

Diabetes and Nutrition

National Progress Review on Diabetes*

Diabetes continues to be a significant public health challenge in the United States. Diabetes moved from the 7th leading cause of death in the late 1990s to the 6th leading cause in 2001. Some 800,000 new cases are diagnosed and more than 200,000 die each year.

A number of negative trends related to diabetes emerged in the past decade. For example, the prevalence of diabetes increased from 40 cases per 1,000 in 1997 to 49 cases per 1,000 population in 2002. A total of 18.2 million persons have diabetes in 2002 which is approximately 6.3% of the U.S. population. This number represents 13.0 million diagnosed with dia-

betes and 5.2 million undiagnosed. This increase in the number of cases of diabetes has occurred particularly within certain racial and ethnic groups.

Some trends relative to diabetes have been positive. The death rate from cardiovascular disease with diabetes has decreased. The U.S. had a rate of 332 per 100,000 population in 1999 and the rate was 284 per 100,000 in 2001. This surpasses the Healthy People 2010 target of 309. Another diabetes objective, lower extremity amputations in persons with diabetes occurred at an average of 6.0 per 1,000 population in 2000-2002 compared to 6.6 per 1,000 in 1997-1999.

At the state and local level, diabetes mortality rates have increased. Duval County's rate was 25.4 per 100,000 in 1994 and in 2003 the rate was 34.6 per 100,000 (see Graph 3 on page 7).

Diabetes Complication and Diseases

Many complications and diseases are associated with diabetes. Some complications are high blood pressure, blindness, amputations and difficult pregnancies. Almost 3 out of 4 (73%) adults with diabetes have blood pressure greater than or equal to 130/80 mm Hg or use prescription medications for hypertension. About 82,000 nontraumatic lower-limb amputations were performed annually among people with diabetes in the U.S.

National Progress Review on Nutrition and Physical Fitness*

Nutrition Update

Nutrition is essential for growth and development, health, and well-being. Behaviors to promote health should start early in life with breastfeeding and continue through life with healthy eating habits. Dietary factors contribute substantially to the burden of preventable illnesses and premature deaths in the United States. Dietary factors are associated with 4 of the 10 leading causes of death: coronary heart disease (CHD), some types of cancer, stroke, and Type 2 diabetes. They are also related to health conditions such as high blood pressure and osteoporosis.

Currently, the Healthy People 2010 data related to the weight status of adults and children reflect a trend for the worse. The proportion of adults aged 20 years and older who are obese (body mass index of 30.0 or more) increased from 23 percent to 31 percent. For children and adolescents aged 6 to 19 years, the proportion of overweight increased from 11 percent to 15 percent. The Healthy People 2010 target is 5 percent.

Many diseases are associated with overweight and obesity. Persons

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*From Healthy People 2010 & Progress Reviews, U.S. Department of Health and Human Services.

Jacksonville Diabetes, Nutrition and Physical Activity Report Card

Obj #	2010 Diabetes Objectives	U.S.	FL	Duval	2010 Target
5-3	Reduce the overall rate of diabetes that is clinically diagnosed. (Per 1,000)	49 ¹ (2002)	82 ^{2*} (2002)	95 ^{2*} (2002)	25
5-5	Reduce the diabetes death rate. (Per 100,000) Diabetes as underlying or contributing cause.	77 ¹ (2001)	49.7 ³ (2003)	76.4 ³ (2003)	45.0
5-5a **	Reduce the diabetes death rate. (Per 100,000) Diabetes as the underlying cause only.	Not Applicable	21.2 ³ (2003)	34.6 ³ (2003)	Not Applicable
5-6	Reduce diabetes-related deaths among persons with diabetes. (Per 1,000)	7.9 ¹ (2001)	8.6 ^{2,3} Not AA (2003)	9.6 ^{2,3} Not AA (2003)	7.8
5-7	Reduce deaths from cardiovascular disease in persons with diabetes. (Per 100,000)	284 ¹ (2001)	282.2 ^{2,3} Not AA (2003)	218.9 ^{2,3} Not AA (2003)	309
5-10	Reduce the lower extremity amputations in persons with diabetes. (Per 1,000 persons with diabetes)	6.0 ¹ (2000-2002)	4.8 ⁴ Not AA (2003)	4.4 ⁴ Not AA (2003)	1.8

Obj #	2010 Nutrition Objectives	U.S.	FL	Duval	2010 Target
19-1	Increase the proportion of adults (20 years and older) who are at a healthy weight.	34% ¹ (2000)	42.6% ² (2002)	43.2% ² (2002)	60%
19-2	Reduce the proportion of adults (20 years and older) who are obese.	31% ¹ (2000)	22.3% ² (2002)	23.9% ² (2002)	15%
19-3	Reduce the proportion of children and adolescents who are overweight or obese.	15% ¹ (2000)	12% ⁵ (2003)	Not Avail.	5%
19-b **	Reduce the proportion of current WIC children (>= 2 years old) that have a BMI >= 85 percentile.	Not Applicable	30.4 ⁶ (Sep. 2004)	28.6 ⁶ (Sep. 2004)	Not Applicable
19-5 ***	Increase the proportion of persons aged 2 years and older who consume at least two daily servings of fruit.	28% (1994-96)	74.3 ² (2002)	77.7 ^{2*} (2002)	75%
19-6 ***	Increase the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables.	3% (1994-96)	74.3 ² (2002)	61.8 ^{2*} (2002)	50%

¹ Source: Centers for Disease Control and Prevention (<http://wonder.cdc.gov/data2010/focus.htm>)

² Source: Behavior Risk Factor Surveillance System

³ Source: Florida Department of Health, Office of Vital Statistics

⁴ Source: Agency for Health Care Administration

⁵ Source: Youth Risk Behavior Surveillance Survey

⁶ Source: Duval County Health Department, Community Nutrition Division, WIC

* Based on small numbers.

** Not a Healthy People 2010 Objective

*** Based on Adults 18 and over. & combines both fruits & vegetables.

Not AA = Not age-adjusted

Jacksonville Diabetes, Nutrition and Physical Activity Report Card

Obj #	2010 Physical Fitness Objectives	U.S.	FL	Duval	2010 Target
22-1	Reduce the proportion of adults (18 years and older) who engage in no leisure-time physical activity.	38% ¹ (2002)	26.4% ² (2002)	22.5% ^{2*} (2002)	20%
22-2	Increase the proportion of adults (18 years and older) who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.	32% ¹ (2002)	27% ¹ (2000)	Not available	30%
OR					
22-3	Increase the proportion of adults (18 years and older) who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.	23% ¹ (2002)	24.4% ² (2002)	30.1% ^{2*} (2002)	30%
22-6	Increase the proportion of adolescents (students in grades 9-12) who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days.	25% ⁵ (2003)	22% ⁵ (2003)	Not available	35%

Data Report Card Overview

Reliable data related to diabetes, nutrition and physical activity for the total U.S. population is widely accessible through the internet and many government agencies. State and local county specific data, however, are sparsely available. Either the samples collected are too small or no data are being collected. Thus increased surveillance at the state and local level is needed.

The majority of data were provided from the Florida Department of Health's Epidemiology Division. This division is responsible for implementing both the Behavior Risk Factor Surveillance System survey (BRFSS) and the Youth Risk Behavior Surveillance System survey (YRBSS) throughout the state of Florida. The State Office of Vital Statistics and the Agency for Health Care Administration provided data related to mortality and hospitalization.

When comparing national data with Duval County, Duval lagged behind the nation. For clinically diagnosed diabetes (obj. 5-3), the U.S. had a rate of 49 per 1,000 persons diagnosed with diabetes while Duval County had 95 per 1,000. Duval County had a diagnosed rate almost twice as much as the nation. Diabetes-related deaths (obj. 5-6) in the U.S. had a rate of 7.9 deaths per 1,000 while Duval County had a rate of 9.6 per 1,000.

Although Duval County lags behind the nation for many indicators of diabetes, indicators for nutrition and physical activity are higher in Duval than the nation. For example, in 2002, the proportion of adults (20 years and older) in Duval County who were obese (obj. 19.2) was 23.9 percent while the U.S. was at 31.0 percent in 2000. In reducing the percent of adults

who participate in no leisure-time physical activity, Duval County also leads the nation. The nation proportion was at 38 percent while Duval County was 17.5 percentage points lower with 22.5 percent. In this instance, Duval County has a better percentage than the nation but is still short of the Healthy People 2010 target of 20 percent.

Duval County still has a long way to go to reach all the Healthy People 2010 objectives for diabetes, nutrition and physical fitness. In particular diabetes diagnosed and diabetes-related deaths among persons with diabetes are relatively higher than the state. These objectives will be addressed by the Duval County Health Department, the Healthy Jacksonville Coalition, other partners and collaborators and other state and local agencies.

Diabetes: Health Disparities at the National, State and Local Level*

Gaps exist among racial and ethnic groups in the United States in the rate of diabetes and its associated complications. Certain racial and ethnic communities suffer disproportionately compared to white populations. For example, on average blacks are 1.6 times, Hispanics/Latinos are 1.5 times and American Indians are 2.3 times as likely to have diabetes than whites. Deaths from diabetes are 2 times higher in the black population than they are in the white population. Also diabetes-associated renal failure is 2.5 times higher in the black population than it is in the Hispanic population.

These disparities are also apparent at the state and county levels. When comparing diabetes-related death rates at the state level, there is a huge disparity between racial groups. The black rate is more than twice that of whites (113.3 vs. 44.6 per 100,000). At the county level the race disparity is similar to the state. Whites have a much lower rate with 62.9 while blacks have a rate of 133.2 (see Graph 1).

Comparisons across gender show males have a higher diabetes-related death rate than females. As with racial disparities, this is also seen at both the state and county level. The rates for males are about a third higher than the rates for females (see Graph 2).

When examining geographical areas (zip codes or health zones), diabetes-related death rates were not distributed evenly. In Figure 1 (on page 6) the diabetes death rates ranged from 41.5 to 158.5 by zip codes. This is also apparent at the Health Zone level. Health Zone 1 had a much

higher rate than the other health zones (see Figure 2 on back cover).

The obvious disparities in the incidence of diabetes among the ethnic, racial and gender groups call for action to address the inequities. Identifying the reason for diabetes disparities health outcomes is important in tailoring programs to those specific areas where deficiencies exist. Col-

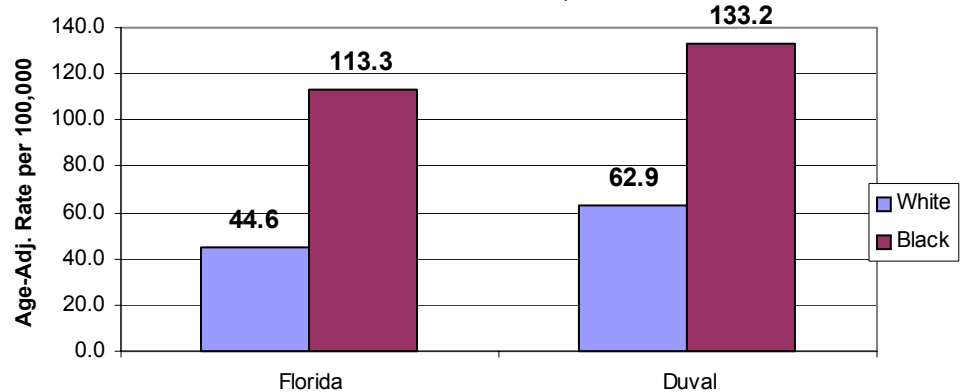
lection of racial and ethnic health services data for all health activities is critical to ascertain the underlying causes for the greater disease burden.

For more information on diabetes disparities visit the CDC's website at www.cdc.gov.

*From Healthy People 2010 & Progress Reviews, U.S. Department of Health and Human Services.

Graph 1

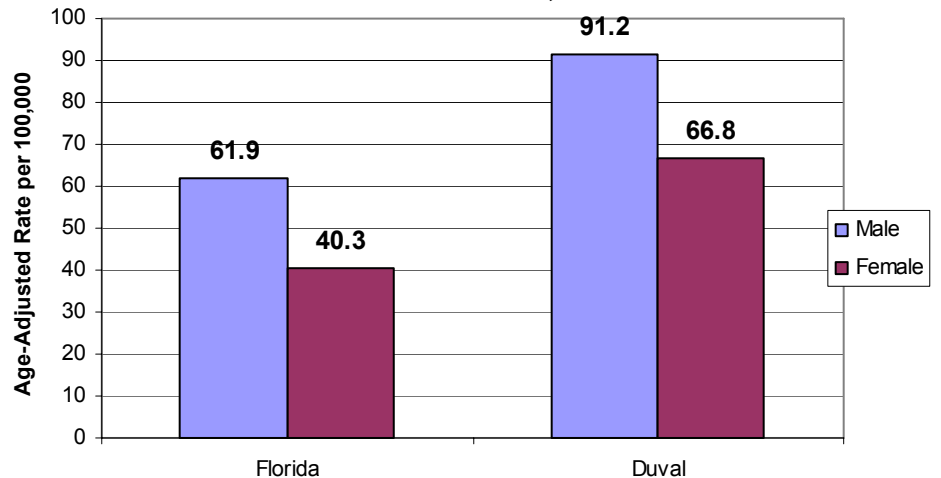
Diabetes-Related Death Rates by Race Florida vs. Duval, 2003



Source: FDOH, Office of Vital Statistics, 2003 Death Files
Prepared by: DCHD, Institute for Health, Policy and Evaluation Research, November 2004

Graph 2

Diabetes-Related Death Rates by Gender Florida vs. Duval, 2003



Source: FDOH, Office of Vital Statistics, 2003 Death Files
Prepared by: DCHD, Institute for Health, Policy and Evaluation Research, November 2004

Gestational Diabetes

Twanna Gould, MSH, RD, LD/N WIC Coordinator

Pregnant women who have high blood sugar (glucose) levels, for the first time during pregnancy, are defined as having gestational diabetes. Approximately 3 to 5% of all pregnant women develop gestational diabetes in the U.S. Similar results can be seen in Duval County (see Figure 1 below). This type of diabetes occurs when pregnancy hormones interfere with the body's ability to use insulin, the hormone that turns blood sugar into energy, resulting in high blood sugar levels.

Women most at risk of developing gestational diabetes are those over 30 years of age, obese, have a family or personal history of diabetes and previously gave birth to a baby greater than 9 pounds or stillborn.

Gestational diabetes affects a woman late in her pregnancy. Screening for gestational diabetes is

performed between 24 and 28 weeks of pregnancy. If the pregnant woman is found to have gestational diabetes, diet and exercise are used first to control blood sugar levels. If this intervention fails, regular insulin injections and constant monitoring of the blood sugar levels, are used.

If the gestational diabetes is left untreated or poorly controlled, the fetus will receive too much blood sugar and may grow very large. Very large babies are at risk of injury during a vaginal delivery. Most of the time, they are delivered by cesarean section (surgery). Babies of gestational diabetics may have low blood sugar levels at birth and are at high risk for breathing problems.

Gestational diabetes usually goes away after pregnancy. However, about 5% to 10% postpartum are found to have Type 2 diabetes. These

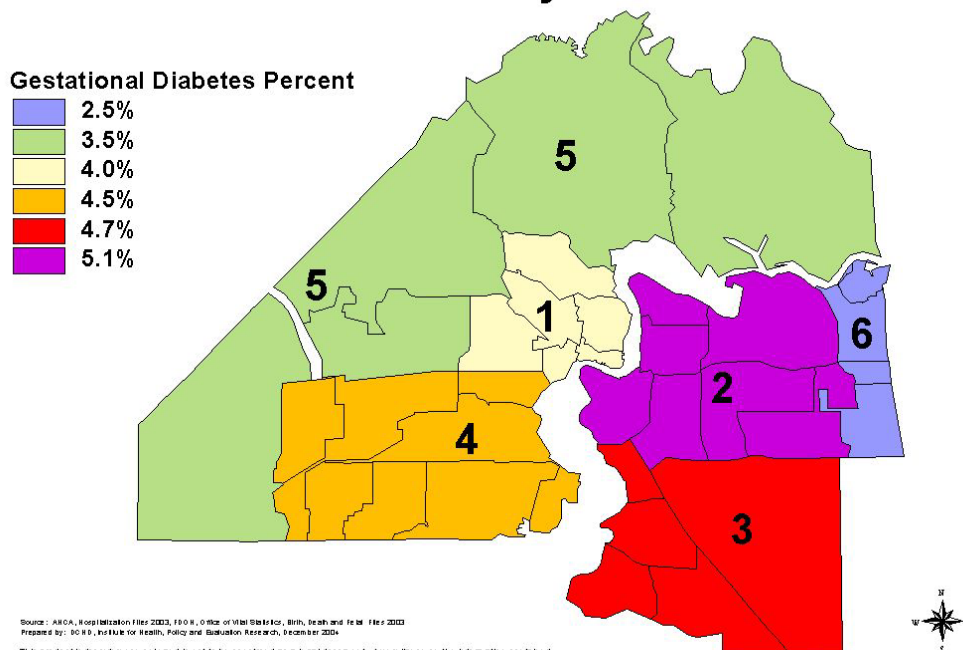
women will continue diabetes treatment after pregnancy.

Many women who had gestational diabetes develop Type 2 diabetes years later. These women should be tested for diabetes regularly, about 1-3 years depending on their blood glucose levels during the post partum period. Regular consults with a dietitian plus certain lifestyle changes may help prevent Type 2 diabetes after gestational diabetes.

Measures to help prevent Type 2 diabetes include, losing weight, making healthy food choices, increasing fruit and vegetable intake, limiting fat intake to 30% or less of daily calories and watching the portion sizes. Regular exercise allows the body to use glucose without the need for additional insulin. However, an exercise program should not be started without advise from the physician.

Figure 1

Gestational Diabetes Percent by Health Zone Duval County 2003



Healthy Jacksonville: Promoting Health and Reduced Chronic Disease by Addressing Diet, Weight and Physical Activity

Dana Fields-Johnson, MPA

More and more, research documents the important role of physical activity, diet and maintaining a healthy weight in disease prevention and improving health status. In fact, these three factors are so critical to overall health and well-being that they are leading health indicators under the Healthy People 2010 agenda. They are used to measure the nation's progress towards meeting measurable goals and objectives for improving our health status.

Healthy Jacksonville (HJ), Duval County's Healthy People initiative, is guided by coalitions of individuals and organizations who have developed strategic plans for improving the county's health by 2010. Like the national Healthy People initiative, HJ has a number of health objectives specifically aimed at improving individual and community health by addressing physical activity, nutrition and overweight and obesity issues.

Three HJ coalitions, Nutrition and Physical Activity, Childhood Obesity, and Diabetes, are working on strategic plans to improve community health. Each plan includes action steps to increase physical activity, promote good nutrition and proper eating, and reduce the impact of overweight and obesity issues in our community.

The HJ Nutrition and Physical Activity coalition works with businesses, community and faith-based organizations to promote increased physical activity and healthy eating. Most recently, this coalition partnered with the City of Jacksonville and other local businesses to promote stairwell usage in the workplace and increased the availability of healthy snacks in vending machines. This coalition primarily addresses the health and quality of life for adult-aged individuals.

With the rise in obesity in our country, and concern with rising obesity rates in adolescent, the HJ Childhood Obesity coalition is working to prevent and reverse childhood obesity through education, awareness and health promotion activities. The coalition's activities have focused on increasing physical activity at home and in the schools, nutrition education for parents, children and school professionals. Other activities physicians and medical providers consultation to educate patients dealing with obesity and overweight issues. One primary focus for this coalition in the coming year will be to educate parents, teachers and school administrators through the parent teacher organizations, PTA/PTOs, about the importance of regular physical activity and good nutrition.

The HJ Diabetes Coalition also addresses physical activity, poor nutrition, and overweight and obesity given the relationship between these factors in the onset of diabetes and other chronic disease. This coalition, working in collaboration

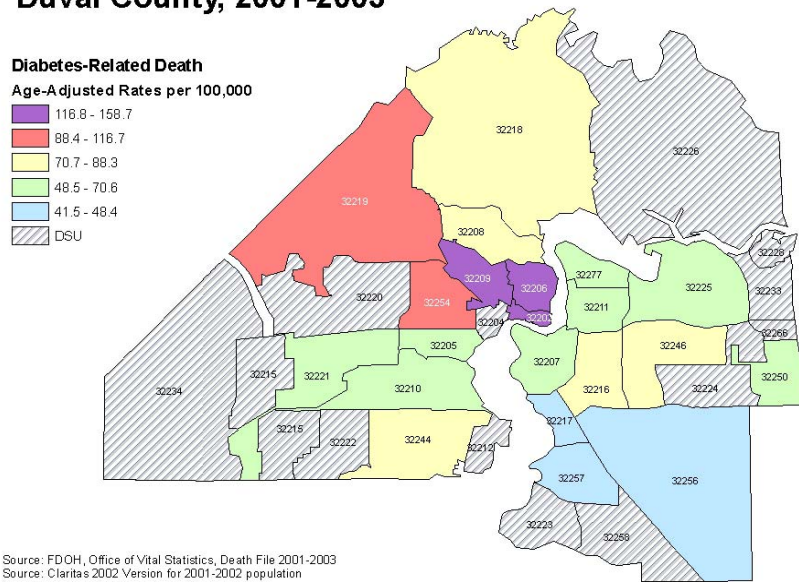
with organizations like the Jacksonville Association of Diabetic Educators, the American Red Cross, and the American Diabetes Association, provides education and diabetes screenings in the community to prevent and delay onset of diabetes and to reduce deaths and complications due to diabetes.

While each of these HJ Coalitions works on their unique strategic plans to achieve individual missions, these coalitions work together in promoting and educating the community. HJ is currently looking to partner with the City of Jacksonville to launch a city-wide campaign increasing physical activity and good nutrition.

For more information on Healthy Jacksonville, coalition meetings or activities, please call the Healthy Jacksonville office at 665-2520. Information on the coalitions and their objectives can also be found at www.healthyjacksonville.org.

Diabetes-Related Deaths by Zip Code, Duval County, 2001-2003

Figure 2



Source: FDOH, Office of Vital Statistics, Death File 2001-2003
 Source: Claritas 2002 Version for 2001-2002 population
 Source: Claritas 2003 Version for 2003 population
 Prepared by: DCHD, Institute for Health, Policy and Evaluation Research, December 2004
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National Progress Review on Diabetes*

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Some diseases related to diabetes are heart disease, stroke, kidney disease, nervous system disease and dental disease. These and other health problems associated with diabetes contribute to an impaired quality of life and substantial disability among people with diabetes.

The Cost of Diabetes

Diabetes costs the nation nearly \$132 billion in 2002 - \$92 billion in direct medical costs and another \$40 billion in indirect costs due to lost productivity. This estimate has increased 32 billion dollars since 1997. The average yearly health care cost for a person with diabetes was \$13,243 in 2002, compared with \$2,560 for a person without diabetes. Diabetes costs represent 11% of national health care expenditures during 2002.

Diabetes still poses a serious threat to the health of the U.S. population. In this country over 200,000 die from diabetes. This disease is a national health challenge.

National Progress Review on Nutrition and Physical Fitness*

(Continued from page 1)

who are overweight or obese are at increased risk for high blood pressure, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea, respiratory problems, and some types of cancer. The health outcomes related to these diseases, however, often can be improved through weight loss or no further weight gain. Total costs attributable to obesity alone amounted to an estimated \$99 billion in 1995. In 2000 the estimate increased to \$100 billion.

The objectives related to fruit, vegetable and grain consumption have shown little or no progress. For example, the average number of daily servings of fruit consumed by people 2 years of age and older was 1.6 in 1994-1996 and was 1.5 in 1999-2000.

Physical Activity Update

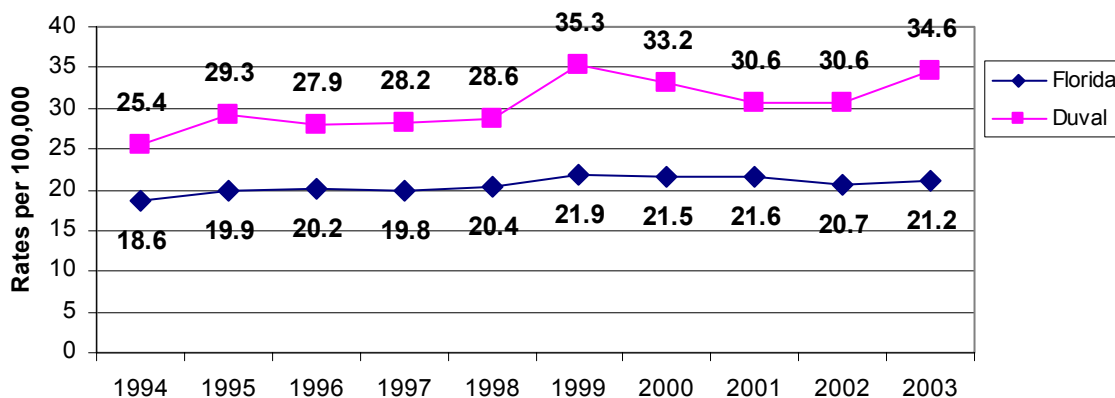
Unlike the negative national trends in overweight and obesity, there has been little or no change since the past decade in the status of most objectives for Physical Activity and Fitness.

Since the 1997 baselines, modest improvements have been recorded. In 2002, 38 percent of adults engaged in no leisuretime physical activity, compared with 40 percent in 1997. Preliminary data for 2003 show that 33 percent of adults aged 18 years and older engaged regularly in moderate physical activity, hardly changed from 32 percent in 1997.

For students in grades 9 through 12, 65 percent engaged in vigorous physical activity, the same proportion as in 1999. In each of the grades from 10 through 12, the proportion of students who engaged in vigorous physical activity was lower than in the preceding grade. The Healthy People 2010 target for all is 85 percent.

Little progress has been made nationally in attaining the Healthy People 2010 nutrition, overweight/obesity and physical activity objectives. More needs to be done to address these issue.

Graph 3 Diabetes Mortality Rates Florida vs. Duval County 1994-2003



Source: FDOH, Office of Vital Statistics, Death Files 1994-2003
 Prepared by: DCHD, Institute for Health, Policy and Evaluation Research, December 2004

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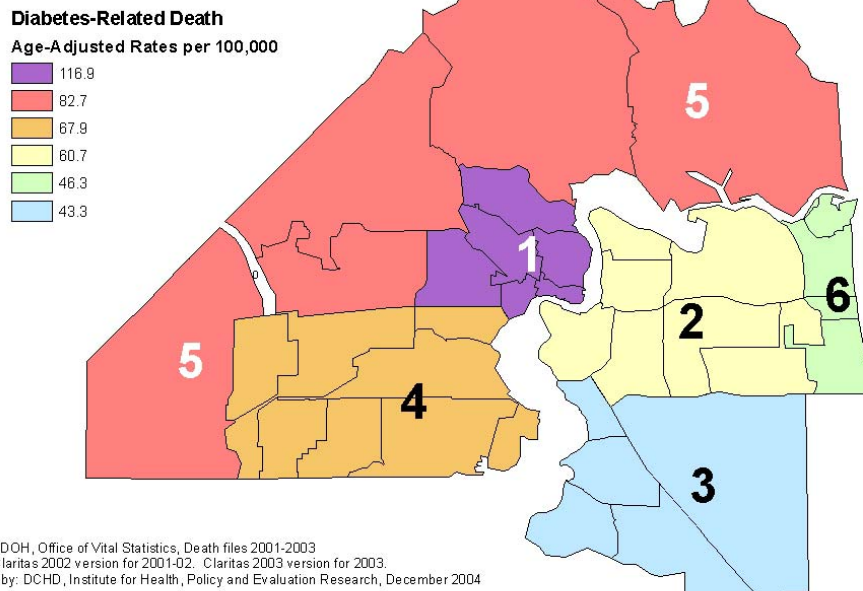


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Figure 3

Diabetes-Related Death Rates by Health Zone Duval County, 2001-2003



Source: FDOH, Office of Vital Statistics, Death files 2001-2003
Source: Claritas 2002 version for 2001-02. Claritas 2003 version for 2003.
Prepared by: DCHD, Institute for Health, Policy and Evaluation Research, December 2004

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