number of hospital discharges.

[3] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

Table 5

Hospital Discharges with any Mention of Diabetes[1] Listed as a Diagnosis by Race, Ethnicity, Gender, Number of Discharges, Number of Days, Age-Adjusted Rate, and Average Length of Stay, New Jersey, 2003

Race, Ethnicity, and Gender	Number of Hospital Discharges	Total Number of Days	Age-Adjusted Discharge Rate Per 10,000 Standard Population	Average Length of Stay in Days[2]
Race and Gender				
White	141,743	777,076	183.4	5.5
Male	68,992	359,500	206.3	5.2
Female	72,751	417,576	165.9	5.7
Black	38,395	242,177	378.8	6.3
Male	15,868	99,418	373.0	6.3
Female	22,527	142,759	383.0	6.3
Asian/Pacific Islander	2,875	14,236	78.5	5.0
Male	1,411	6,651	81.8	4.7
Female	1,464	7,585	75.2	5.2
Other	17,200	101,689	N/A	5.9
Male	7,992	46,677	N/A	5.8
Female	9,208	55,012	N/A	6.0
Unknown	7,692	39,401	N/A	5.1
Male	3,865	19,214	N/A	5.0
Female	3,827	20,187	N/A	5.3
Hispanic Ethnicity[3] and Gender				
Non-Hispanic	148,022	850,598	177.1	5.7
Male	69,823	383,752	192.8	5.5
Female	78,199	466,846	165.5	6.0
Hispanic	25,048	138,197	354.9	5.5
Male	11,632	62,273	375.0	5.4
Female	13,416	75,924	340.8	5.7
Unknown	34,838	185,795	N/A	5.3
Male	16,674	85,438	N/A	5.1
Female	18,164	100,357	N/A	5.5
Total	207,908	1,174,590	227.3	5.6

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] Number of days divided by number of hospital discharges.

[3] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

Table 6

Hospital Discharge Rates for Any Mention of Diabetes[1] as a Listed Diagnosis by Race, Ethnicity, Gender, and Age, New Jersey, 2003

Race/Ethnicity	Males				Females				
Race	0 - 19	20-44	45 - 64	65 & Older	0 - 19	20 - 44	45 - 64	65 & Older	**Total**
White									
Hospital Discharges	336	4,671	22,683	41,302	357	4,818	18,838	48,738	141,743
Population	882,146	1,153,969	829,841	396,394	838,777	1,126,743	873,425	579,895	6,681,190
Rate[2]	3.8	40.5	273.3	1,041.9	4.3	42.8	215.7	840.5	212.2
Black									
Hospital Discharges	111	2,351	7,145	6,261	157	2,937	8,995	10,438	38,395
Population	211,219	228,543	114,952	40,099	204,943	248,409	144,088	64,447	1,256,700
Rate[2]	5.3	102.9	621.6	1,561.4	7.7	118.2	624.3	1,619.6	305.5
Other Races									
Hospital Discharges	124	1,024	4,050	4,145	155	1,239	3,862	5,416	20,015
Population	109,933	146,271	71,594	18,651	105,948	148,412	75,341	24,356	700,506
Rate[2]	11.3	70.0	565.7	2,222.4	14.6	83.5	512.0	2,223.7	285.7
Unknown									
Hospital Discharges	21	370	1,509	1,965	22	363	1,198	2,244	7,692
Population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rate[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hispanic Ethnicity[3]									
Non-Hispanic									
Hospital Discharges	393	5,636	24,541	39,253	439	6,255	22,558	48,947	148,022
Population	990,270	1,237,892	912,646	425,977	946,398	1,263,200	980,285	627,292	7,383,960
Rate[2]	4.0	45.5	268.9	710.2	4.6	49.5	230.1	780.3	200.5
Hispanic									
Hospital Discharges	77	1,334	4,771	5,450	110	1,559	4,814	6,933	25,048
Population	213,028	290,904	106,342	29,167	186,942	260,304	112,569	41,406	1,240,662
Rate[2]	3.6	45.9	448.6	1,868.6	5.9	59.9	427.6	1,674.4	202
Unknown									
Hospital Discharges	122	1,447	6,115	8,990	142	1,543	5,522	10,957	34,838
Population	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rate[2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Discharges	592	8,417	35,427	53,693	691	9,357	32,894	66,837	207,908
Total Population	1,203,298	1,528,796	1,018,988	455,144	1,133,340	1,523,504	1,092,854	668,698	8,624,622
Total Rate	4.9	55.1	347.7	1179.7	6.1	61.4	301.0	999.5	241.1

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1]ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] Per 10,000 population.

[3] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

N/A: Not applicable.

Table 7

Hospital Discharge Rates for Any Mention of Diabetes[1] as a Listed Diagnosis by County and Age, New Jersey, 2003

	Hospital Discharges by Age and Rate per 10,000 Population									
County	Under 15	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total
Atlantic	15	79	126	481	857	1,322	1,583	1,483	525	6,471
Rate	2.7	23.4	38.3	110.7	228.3	522.2	883.3	1,141.6	1,163.0	245.7
Bergen	60	88	242	837	1,915	3,271	4,679	5,221	1,834	18,147
Rate	3.5	8.9	22.9	55.3	139.5	329.6	714.7	1,048.4	956.6	202.2
Burlington	19	42	130	493	1,124	1,843	2,389	2,398	625	9,063
Rate	2.1	7.3	23.0	65.2	172.5	408.3	821.4	1,164.9	983.3	203.9
Camden	33	164	380	943	1,887	2,544	3,148	3,115	964	13,178
Rate	3.0	23.6	59.2	115.2	253.6	513.5	1,015.1	1,302.0	1,167.9	256.4
Cape May	*	20	35	164	238	515	767	824	298	2,863
Rate	*	16.5	35.1	114.0	160.5	422.5	764.9	1,073.3	1,016.4	281.1
Cumberland	10	63	131	283	673	1,000	1,032	975	299	4,466
Rate	3.2	31	60.9	120.9	336.5	717.6	1,100.4	1,374.4	1,207.6	299.1
Essex	97	197	687	1,837	3,565	5,436	5,866	4,713	1,696	24,094
Rate	5.5	18.8	62.2	144.3	327.5	725.9	1,257.7	1,441.8	1,323.2	302.6
Gloucester	17	33	136	376	795	1,185	1,645	1,518	422	6,127
Rate	3.1	8.5	41.8	84.4	197.7	459.4	1,036.4	1,326.8	1,208.1	229.5
Hudson	65	90	409	1,024	2,371	3,573	4,286	3,774	1,075	16,667
Rate	5.5	11.9	36.4	100.5	305.2	663.3	1,229.8	1,589.5	1,176.5	274.4
Hunterdon	6	9	16	111	165	305	371	458	127	1,568
Rate	2.3	6.0	12.8	48.7	72.7	201.1	493.0	929.0	758.7	122.2
Mercer	14	55	204	608	1,311	1,744	2,235	2,234	753	9,158
Rate	1.9	10.4	42.9	105.9	248.4	501.3	1,027.8	1,353.8	1,230.2	253.0
Middlesex	75	129	325	1,085	2,181	3,492	4,242	4,383	1,420	17,332
Rate	4.8	12.6	28.2	82.4	197.8	484.2	911.3	1,238.7	1,244.3	221.9
Monmouth	76	127	245	714	1,866	2,711	3,464.0	3,508	1,312	14,023
Rate	5.7	16.5	35.4	66.7	187.2	405.8	868.8	1,236.6	1,224.3	221.8
Morris	34	44	135	339	804	1,429	1,858	1,874	715	7,232
Rate	3.4	8.2	24.6	39.7	106.3	259.3	598.4	945.4	991.0	149.7
Ocean	58	71	250	653	1,394	2,606	4,236	4,802	1,740	15,810
Rate	5.6	11.5	40.1	82.2	200.8	495.9	839.7	1,013.7	932.0	289.5
Passaic	61	139	293	757	1,767	2,901	3,013	2,797	924	12,652
Rate	5.4	20.8	43.8	94.8	264.8	625.4	1,033.8	1,313.0	1,115.7	253.9
Salem	*	24	34	86	272	402	472	424	122	1,837
Rate	*	27.0	46.6	89.4	275.9	572.6	1,065.0	1,185.0	988.7	283.3
Somerset	25	50	93	325	675	1,120	1,511	1,397	555	5,751
Rate	3.7	15.4	24.5	55.3	137.2	360.0	857.1	1,162.7	1,326.2	184.6
Sussex	10	27	38	129	344	555	577	549	163	2,392
Rate	3.1	14.0	23.3	47.7	134.9	338.7	760.2	1,144.5	907.6	158.3
Union	54	71	235	691	1,331	2,285	2,815	2,881	1,057	11,420
Rate	4.8	11.1	34.8	77.8	177.3	443.8	861.5	1,089.6	1,022.4	215.7
Warren	10	22	30	131	318	436	652	744	267	2,610
Rate	4.4	16.8	23.8	67	191.3	397.0	988.5	1,469.8	1,319.2	239.0
Unknown	13	35	124	357	676	1117	1394	1043	286	5,045
Rate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total	755	1,579	4,298	12,425	26,529	41,792	52,235	51,116	17,179	207,906
Rate	3.7	12.4	32.6	60.2	171.1	434.3	788.2	1,007.80	933.7	240.7

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

* Hospital discharges were under 5.

N/A: Not applicable.

Table 8
Hospital Discharges with Any Mention of Diabetes[1]
as a Listed Diagnosis by County, Number of Discharges,
Age-Adjusted Rates, Number of Days, and Average Length of Stay,
New Jersey, 2003

County	Number of Hospital Discharges	Age-Adjusted Rate Per 10,000 Standard Population	Number of Days	Average Length of Stay in Days
Atlantic	6,471	230.9	36,873	5.7
Bergen	18,147	170.7	96,960	5.3
Burlington	9,063	195.8	46,488	5.1
Camden	13,178	253.2	70,085	5.3
Cape May	2,863	198.7	15,972	5.6
Cumberland	4,466	293.9	24,004	5.4
Essex	24,094	311.4	157,078	6.5
Gloucester	6,127	234.7	29,297	4.8
Hudson	16,667	293.9	115,438	6.9
Hunterdon	1,568	124.3	8,173	5.2
Mercer	9,158	249.8	48,565	5.3
Middlesex	17,332	224.0	101,288	5.8
Monmouth	14,023	211.6	77,731	5.5
Morris	7,232	145.9	38,685	5.4
Ocean	15,810	164.0	82,532	5.2
Passaic	12,652	260.1	71,967	5.7
Salem	1,837	250.7	8,554	4.7
Somerset	5,751	194.4	27,445	4.8
Sussex	2,392	176.9	11,663	4.9
Union	11,420	165.4	70,959	6.2
Warren	2,610	229.5	12,074	4.6
Unknown	5,045	N/A	22,756	4.5
Total	207,908	228.00	1,174,590	5.7

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

N/A: Not applicable.

Table 9

Hospital Discharges with Any Mention of Diabetes[1] and End Stage Renal Disease (ESRD)[2] as Listed Diagnoses by Race, Ethnicity, Gender, Number of Discharges, Average Length of Stay, and Crude and Age-Adjusted Rates, New Jersey, 2003

Race, Ethnicity, and Gender	Number of Hospital Discharges	Average[3] Length of Stay	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate per 10,000 Standard Population
Race and Gender				
White	**6,961**	**9.3**	**249.5**	**9.1**
Male	3,786	8.8	264.2	11.3
Female	3,175	9.8	234.1	7.4
Black	**3,791**	**9.4**	**446.1**	**36.9**
Male	1,749	9.1	473.7	40.4
Female	2,042	9.6	424.9	34.5
Asian/ Pacific Islander	**216**	**8.1**	**91.8**	**5.7**
Male	111	7.1	67.1	6.1
Female	105	9.1	150.0	5.2
Other	**1,045**	**11.1**	**N/A**	**N/A**
Male	532	10.9	N/A	N/A
Female	523	11.2	N/A	N/A
Unknown	**345**	**9.8**	**N/A**	**N/A**
Male	161	9.5	N/A	N/A
Female	188	9.7	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**8,833**	**9.3**	**228.0**	**10.6**
Male	4,507	8.8	228.0	12.3
Female	4,326	9.7	227.9	9.4
Hispanic	**1,761**	**9.6**	**348.9**	**24.3**
Male	957	8.9	386.1	30.1
Female	804	10.3	313.0	19.9
Unknown	**1,893**	**10.2**	**N/A**	**N/A**
Male	938	10.3	N/A	N/A
Female	955	10.3	N/A	N/A
Total	**12,487**	**9.5**	**283.8**	**13.7**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04) or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Procedure Codes for ESRD: Chronic Dialysis 39.95 or Renal Transplantation 55.60-55.69, or Disease Codes V42.0, V45.1 or 585.

[3] Number of days divided by number of hospital discharges.

[4] Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

N/A: Not applicable or not available.

Table 10

Hospital Discharges with Any Mention of Diabetes[1] and End Stage Renal Disease (ESRD)[2] as Listed Diagnoses by County, Number of Discharges, Average Length of Stay, and Crude and Age-Adjusted Rates, New Jersey, 2003

County	Number of Hospital Discharges	Average Length of Stay in Days[3]	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate Per 10,000 Standard Population
Atlantic	379	7.4	238.2	13.5
Bergen	1,080	8.1	287.7	10.2
Burlington	527	7.6	240.2	11.3
Camden	777	8.1	294.4	14.9
Cape May	106	7.1	177.7	8.7
Cumberland	405	9.3	429.3	26.7
Essex	1,904	10.1	473.4	24.6
Gloucester	297	6.6	228.8	11.4
Hudson	1,061	11.6	430.1	18.8
Hunterdon	72	11.2	115.1	5.8
Mercer	617	9.2	353.8	16.9
Middlesex	1,072	10.9	281.5	13.8
Monmouth	793	9.6	308.4	12.0
Morris	400	9.9	181.3	8.0
Ocean	697	9.0	228.4	9.0
Passaic	845	9.2	411.4	17.4
Salem	66	7.1	180.7	8.8
Somerset	287	8.4	191.5	9.6
Sussex	109	10.4	139.4	8.8
Union	745	11.2	287.4	13.4
Warren	98	8.5	166.6	8.0
Unknown	150	7.3	N/A	N/A
Total	12,487	9.5	281.3	13.7

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04) or Neonatal diabetes mellitus (775.1).

[2]ICD-9-CM Procedure Codes for ESRD: Chronic Dialysis 39.95 or Renal Transplantation 55.60-55.69, or Disease Codes V42.0, V45.1 or 585.

[3]Number of days divided by number of hospital discharges.

[4]Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004t hat were "smoothed" by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council.

N/A: Not applicable.

Table 11
Hospital Discharges with Any Mention of Diabetes[1] and Kidney Diseases[2] as Listed Diagnoses by Race, Ethnicity, Gender, Number of Discharges, Average Length of Stay, and Crude and Age-Adjusted Rates, New Jersey, 2003

Race/Ethnicity and Gender	Number of Hospital Discharges	Average[3] Length of Stay	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate per 10,000 Standard Population
Race and Gender				
White	13,251	**9.4**	**475.0**	**17.1**
Male	6,923	9.0	483.1	20.8
Female	6,328	9.9	466.5	14.4
Black	4,824	**9.5**	**567.7**	**47.1**
Male	2,232	9.3	604.5	53.9
Female	2,592	9.7	539.4	44.0
Asian/ Pacific Islander	317	**8.0**	**134.7**	**9.1**
Male	163	6.8	98.6	10.2
Female	154	9.3	220.0	8.1
Other	1,487	**10.7**	**N/A**	**N/A**
Male	732	9.9	N/A	N/A
Female	755	11.5	N/A	N/A
Unknown	501	**9.9**	**N/A**	**N/A**
Male	268	9.4	N/A	N/A
Female	233	10.6	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**15,350**	**9.3**	**396.2**	**18.3**
Male	7,789	8.9	394.1	21.5
Female	7,561	9.8	398.4	9.4
Hispanic	**2,201**	**10.3**	**436.1**	**31.1**
Male	1,095	9.7	441.8	35.3
Female	1,106	11.0	430.6	16.0
Unknown	**2,958**	**10.1**	**N/A**	**N/A**
Male	1,508	9.8	N/A	N/A
Female	1,450	10.5	N/A	N/A
Total	**20,509**	**9.5**	**466.1**	**22.5**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04) or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes for Kidney Diseases: Diabetes with renal manifestations (250.4), Nephrotic syndrome (581.81), Nephritis and nephropathy (583.81), Acute renal failure (584), Renal failure (586), Renal sclerosis (587), Disorders resulting from impaired renal function (588) and Infections of kidney (590).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

N/A: Not applicable or not available.

Table 12
Hospital Discharges with Any Mention of Diabetes[1] and Selected Vision Disorders[2] as Listed Diagnoses by Race, Ethnicity, Gender, Number of Discharges Average Length of Stay and Age-Adjusted and Crude Rates, New Jersey, 2003

	Number of Hospital Discharges	Average[3] Length of Stay	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate per 10,000 Standard Population
Race and Gender				
White	**1,0150**	**3.9**	**363.9**	**13.1**
Male	4,691	3.8	327.3	14.1
Female	5,459	4.0	402.5	12.4
Black	**2,655**	**5.0**	**312.4**	**26.8**
Male	1,052	5.3	284.9	25.7
Female	1,603	4.8	333.6	27.7
Asian/ Pacific Islander	**240**	**3.3**	**102.0**	**6.4**
Male	111	1.9	67.1	6.6
Female	129	4.6	184.3	6.2
Other	**1,021**	**5.0**	**N/A**	**N/A**
Male	465	4.7	N/A	N/A
Female	556	5.2	N/A	N/A
Unknown	**571**	**4.0**	**N/A**	**N/A**
Male	258	4.0	N/A	N/A
Female	313	3.9	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**10,188**	**4.3**	**263.0**	**12.2**
Male	4,609	4.2	233.2	12.8
Female	5,579	4.4	294.0	11.7
Hispanic	**1,831**	**3.8**	**362.8**	**26.7**
Male	861	3.5	347.4	28.7
Female	970	4.1	377.7	25.4
Unknown	**2,729**	**3.9**	**N/A**	**N/A**
Male	1168	3.9	N/A	N/A
Female	1561	4.0	N/A	N/A
Total	**14,748**	**4.2**	**335.1**	**16.2**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes for Vision Disorders: Diabetes with ophthalmic manifestation (250.5), or Disorders of the eye and adnexa (360-379).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore

N/A: Not applicable or not available.

Table 13
Hospital Discharges with and without Diabetes Listed as a Diagnosis and Traumatic, Non-traumatic and Major Amputations Listed as a Procedure by Number and Percent, New Jersey, 2003

Categories	Number and Percent
Traumatic amputations of the lower limb[1]	**10**
Without diabetes	10
Percent	100%
With diabetes[2]	0
Percent	0%
Non-traumatic amputations of the lower limb[3]	**4,206**
Without diabetes	1,237
Percent	29.4%
With diabetes	2,969
Percent	70.6%
Total Amputations	**4,216**
Without diabetes	1,247
Percent	29.6%
With diabetes	2,969
Percent	70.4%
Major Amputations of the Lower Limb[4]	**871**
Without Diabetes	426
Percent	48.9%
With diabetes	445
Percent	51.1%
Minor Amputations of the Lower Limb	**3,345**
Without Diabetes	821
Percent	25%
With diabetes	2,524
Percent	75%

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Procedure Code (84.1) and diagnosis Code Lower limb amputation (ICD9-CM 895-897).

[2] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[3] ICD-9-CM Codes: Injury and poisoning (895-897) with lower limb amputation procedure (84.1).

[4]ICD-9-CM Codes: Major amputation (84.15 and 84.17).

Table 14
Hospital Discharges with Any Mention of Diabetes[1] as a Listed Diagnosis and Non-Traumatic Amputations of the Lower Limb[2] by Race, Ethnicity, Gender, Number of Discharges, Average Length of Stay, and Crude and Age-Adjusted Rates, New Jersey, 2003

	Number of Hospital Discharges	Average[3] Length of Stay	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate per 10,000 Standard Population
Race and Gender				
White	**1,866**	**14.5**	**66.9**	**2.3**
Male	1,219	13.7	85.1	3.6
Female	647	16.0	47.7	1.5
Black	**737**	**17.0**	**86.7**	**7.4**
Male	400	16.5	108.3	9.3
Female	337	17.5	70.1	6.0
Asian/ Pacific Islander	**23**	**23.8**	**9.8**	**0.7**
Male	13	21.8	7.9	1.0
Female	10	26.4	14.3	0.6
Other	**236**	**18.4**	**N/A**	**N/A**
Male	147	17.3	N/A	N/A
Female	89	20.2	N/A	N/A
Unknown	**86**	**13.9**	**N/A**	**N/A**
Male	46	13.5	N/A	N/A
Female	40	14.2	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**2,182**	**15.0**	**56.3**	**2.6**
Male	1,352	14.2	68.4	3.7
Female	830	16.2	43.7	1.8
Hispanic	**333**	**16.9**	**66.0**	4.7
Male	200	15.7	80.7	6.2
Female	133	18.8	51.8	3.5
Unknown	**454**	**16.9**	**N/A**	**N/A**
Male	290	16.1	N/A	N/A
Female	164	18.3	N/A	N/A
Total	**2,969**	**15.5**	**67.5**	**3.2**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04) or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Procedure Code (84.1) and Diagnosis Code Lower limb amputation (ICD9-CM 895-897).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2001 through 2003 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

N/A: Not applicable or not available.

Table 15
Hospital Discharges with Any Mention of Diabetes[1] as a Listed Diagnosis and Non-Traumatic Amputations of the Lower Limb[2] by County, Number of Discharges, Average Length of Stay, Crude, and Age-Adjusted Rates, New Jersey, 2003

County	Number of Hospital Discharges	Average[3] Length of Stay in Days	Crude Rate[4] per 10,000 Diabetic Population	Age-adjusted Rate per 10,000 Standard Population
Atlantic	104	12.8	65.4	3.7
Bergen	280	15.7	74.6	2.6
Burlington	149	12.0	67.9	3.2
Camden	201	15.0	76.2	3.8
Cape May	34	13.6	57.0	2.4
Cumberland	55	16.1	58.3	3.6
Essex	376	17.8	93.5	4.9
Gloucester	73	12.1	56.2	2.8
Hudson	194	20.7	78.6	3.5
Hunterdon	29	23.8	46.4	2.3
Mercer	116	16.6	66.5	3.2
Middlesex	234	17.6	61.4	3.0
Monmouth	209	13.4	81.3	3.1
Morris	107	15.0	48.5	2.1
Ocean	234	10.9	76.7	3.3
Passaic	195	16.5	94.9	4.0
Salem	25	10.6	71.2	3.7
Somerset	85	15.5	56.7	2.9
Sussex	29	12.9	37.1	2.0
Union	175	16.1	67.5	3.1
Warren	28	11.3	47.6	2.4
Unknown	37	13.6	N/A	N/A
Total	2,969	15.5	66.9	3.2

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04) or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Procedure Code (84.1) and Diagnosis Code Lower limb amputation (ICD9-CM 895-897).

[3] Number of days divided by number of hospital discharges.

[4] Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 that were "smoothed" by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council

Table 16

Hospital Discharges with Any Mention of Diabetes[1] and Selected Cardiovascular Diseases as Listed Diagnoses by Race, Ethnicity, Gender, Number of Mentions, Mean Length of Stay, Crude, and Age-Adjusted Rates, New Jersey, 2003

Race, Ethnicity, and Gender	Selected Cardiovascular Diseases[2]											
	Hypertensive Heart disease				Ischemic Heart disease				Heart failure			
	Number of Mentions	Mean LOS[3]	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate per 10,000 Standard Population	Number of Mentions	Mean LOS[3]	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate per 10,000 Standard Population	Number of Mentions	Mean LOS[3]	Crude Rate per 10,000 Diabetic Population[4]	Age-Adjusted Rate Per 10,000 Standard Population
Race and Gender												
White	3,824	6.96	137.1	4.8	56,403	5.2	2,021.9	51.3	32,457	7.6	1,163.5	40.9
Male	1,581	6.09	110.3	4.8	31,245	4.8	2,180.1	93.9	15,022	7.2	1,048.2	46.0
Female	2,243	7.12	165.4	4.8	25,158	5.6	1,854.8	55.1	17,435	7.8	1,285.4	37.0
Black	1,551	7.43	182.5	16.5	10,066	6.1	1,184.5	108.9	7,668	8.1	902.3	80.9
Male	576	6.95	156.0	15.0	4,372	5.9	1,184.1	112.1	2,957	7.6	800.9	76.3
Female	975	7.71	202.9	17.5	5,694	6.2	1,184.8	101.1	4,711	8.4	980.3	83.8
Asian/PI	76	5.5	32.3	2.7	1,010	4.9	429.1	29.3	458	7.3	194.6	15.3
Male	40	4.13	24.2	3.3	570	4.4	344.7	34.5	224	6.4	135.5	16.2
Female	36	7.03	51.4	2.2	440	5.5	628.6	24.7	234	8.1	334.3	14.5
Other	501	7.46	N/A	N/A	5,260	6.1	N/A	N/A	3,012	8.8	N/A	N/A
Male	184	7.62	N/A	N/A	2,736	5.7	N/A	N/A	1,374	8.5	N/A	N/A
Female	317	7.37	N/A	N/A	2,534	6.5	N/A	N/A	1,638	8.9	N/A	N/A
Unknown	136	5.77	N/A	N/A	3,562	4.8	N/A	N/A	1,587	7.2	N/A	N/A
Male	53	6.21	N/A	N/A	2,012	4.6	N/A	N/A	713	7.1	N/A	N/A
Female	83	5.49	N/A	N/A	1,550	5.1	N/A	N/A	874	7.3	N/A	N/A
Hispanic Origin[5] and Gender												
Non-Hispanic	4,510	6.947	116.4	5.3	55,119	5.4	1,422.7	65.0	33,421	7.7	862.6	39.2
Male	1,810	6.35	91.6	5.1	29,521	5.0	1,493.7	82.1	14,937	7.3	755.8	42.4
Female	2,700	7.35	142.3	5.4	25,598	5.9	1,348.8	52.0	18,484	8.0	973.9	36.8
Hispanic	703	6.44	139.3	11.6	8,340	5.3	1,652.5	130.6	4,629	7.8	917.2	75.7
Male	284	6.07	114.6	10.3	4,382	5.0	1,767.9	156.1	2,190	7.5	883.6	84.4
Female	419	6.69	163.1	12.3	3,958	5.7	1,541.1	111.3	2,439	8.2	949.7	71.0
Unknown	855	7.25	N/A	N/A	12,855	5.0	N/A	N/A	7,132	7.7	N/A	N/A
Male	340	6.8	N/A	N/A	7,032	4.6	N/A	N/A	3,163	7.5	N/A	N/A
Female	515	7.56	N/A	N/A	5,821	5.5	N/A	N/A	3,969	7.8	N/A	N/A
Total	6,068	6.93	137.9	6.7	76,314	5.3	1,734.2	153.7	45,182	7.7	1,026.7	49.3

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes for selected heart diseases: Hypertensive heart disease (ICD-9-CM Code 402), Ischemic heart disease (ICD-9-CM Codes 410 -414), and Heart failure (ICD-9-CM Code 428).

[3] Number of days divided by number of hospital discharges.

[4]4New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

N/A: Not computed because of small numbers or population estimates were unavailable.

Table 17
Hospital Discharges with Any Mention of Diabetes[1] and Selected Cardiovascular Diseases as Listed Diagnoses by County, Crude, and Age-Adjusted Rates, and Average Length of Stay, New Jersey, 2003

	Selected Cardiovascular Diseases[2]								
	Hypertensive Heart disease			Ischemic Heart disease			Heart failure		
County	Crude Rate per 10,000 Diabetic Population[3]	Age-Adjusted Rate/10,000 Standard Population	Average Length of Stay in Days[4]	Crude Rate per 10,000 Diabetic Population[3]	Age-Adjusted Rate/10,000 Standard Population	Average Length of Stay in Days[4]	Crude Rate per 10,000 Diabetic Population[3]	Age-Adjusted Rate/10,000 Standard Population	Average Length of Stay in Days[4]
Atlantic	235.1	13.2	6.8	1,500.9	84.5	5.5	864.9	48.6	7.3
Bergen	99.6	3.5	6.4	1,794.6	62.4	5.0	1,074.3	36.9	7.2
Burlington	82.5	4.0	6.6	1,660.4	78.8	4.8	886.5	42.6	6.7
Camden	118.6	6.0	5.3	976.5	48.0	5.2	1,105.3	56.2	6.8
Cape May	142.5	6.2	7.1	1,804.2	70.2	5.6	1,150.2	44.0	7.2
Cumberland	76.3	4.8	4.4	1,689.6	104.4	5.1	1,123.6	69.5	7.0
Essex	252.6	13.3	8.1	1,757.8	92.2	6.4	1,286.9	67.6	8.8
Gloucester	56.2	2.8	6.1	1,765.0	88.7	4.5	1,080.1	54.9	6.6
Hudson	195.0	8.6	8.0	2,454.0	108.9	6.7	1,462.1	64.9	9.7
Hunterdon	12.8	0.7	5.9	965.8	48.5	4.5	538.9	28.6	7.8
Mercer	200.1	9.6	6.0	1,822.2	87.4	4.8	1,054.5	50.3	6.7
Middlesex	170.4	8.5	7.0	1,854.3	92.0	5.6	1,015.0	50.5	8.7
Monmouth	145.9	5.8	6.1	2,224.4	87.5	5.2	1,269.9	49.8	7.7
Morris	79.8	3.7	6.2	1,116.0	50.0	4.8	658.7	30.2	7.7
Ocean	112.4	3.8	6.8	2,263.8	85.3	4.9	1,208.8	42.4	7.0
Passaic	113.9	4.9	6.7	1,899.2	80.7	5.4	1,235.6	52.4	7.9
Salem	178.0	8.6	5.5	1,766.2	86.2	4.4	1,106.2	54.4	5.9
Somerset	66.7	3.5	6.6	1,426.3	74.0	4.7	750.5	39.8	7.4
Sussex	84.4	5.5	5.2	1,067.8	62.4	4.5	496.2	31.3	6.8
Union	314.4	14.4	7.6	1,702.2	78.6	5.6	977.2	44.6	8.1
Warren	56.1	3.0	6.5	1,719.92	89.8	4.7	1,063.9	55.2	6.3
Total	136.7	6.6	6.9	1,719.4	83.5	5.3	1,018.0	49.3	7.7

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).
[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).
[2] ICD-9-CM Codes for selected heart diseases: Hypertensive heart disease (ICD-9-CM Code 402), Ischemic heart disease (ICD-9-CM Codes 410 -414), and Heart failure (ICD-9-CM Code 428).
[3]Denominoators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 that were "smoothed" by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council.
[4] Number of days divided by number of hospital discharges.

Table 18
Hospital Discharges with Any Mention of Diabetes[1] and Hypertensive Disease[2] Listed as Diagnoses by Race, Ethnicity, Gender, Average Length of Stay, and Age-adjusted and Crude Rates,
New Jersey, 2003

Race, Ethnicity, and Gender	Number of Hospital Discharges	Average Length of Stay in Days[3]	Age-adjusted Rate Per 10,000 Standard Population	Crude Rate[4] Per 10,000 Diabetic Population
Race and Gender				
White	**89,491**	**5.0**	**115.0**	**3,208.1**
Male	42,306	4.8	126.2	2,951.9
Female	47,185	6.6	105.8	3,478.7
Black	**28,149**	**6.1**	**281.9**	**3,312.4**
Male	11,324	6.0	271.4	3,066.9
Female	16,825	6.1	288.8	3,501.1
Asian/ PI	**1,956**	**4.8**	**55.1**	**831.1**
Male	941	4.5	55.2	569.1
Female	1,015	5.0	54.1	1,450.0
Other	**11,111**	**5.8**	**N/A**	**N/A**
Male	5,026	5.8	N/A	N/A
Female	6,085	5.9	N/A	N/A
Unknown	**5,016**	**4.8**	**N/A**	**N/A**
Male	2,472	4.6	N/A	N/A
Female	2,544	4.9	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**96,367**	**5.4**	**114.5**	**2,487.3**
Male	44,016	5.2	121.0	2,227.1
Female	52,351	5.6	109.3	2,758.4
Hispanic	**16,612**	**5.3**	**243.7**	**3,291.6**
Male	7,503	5.1	248.9	3,027.1
Female	9,109	5.5	239.3	3,546.7
Unknown	**22,747**	**5.1**	**N/A**	**N/A**
Male	10,551	4.9	N/A	N/A
Female	12,196	5.3	N/A	N/A
Total	**135,726**	**5.3**	**148.5**	**3084.3**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: hypertensive disease (401 - 405).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2001 through 2003 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore

N/A: Not computed because of small numbers or population estimates were unavailable.

Table 19
Hospital Discharges with Any Mention of Diabetes[1] and Hypertensive Disease[2] Listed as Diagnoses by County, Number of Discharges, Average Length of Stay, Crude, and Age-adjusted and New Jersey, 2003

County	Number of Hospital Discharges	Average[3] Length of Stay in Days	Crude Rate/10,000 Diabetic Population[4]	Age-adjusted Rate Per 10,000 Standard Population
Atlantic	4,020	5.3	2,526.7	143.0
Bergen	11,476	5.0	3,057.0	107.2
Burlington	5,773	4.7	2,631.3	124.4
Camden	8,640	4.9	3,274.0	165.8
Cape May	1,516	5.1	2,541.9	104.5
Cumberland	2,967	5.3	3,145.0	195.3
Essex	16,663	6.3	4,143.0	215.7
Gloucester	3,975	4.4	3,062.4	152.4
Hudson	10,992	6.6	4,455.6	195.0
Hunterdon	975	4.6	1,559.0	77.0
Mercer	6,160	4.9	3,532.1	168.1
Middlesex	11,413	5.5	2,997.1	147.8
Monmouth	9,084	5.2	3,521.6	136.0
Morris	4,632	5.1	2,099.7	93.5
Ocean	10,003	5.0	3,278.6	128.3
Passaic	8,331	5.4	4,056.0	171.7
Salem	1,111	4.4	3,042.2	150.2
Somerset	3,796	4.5	2,532.4	128.8
Sussex	1,431	4.6	1,829.9	106.6
Union	7,738	5.9	2,985.3	138.1
Warren	1,697	4.6	2,884.1	149.4
Unknown	3,333	4.3	N/A	N/A
Total	**135,726**	**5.3**	**3,058.0**	**148.5**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: hypertensive disease (401 - 405).

[3] Number of days divided by number of hospital discharges.

[4] Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 that were "smoothed" by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council.

N/A: Not applicable or not available.

Table 20

Hospital Discharges with Any Mention of Diabetes[1] and Major Cardiovascular[2] Diseases Listed as Diagnoses by Race, Ethnicity, Gender, Average Length of Stay, Crude, and Age-adjusted Rates, New Jersey, 2003

Race, Ethnicity, and Gender	Number of Discharges	Average[3] Length of Stay in Days	Crude Rate per 10,000 Diabetic Population[4]	Age-adjusted Rate per 10,000 Standard Population
Race and Gender				
White	**119,331**	**5.6**	**4,277.8**	**153.0**
Male	58,476	5.3	4,080.2	175.3
Female	60,855	5.9	4,486.6	135.6
Black	**31,978**	**6.4**	**3,763.0**	**323.3**
Male	12,972	6.3	3,513.3	316.0
Female	19,006	6.5	3,954.9	327.8
Asian/PI	**2,354**	**5.1**	**1,000.2**	**58.8**
Male	1,155	4.9	698.5	63.3
Female	1,199	5.3	1,712.9	54.8
Other	**13,450**	**6.2**	**N/A**	**N/A**
Male	6,241	6.1	N/A	N/A
Female	7,209	6.3	N/A	N/A
Unknown	**6,497**	**5.2**	**N/A**	**N/A**
Male	3,291	5.0	N/A	N/A
Female	3,206	5.4	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**124,582**	**5.8**	**3,215.6**	**145.2**
Male	58,907	5.6	2,980.5	163.1
Female	65,675	6.1	3,460.4	136.2
Hispanic	20,027	5.7	3,968.3	298.2
Male	9,322	5.5	3,761.0	316.5
Female	10,705	5.9	4,168.1	284.4
Unknown	29,004	5.5	N/A	N/A
Male	13,907	5.3	N/A	N/A
Female	15,097	5.7	N/A	N/A
Total	**173,613**	**5.8**	**3,945.3**	**189.9**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: Major Cardiovascular Diseases (390-448).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

Table 21
Hospital Discharges with Any Mention of Diabetes[1] and Major Cardiovascular Diseases[2] Listed as Diagnoses by County, Number of Discharges, Average Length of Stay, Crude, and Age-adjusted Rates,
New Jersey, 2003

County	Number of Hospital Discharges	Average[3] Length of Stay in Days	Crude Rate Per 10,000 Diabetic Population[4]	Age-adjusted Rate Per 10,000 Standard Population
Atlantic	5,427	5.8	3,411.1	192.7
Bergen	15,024	5.4	4,002.1	139.9
Burlington	7,705	5.2	3,511.9	166.5
Camden	10,977	5.4	4,159.5	210.8
Cape May	2,335	5.8	3,915.2	156.9
Cumberland	3,763	5.5	3,988.8	247.3
Essex	19,883	6.7	4,943.6	257.8
Gloucester	5,168	4.9	3,981.5	198.8
Hudson	13,676	7.2	5,543.6	243.2
Hunterdon	1,324	5.2	2,117.0	106.2
Mercer	7,728	5.4	4,431.2	210.9
Middlesex	14,655	6.0	3,848.5	190.0
Monmouth	11,791	5.6	4,586.2	177.7
Morris	5,962	5.5	2,702.6	120.7
Ocean	13,509	5.3	4,427.7	171.1
Passaic	10,352	5.8	5,039.9	213.4
Salem	1,512	4.8	4,140.2	204.1
Somerset	4,780	4.9	3,188.8	163.0
Sussex	1,931	4.9	2,469.3	145.0
Union	9,655	6.3	3,724.9	171.9
Warren	2,208	4.8	3,752.5	194.2
Unknown	4,246	4.6	N/A	N/A
Total	**173,613**	**5.8**	**3,902.9**	**189.9**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: Major Cardiovascular Diseases (390-448).

[3] Number of days divided by number of hospital discharges.

[4] Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 that were smoothed by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council.

N/A: Not applicable.

Table 22

Hospital Discharges with Any Mention of Diabetes[1] and Cerebrovascular Diseases[2] Listed as Diagnoses by Race, Hispanic Ethnicity, Gender, Average Length of Stay, Crude, and Age-Adjusted Rates, New Jersey, 2003

Race, Ethnicity, and Gender	Number of Hospital Discharges	Average[3] Length of Stay in Days	Crude Rate/10,000 Diabetic Population[4]	Age-Adjusted Rate/10,000 Standard Population
Race and Gender				
White	**10,483**	**6.5**	**375.8**	**13.3**
Male	5,101	6.3	355.9	15.6
Female	5,382	6.7	396.8	11.6
Black	**3,088**	**7.9**	**363.4**	**33.2**
Male	1,204	7.8	326.1	31.8
Female	1,884	8.0	392.0	33.9
Asian/PI	**235**	**6.4**	**99.9**	**7.1**
Male	114	6.3	68.9	7.3
Female	121	6.5	172.9	6.9
Other	**1,202**	**7.8**	**N/A**	**N/A**
Male	563	7.7	N/A	N/A
Female	639	7.8	N/A	N/A
Unknown	**586**	**7.1**	**N/A**	**N/A**
Male	305	6.9	N/A	N/A
Female	281	7.4	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**11,292**	**6.9**	291.5	**13.3**
Male	5,240	6.5	265.1	14.8
Female	6,052	7.2	318.9	12.2
Hispanic	**1,753**	**7.2**	**347.3**	**28.7**
Male	834	7.1	336.5	31.7
Female	919	7.3	357.8	26.4
Unknown	**2,549**	**7.0**	**N/A**	**N/A**
Male	1,213	6.9	N/A	N/A
Female	1,336	7.1	N/A	N/A
Total	**15,594**	**6.9**	**354.4**	**17.1**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: Cerebrovascular Disease (Stroke: 430 - 438).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to

N/A: Not applicable or not available.

Table 23
Hospital Discharges with Any Mention of Diabetes[1] and Cerebrovascular Disease[2] Listed as Diagnoses by County, Number of Discharges, Average Length of Stay, Crude, and Age-adjusted Rates, New Jersey, 2003

County	Number of Hospital Discharges	Average[3] Length of Stay in Days	Crude Rate/10,000 Diabetic Population[4]	Age-adjusted Rate Per 10,000 Standard Population
Atlantic	521	6.1	327.5	18.4
Bergen	1,298	6.2	345.8	12.0
Burlington	724	5.7	330.0	15.8
Camden	1,089	6.6	412.7	21.0
Cape May	238	6.2	399.1	15.2
Cumberland	325	6.7	344.5	21.3
Essex	1,749	8.3	439.8	23.2
Gloucester	434	5.6	334.4	17.0
Hudson	1,296	9.2	525.3	23.3
Hunterdon	82	5.1	131.1	7.0
Mercer	727	6.4	416.9	20.0
Middlesex	1,295	7.6	340.1	16.9
Monmouth	1,093	6.8	425.1	16.6
Morris	483	6.6	218.9	10.1
Ocean	1,313	5.7	430.4	15.6
Passaic	839	7.4	408.5	17.4
Salem	132	6.0	361.4	17.7
Somerset	433	5.9	288.9	15.1
Sussex	172	6.3	219.9	13.8
Union	845	7.4	326.0	14.9
Warren	172	4.8	292.3	15.2
Unknown	334	6.6	N/A	N/A
Total	**15,594**	**6.9**	**351.3**	**17.1**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: Cerebrovascular Disease (Stroke:430 - 438).

[3] Number of days divided by number of hospital discharges.

[4] Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 that were "smoothed" by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council.

N/A: Not applicable or not available.

Table 24
Hospital Discharges with Any Mention of Diabetes[1] and Pneumonia or Influenza [2] Listed as Diagnoses by Race, Ethnicity, Gender, Average Length of Stay, Crude, and Age-adjusted Rates, New Jersey, 2003

Race, Ethnicity, and Gender	Number of Hospital Discharges	Average[3] Length of Stay in Days	Crude Rate/10,000 Diabetic Population[4]	Age-adjusted Rate Per 10,000 Standard Population
Race and Gender				
White	**9,190**	**9.4**	**329.4**	**11.6**
Male	4,447	9.2	310.3	13.7
Female	4,743	9.5	349.7	10.2
Black	**2,171**	**11.3**	**255.5**	**22.7**
Male	898	11.2	243.2	23.4
Female	1,273	11.4	264.9	22.4
Asian/PI	**180**	**9.7**	**76.5**	**6.3**
Male	85	11.1	51.4	6.3
Female	95	8.4	135.7	6.1
Other	**1,078**	**10.9**	**N/A**	**N/A**
Male	183	10.6	N/A	N/A
Female	242	11.2	N/A	N/A
Unknown	**374**	**9.4**	**N/A**	**N/A**
Male	189	10.9	N/A	N/A
Female	185	7.9	N/A	N/A
Hispanic Origin[5] and Gender				
Non-Hispanic	**9,642**	**9.7**	**248.9**	**11.3**
Male	4,568	9.5	231.1	13.0
Female	5,074	9.8	267.4	10.2
Hispanic	**1335**	**10.1**	**264.5**	**21.1**
Male	597	10.1	240.9	21.9
Female	738	10.1	287.3	20.5
Unknown	**2,017**	**10.4**	**N/A**	N/A
Male	984	10.5	N/A	N/A
Female	1,033	10.3	N/A	N/A
Total	**12,994**	**9.8**	**295.3**	**14.2**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2] ICD-9-CM Codes: Pneumonia and Influenza (480.0-487.8).

[3] Number of days divided by number of hospital discharges.

[4] New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 were used for denominators.

[5] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

N/A: Not applicable or not available.

Table 25
Hospital Discharges with Any Mention of Diabetes[1] and Pneumonia or Influenza [2] Listed as Diagnoses by County, Average Length of Stay, Crude, and Age-adjusted Rates, New Jersey, 2003

County	Number of Discharges	Average[3] Length of Stay in Days	Crude Rate/10,000 Diabetic Population[4]	Age-adjusted Rate Per 10,000 Standard Population
Atlantic	403	8.7	253.3	14.3
Bergen	997	9.6	265.6	9.2
Burlington	573	8.8	261.2	12.5
Camden	867	7.6	328.5	16.6
Cape May	273	8.2	457.7	18.1
Cumberland	243	10.3	257.6	16.0
Essex	1,592	12.3	395.8	20.7
Gloucester	357	7.5	275.0	13.9
Hudson	1,059	12.0	429.3	18.9
Hunterdon	131	8.8	209.5	10.9
Mercer	529	8.7	303.3	14.4
Middlesex	1,128	10.8	296.2	14.7
Monmouth	877	9.2	341.1	13.4
Morris	426	8.8	193.1	8.8
Ocean	949	8.8	311.0	11.5
Passaic	729	10.0	354.9	15.1
Salem	122	8.5	334.1	16.4
Somerset	380	9.9	253.5	13.3
Sussex	191	7.7	244.2	15.5
Union	756	11.1	291.7	13.2
Warren	162	7.5	275.3	14.2
Unknown	249	7.5	N/A	N/A
Total	**12,994**	**9.8**	**292.8**	**14.2**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).

[2]ICD-9-CM Codes: Pneumonia and Influenza (480.0-487.8).

[3]Number of days divided by number of hospital discharges.

[4]Denominators were derived from New Jersey Behavioral Risk Factor Survey diabetes prevalence estimates for survey periods 2002 through 2004 that were "smoothed" by Bayesian estimation using Gibbs Sampling with BUGS software from the British Medical Research Council.

N/A: Not applicable or not available.

Table 26
Hospital Discharges with Any Mention and No Mention of Diabetes as a Listed Diagnosis (1st through 9th diagnosis) by Primary Diagnosis and Average Length of Stay, and Children 18 Years Old and Under, New Jersey, 2003

Primary Diagnosis	Any Mention of Diabetes[1]		No mention of Diabetes		Total Number of Discharges 18 & Under
	Average Length of Stay in Days	Number of Discharges	Average Length of Stay in Days	Number of Discharges	
Infectious & parasitic diseases (001-139)	2.9	15	3.0	4,516	4,531
Malignant neoplasms (140-208)	8.0	2	7.7	539	541
Other neoplasms (210-239)	N/A	N/A	0.5	1,417	1,417
Disorders of thyroid gland (240-246)	N/A	N/A	2.0	24	24
Diabetes Mellitus (250.0-250.9)	***2.9***	***773***	**N/A**	**N/A**	***773***
DM without mention of complication (250.0)	2.7	239	N/A	N/A	239
DM with ketoacidosis (250.1)	2.9	476	N/A	N/A	476
DM with hyperosmolarity (250.2)	3.8	5	N/A	N/A	5
DM with other coma (250.3)	2.5	2	N/A	N/A	2
DM with renal manifestations (250.4)	3.0	1	N/A	N/A	1
DM with ophthalmic manifestations (250.5)	N/A	N/A	N/A	N/A	N/A
DM with neurological manifestations (250.6)	N/A	N/A	N/A	N/A	N/A
DM with other specified manifestations (250.8)	3.0	34	N/A	N/A	34
DM with unspecified complication (250.9)	2.1	16	N/A	N/A	16
Other endocrine, nutritional & metabolic disorder (251-279)	4.9	21	2.2	4,207	4,228
Diseases of the blood & blood forming organs (280-289)	8.0	1	3.8	1,669	1,670
Mental disorders (290-319)	8.1	34	8.5	4,947	4,981
Diseases of the nervous system & sense organs (320-389)	1.3	8	0.9	8,784	8,792
Acute rheumatic fever (390-392)	N/A	N/A	5.0	25	25
Chronic rheumatic heart disease (393-398)	N/A	N/A	13.6	12	12
Hypertensive disease (401-405)	N/A	N/A	3.4	63	63
Ischemic heart disease (410-414)	N/A	N/A	3.8	5	5
Diseases of pulmonary circulation (415-417)	N/A	N/A	5.7	3	3
Other forms of heart disease (420-429)	1.0	1	3.4	285	286
Cerebrovascular disease (430-438)	114.0	1	7.2	43	44
Arteries, arterioles and capillaries diseases (440-448)	0.0	1	3.1	167	168
Veins, lymphatic & other circulatory diseases (451-459)	2.7	3	0.7	250	253
Diseases of the respiratory system (460-519)	4.2	46	2.0	25,013	25,059
Diseases of the digestive system (520-579)	2.2	55	1.6	12,490	12,545
Nephritis, nephrotic syndrome and nephrosis (580-589)	5.0	1	3.2	218	219
Other diseases of the genitourinary system (590-629)	1.4	8	1.2	5,523	5,531
Complications in pregnancy, childbirth & purpureum (630-677)	2.9	21	2.5	5,696	5,717
Diseases of the skin and subcutaneous tissue (680-709)	3.4	18	1.9	2,463	2,481
Musculoskeletal & connective tissue diseases (710-739)	3.7	12	1.3	3,091	3,103
Congenital anomalies (740-759)	1.4	5	2.0	3,776	3,781
Conditions of perinatal period (760-779)	43.3	3	6.9	3,073	3,076
Symptoms, signs & ill-defined conditions (780-799)	1.3	35	1.9	6,164	6,199
Injury and poisoning (800-999)	3.4	33	2.1	10,754	10,787
Factors influencing health status/contact health services (V01-V82)	11.9	49	3.9	114,731	114,780
Total	**3.6**	**1,146**	**3.2**	**219,948**	**221,094**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).
[1] ICD-9-CM Codes: Diabetes (250.0-250.9), Postsurgical hypoinsulinemia (251.3), Polyneuropathy in diabetes (357.2), Diabetic retinopathy (362.01-362.02), Diabetic cataract (366.41), Diabetes in pregnancy but not gestational (648.00-648.04), or Neonatal diabetes mellitus (775.1).
N/A: Not applicable or very small numbers.

Table 27

Number of Hospitalizations with Any Mention of Diabetes and Average Length of Stay by Gender, Race, Ethnicity,, and Type of Diabetic Complication, New Jersey, 2003

Race, Ethnicity, and Gender	DM without mention of complication (250.0)		DM with ketoacidosis (250.1)		DM with hyperosmolarity (250.2)		DM with other coma (250.3)		DM with renal manifestations (250.4)	
	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]
Race and Gender										
White	**112,903**	**4.9**	**1,617**	**5.2**	**399**	**8.5**	**113**	**9.4**	**4,810**	**8.4**
Male	54,302	4.6	793	5.1	191	7.7	51	8.9	2,633	7.9
Female	58,601	5.2	824	5.3	208	9.2	62	9.8	2,177	9.1
Black	**29,217**	**5.6**	**918**	**5.9**	**287**	**7.8**	**56**	**6.5**	**2,231**	**8.6**
Male	11,119	5.4	489	5.8	148	7.4	25	6.0	1,051	8.1
Female	17,098	5.7	429	6.1	139	8.2	31	6.9	1,180	9.0
Asian/PI	**2,364**	**4.4**	**31**	**5.8**	**6**	**15.7**	**1**	**4.0**	**143**	**7.1**
Male	1,162	4.3	19	5.0	3	22.7	0	0.0	73	6.5
Female	1,202	4.6	12	7.1	3	8.7	1	4.0	70	7.7
Other	**13,502**	**5.0**	**362**	**5.1**	**77**	**8.9**	**13**	**10.1**	**657**	**10.2**
Male	6,165	4.9	179	4.9	28	5.7	5	11.8	322	9.3
Female	7,337	5.1	183	5.4	49	10.7	8	9.0	335	11.1
Unknown	**6,442**	**4.6**	**71**	**5.1**	**28**	**8.5**	**1**	**8.0**	**184**	**8.9**
Male	3,237	4.5	39	5.2	14	5.5	0	0.0	100	8.3
Female	3,205	4.7	32	4.9	14	11.6	1	8.0	84	9.6
Hispanic Origin[2] and Gender										
Non - Hispanic	**115,411**	**5.1**	**2,132**	**5.6**	**535**	**8.4**	**131**	**8.1**	**5,893**	**8.4**
Male	53,555	4.8	1,081	5.5	258	8.2	60	8.1	3,082	7.9
Female	61,856	5.4	1,051	5.7	277	8.6	71	8.0	2,811	9.0
Hispanic	**20,030**	**4.9**	**436**	**5.0**	**112**	**8.2**	**33**	**9.1**	**963**	**9.2**
Male	9,116	4.7	227	5.0	56	6.3	15	6.7	510	8.4
Female	10,914	5.0	209	5.0	56	10.2	18	11.1	453	10.0
Unknown	**27,990**	**4.6**	**431**	**5.2**	**150**	**8.2**	**20**	**10.7**	**1,169**	**9.4**
Male	13,315	4.3	211	4.8	68	11.7	6	13.2	587	8.7
Female	14,675	4.8	220	5.7	84	13.1	14	9.6	582	10.1
Total	**163,431**	**5.0**	**2,999**	**5.4**	**889**	**10.8**	**184**	**8.5**	**8,025**	**8.6**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB- 92).

[1]Number of days divided by number of hospital discharges.

[2] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

Table 27 (Continued)

Number of Hospitalizations with Any Mention of Diabetes and Average Length of Stay by Gender, Race, Ethnicity, and Type of Diabetic Complication, New Jersey, 2003

Race, Ethnicity, and Gender	DM with Ophthalmic Manifestations (250.5)		DM with Neurological Manifestations (250.6)		DM with Peripheral Circulatory Disorders (250.7)		DM with Other Specified Manifestations (250.8)		DM with Unspecified Complications (250.9)	
	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]	Number of Mentions	Average Length of Stay in Days[1]
Race and Gender										
White	**2,233**	**4.6**	**8,204**	**7.3**	**2,906**	**10.8**	**7,752**	**8.3**	**619**	**7.0**
Male	1,078	4.2	3,867	7.0	1,713	10.5	4,060	8.1	273	6.7
Female	1,155	5.0	4,337	7.5	1,193	11.1	3,692	8.5	346	7.3
Black	**698**	**5.0**	**1,998**	**7.9**	**937**	**13.0**	**2,753**	**8.9**	**222**	**7.1**
Male	286	4.8	816	7.6	461	12.6	1,354	9.0	108	6.8
Female	412	5.1	1,182	8.1	476	13.3	1,399	8.8	114	7.4
Asian/PI	**75**	**5.6**	**93**	**6.5**	**33**	**15.6**	**110**	**8.0**	**8**	**8.7**
Male	39	2.5	52	5.2	17	18.3	41	8.3	5	6.6
Female	36	9.0	41	8.2	16	12.7	69	7.1	3	2.0
Other	**228**	**6.4**	**915**	**8.4**	**419**	**13.6**	**948**	**9.6**	**37**	**5.8**
Male	137	5.5	425	8.2	230	12.7	487	10.3	11	4.7
Female	91	7.7	490	8.6	189	14.7	461	8.9	26	6.2
Unknown	**133**	**5.1**	**374**	**7.9**	**115**	**11.2**	**276**	**8.5**	**54**	**9.6**
Male	57	5.0	188	7.8	57	10.5	148	7.8	24	7.8
Female	76	5.3	186	7.9	58	11.8	128	7.8	30	11.0
Hispanic Origin[2] and Gender										
Non - Hispanic	**2,350**	**4.9**	**8,489**	**7.4**	**3,208**	**11.4**	**6,953**	**8.3**	**763**	**7.0**
Male	1,086	4.5	3,905	7.0	1,825	11.1	4,592	8.2	344	6.6
Female	1,264	5.2	4,584	7.7	1,383	11.7	4,296	8.5	419	7.3
Hispanic	**480**	**4.5**	**1,084**	**7.7**	**511**	**11.8**	**1,260**	**8.9**	**81**	**6.3**
Male	259	3.8	482	7.7	287	11.0	641	9.0	33	7.2
Female	221	5.4	602	7.7	224	12.8	619	8.9	48	5.6
Unknown	**537**	**5.1**	**2,011**	**7.7**	**691**	**12.3**	**1,691**	**9.1**	**96**	**8.6**
Male	252	4.8	961	7.8	366	11.7	857	9.5	44	6.9
Female	285	5.4	1050	7.7	325	12.9	834	8.7	52	10.0
Total	**3,367**	**4.9**	**11,584**	**7.5**	**4,410**	**11.6**	**11,839**	**8.5**	**940**	**7.1**

Source: New Jersey Department of Health and Senior Services, 2003 New Jersey Hospital Discharge File (UB-92).

[1]Number of days divided by number of hospital discharges.

[2] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

Table 28

Proportion of Diabetes-Related Hospitalizations for Patients Under 65 Years of Age with Selected Diabetes-Related Ambulatory Care Sensitive (ACS) Conditions Identified as the Primary Discharge Diagnosis, by Race, Gender, and Hispanic Ethnicity, New Jersey, 2003

Race, Ethnicity, and Gender	Discharges with Diabetes Listed as Primary Diagnosis [1]	Number of Hospital Discharges with Selected Diabetes Conditions			% Selected (ACS) Conditions[5]
		DM (250.1) [2]	DM (250.2) [3]	DM (250.3) [4]	
Race and Gender					
White	**5,666**	**1,474**	**158**	**46**	**29.6%**
Male	3,316	749	99	28	26.4%
Female	2,350	725	59	18	34.1%
Black	**3,462**	**867**	**196**	**28**	**31.5%**
Male	1,953	486	115	14	31.5%
Female	1,509	381	81	14	31.5%
Asian/PI	**112**	**25**	**1**	**0**	**23.2%**
Male	60	18	0	0	30.0%
Female	52	7	1	0	15.4%
Other	**1,080**	**306**	**40**	**6**	**32.6%**
Male	597	157	17	3	29.6%
Female	483	149	23	3	36.2%
Unknown	**286**	**64**	**9**	**2**	**26.2%**
Male	170	34	6	1	24.1%
Female	116	30	3	1	29.3%
Hispanic Origin[6] and Gender					
Non - Hispanic	**7,531**	**1,964**	**267**	**60**	**30.4%**
Male	4,360	1,045	161	35	28.5%
Female	3,171	919	106	25	33.1%
Hispanic	**1,576**	**402**	**63**	**15**	**30.5%**
Male	888	209	34	8	28.3%
Female	688	193	29	7	33.3%
Unknown	**1,575**	**370**	**74**	**7**	**28.6%**
Male	898	190	42	3	26.2%
Female	677	180	32	4	31.9%
Total	**10,682**	**2,736**	**404**	**82**	**30.2%**

Source: New Jersey Department of Health and Senior Services 2003, New Jersey Hospital Discharge File (UB-92).

[1]ICD-9-CM Codes: Diabetes (250.0-250.9).

[2]DM with ketoacidosis (250.1).

[3]DM with hyperosmolarity (250.2).

[4]DM with other coma (250.3).

[5] Percentage of selected ACS conditions of the total discharges with diabetes listed as primary diagnosis (ICD9-CM 250.0-250.9).

[6] Due to a coding error, a significant number of non-Hispanics were counted as Hispanic in New Jersey hospital discharge statistics. The ethnicity-specific statistics in this table are therefore subject to revision.

Table 29

Proportion of Hospital Discharges Under 65 Years of Age with Selected Ambulatory Care Sensitive (ACS) Diabetes Conditions Listed As the Primary Diagnosis by County of Residence
New Jersey, 2003

County	Total Discharges with Diabetes as Primary Diagnosis	Selected ACS Diabetes Conditions			Percentage of Selected ACS Diabetes[4] Conditions
		DM (250.1) [1] Discharges	DM (250.2) [2] Discharges	DM (250.3) [3] Discharges	
Atlantic	438	126	20	4	34.2%
Bergen	685	166	18	6	27.7%
Burlington	394	72	21	3	24.4%
Camden	848	258	26	10	34.7%
Cape May	132	29	4	0	25.0%
Cumberland	264	83	10	0	35.2%
Essex	1,629	401	82	15	30.6%
Gloucester	295	81	4	1	29.2%
Hudson	1,072	183	27	8	20.3%
Hunterdon	63	20	1	0	33.3%
Mercer	507	144	23	4	33.7%
Middlesex	823	169	43	6	26.5%
Monmouth	686	212	19	9	35.0%
Morris	278	82	13	2	34.9%
Ocean	481	141	17	1	33.1%
Passaic	742	177	31	7	29.0%
Salem	103	27	2	0	28.2%
Somerset	261	61	14	2	29.5%
Sussex	103	28	3	1	31.1%
Union	558	168	19	3	34.1%
Warren	107	27	3	0	28.0%
Unknown	213	81	4	3	41.3%
Total	**10,682**	**2,736**	**404**	**82**	**30.2%**

Source: New Jersey Department of Health and Senior Services 2003, New Jersey Hospital Discharge File (UB-92).

[1]DM with ketoacidosis (250.1).

[2]DM with hyperosmolarity (250.2).

[3]DM with other coma (250.3).

[4]ICD-9-CM Codes: Diabetes (250.0-250.9).