



**JONATHAN E. FIELDING, M.D., M.P.H.**  
Director and Health Officer

**JOHN F. SCHUNHOFF, Ph.D.**  
Chief Deputy Director

313 North Figueroa Street, Room 806  
Los Angeles, California 90012  
TEL (213) 240-8117 • FAX (213) 975-1273

[www.lapublichealth.org](http://www.lapublichealth.org)



**BOARD OF SUPERVISORS**

**Gloria Molina**  
First District

**Yvonne B. Burke**  
Second District

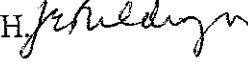
**Zev Yaroslavsky**  
Third District

**Don Knabe**  
Fourth District

**Michael D. Antonovich**  
Fifth District

August 1, 2007

TO: Each Health Deputy

FROM: Jonathan E. Fielding, M.D., M.P.H.   
Director and Health Officer

SUBJECT: **ADVANCED COPY: LA Health Report: "Diabetes on the Rise in Los Angeles County Adults"**

Please find enclosed our latest issue of *L.A. Health* describing data on diabetes among adults in Los Angeles County. The report is based on findings from the most recent Los Angeles County Health Survey, and will be available on our web site ([www.lapublichealth.org/ha](http://www.lapublichealth.org/ha)).

We hope that you will find it useful and informative. If you have any questions, please contact me, Frank Sorvillo, Ph.D., or Susie Baldwin, M.D., M.P.H., of the Office of Health Assessment and Epidemiology at (213) 240-7785.

JEF:rg

Enclosure

c: Alisa B. Katz  
John F. Schunhoff, Ph.D.  
Paul Simon, M.D., M.P.H.



## DIABETES ON THE RISE IN LOS ANGELES COUNTY ADULTS

Results from the most recent Los Angeles County Health Survey (LACHS) indicate a steady rise in the rate of diabetes among adults 18 years and older, from 6.6% in 1997 to 7.5% in 1999, 7.6% in 2002-03, and 8.6% in 2005.<sup>1</sup> This increasing prevalence likely reflects the impact of sedentary lifestyles and the obesity epidemic.

Obesity is the single most important risk factor for Type 2 diabetes, the major form of diabetes in adults. Other risk factors for diabetes include increasing age, family history, and physical inactivity. In Los Angeles county, direct costs of medical care for diabetes and indirect costs associated with disability and lost productivity were estimated to be \$5.6 billion in 2005.<sup>2</sup>

### Large Disparities in Diabetes Rates (Table 1)

The LACHS identified large disparities in diabetes by race/ethnicity, income, and educational level.

- Diabetes rates among Latinos and African Americans were nearly double the rates among Whites and Asians/Pacific Islanders.
- Nearly one in five adults 65 years and older have been diagnosed with diabetes according to the 2005 LACHS.
- From 1997 to 2005, the rate of diabetes increased most rapidly among those living in poverty and was more than two times higher in this group than among those with incomes at or above 200% of the Federal Poverty Level (FPL).
- In 2005, the prevalence of diabetes among adults who did not graduate from high school (14%) was more than two times higher than the prevalence among adults who graduated college (6%).

### Many With Diabetes Are Not Receiving Recommended Preventive Services (Figure 1)

Regular self-care and medical monitoring are essential for people with diabetes. When diabetes is

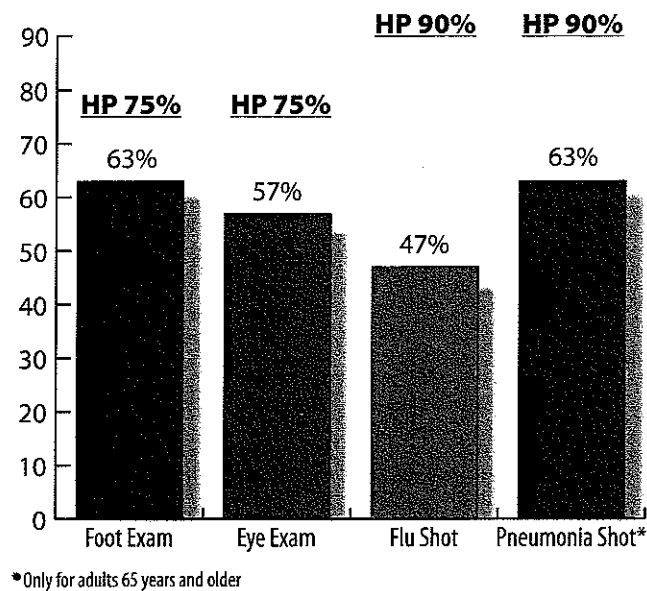
**TABLE 1** Trends in the Prevalence<sup>‡</sup> of Diabetes among Adults, 1997-2005

	1997(%)	1999(%)	2002-03(%)	2005(%)
<b>Los Angeles County</b>	6.6	7.5	7.6	8.6
<b>Gender</b>				
Male	6.7	7.7	7.7	8.8
Female	6.6	7.4	7.6	8.4
<b>Race/Ethnicity</b>				
Latino	9.5	11.3	11.4	12.3
White	4.6	5.5	5.4	5.6
African American	10.1	9.5	9.4	12.0
Asian/Pacific Islander	5.9	5.6	5.1	7.1
<b>Age Group</b>				
18-29	0.8	1.7	0.9	1.3
30-39	2.8	2.9	2.1	3.3
40-49	5.1	6.1	6.0	7.0
50-64	11.6	11.8	13.4	15.2
65 or over	14.3	16.8	17.8	18.3
<b>Federal Poverty Level<sup>§</sup></b>				
0-99% FPL	9.0	11.1	12.7	14.0
100-199% FPL	9.0	9.2	9.1	10.2
200% or above FPL	5.3	6.1	5.8	6.5
<b>Service Planning Area</b>				
Antelope Valley	6.7	6.6	7.1	9.0
San Fernando	5.7	6.3	6.5	6.3
San Gabriel	7.0	7.2	6.8	7.3
Metro	6.9	7.8	7.8	11.4
West	5.3	6.1	4.3	4.7
South	11.5	9.5	11.2	14.5
East	5.7	9.3	10.1	10.5
South Bay	6.0	7.1	8.2	8.3

<sup>‡</sup> Age-adjusted percentage according to the 2000 U.S. standard population aged 18 years and older.  
<sup>§</sup> Based on U.S. Census 2003 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$18,700 (100% FPL), \$37,300 (200% FPL) and \$56,500 (300% FPL).

1. Certain population sub-groups can have different age distributions, so age-adjustment allows for comparisons of a condition between groups while controlling for such age differences. Results are age-adjusted and, therefore, may differ from statistics presented in other reports.
2. Cost calculation based on the estimated number of disease cases in Los Angeles County in 2005.

**FIGURE 1** Percentage of Adults with Diabetes who Received Recommended Preventive Services in the Past 12 Months Compared to Healthy People 2010 Target Goals



controlled through improvements in diet, exercise, and appropriate use of medications, the risk of complications such as kidney failure, vision loss, coronary heart disease, and limb amputation can be reduced significantly. The U.S. Healthy People 2010 preventive health care targets for people with diabetes include self-monitoring blood glucose at least once a day, having a diabetic eye exam and foot exam once a year, and being up-to-date on immunizations. The 2005 LACHS data revealed that adults with diabetes in L.A. County were far from complying with these targets:

- 63% had received a foot exam in the past year. Diabetes can cause blood vessel and nerve damage that, without preventive measures, frequently lead to leg or foot amputation.
- 57% had received an eye exam in the past year. Diabetes is the leading preventable cause of blindness in the U.S.
- 47% had received a flu shot in the past year. Diabetics are at increased risk for severe complications from influenza.
- 63% of adults (65 years and older) reported ever having a pneumonia shot. Diabetics are at increased risk for contracting pneumonia and developing complications from it.

### Insurance Status and Regular Source of Care Among Adults with Diabetes

Diabetes is a chronic illness that can be well controlled through appropriate medical care and self-management. Having health insurance and access to a regular source of care are essential for effective management of diabetes (Table 2).

- In 2005, only 26% of adults with diabetes who did not have a regular source of care had an eye exam in the past year, compared to 60% of adults with diabetes who did have a regular source of care.
- Similar to findings from the 2002-03 LACHS, in 2005, a larger percentage of insured adults with diabetes (59%) reported having an eye exam compared to uninsured adults (43%).
- In 2002-03, only 32% of uninsured adults with diabetes self-monitored their blood glucose at least once a day compared to 60% of insured adults with diabetes.

**TABLE 2** Diabetes Management Indicators by Insurance Status and Regular Source of Care, 2005

	Insurance Status		Regular Source of Care	
	Yes	No	Yes	No
Percent had a dilated eye exam in past year	58.7%	43.2%	59.6%	26.0%
Percent had a foot exam in past year	65.4%	46.8%	65.6%	28.3%
Percent took a course or class in how to manage diabetes	56.3%	39.0%	56.0%	34.3%

### Other Health Risks Among Adults with Diabetes

Diabetics are at increased risk for heart disease and stroke, so addressing hypertension, high cholesterol, obesity, smoking and physical inactivity is important. Among adults with diabetes:

- 58% had hypertension
- 56% had high cholesterol
- 48% reported minimal to no regular physical activity
- 41% were obese based on self-reported height and weight
- 14% reported being a current smoker

## RECOMMENDATIONS FOR ACTION

### What Individuals Can Do:

#### Maintain a healthy weight and active lifestyle

- Regular physical activity and modest weight loss (only 7 pounds) has been shown to reduce the risk of developing diabetes by nearly 60% among high risk individuals.<sup>4</sup>
- Get 30-60 minutes of physical activity most days of the week.
- Utilize parks and recreation facilities to offer a wider range of physical activity opportunities.

#### Eat a nutritious diet

- Increase the amount of whole grains and fruits and vegetables in your diet.
- Reduce fat and cholesterol by having low-fat dairy products and lean cuts of meat, fish, or poultry.
- Limit foods high in salt and sugar.

#### Work together with your healthcare team

- If you smoke, seek help to quit.
- Ask your healthcare team what your blood glucose, blood pressure, and cholesterol numbers are and what they should be.

#### Get vaccinated

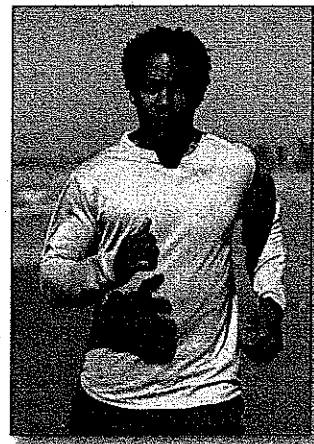
- Get a flu shot every year.
- Get a pneumonia shot at least once if you are 65 years and older.

#### If you have diabetes:

- Learn to control your blood glucose, blood pressure, and cholesterol levels to reduce the risk of diabetic complications.
- See your doctor regularly and follow your doctor's instructions on checking your blood glucose and taking your medications.
- Check your feet daily for cuts, blisters or swelling.
- Brush and floss your teeth everyday to prevent problems with your teeth and gums.
- Get a dilated eye exam and complete foot exam at least once a year.

### What Communities And Cities Can Do

- Establish policies for municipal programs and facilities, such as parks, libraries, and community organizations, to increase opportunities for healthy eating.
- Increase the availability of affordable, nourishing food choices at corner stores and supermarkets, especially in low-income neighborhoods.
- Encourage restaurants to provide nutrition information on their menus to enable customers to make healthier eating choices.
- Enforce physical activity and nutrition education from K - 12 as part of a comprehensive school health curriculum to help students adopt lifelong healthy eating and physical activity behaviors.
- Staff at community clinics and hospitals should teach patients about diabetes prevention and management through culturally and linguistically appropriate education utilizing, for example, trained bilingual community health workers.
- Expand community outreach to increase access to health-care services among uninsured persons with or at risk for diabetes.
- Both public and private organizations can increase awareness about diabetes risk through worksite health promotion programs.



### Discussion

The LACHS collects self-reported information on diabetes, so only those people who indicated that they were diagnosed with diabetes are included in these statistics. National studies indicate that approximately one-third of those with diabetes in the U.S. do not know that they have the disease.<sup>3</sup> The percentage of people with undiagnosed diabetes in LA County is likely as high or even

higher than the national estimates, given the poor access to care reported by many local residents. If this is true, the numbers reported here represent an underestimate of the true burden of diabetes. On the other hand, it is possible that some of the increase in diabetes observed since 1997 reflects improved screening and diagnosis for the condition, or improved survival among those with diabetes.

3. Cowie, CC, Rust KF, Byrd-Holt DD, Eberhardt MS, Flegal KM, Engelgau MM, Saydah SH, Williams DE, Geiss LS and Gregg EW, Prevalence of Diabetes and Impaired Fasting Glucose in Adults in the U.S. Population: National Health and Nutrition Examination Survey, 1999-2002.

4. Diabetes Prevention Program Research Group, Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin, *New England Journal of Medicine* 2002; 346:393-403, February 7, 2002.



Los Angeles County  
Department of Public Health  
313 N Figueroa Street Room 127  
Los Angeles, CA 90012  
213.240.7785

Presorted  
Standard  
U.S. Postage  
**PAID**  
Los Angeles, CA  
Permit No. 33

In this issue:

## Diabetes on the Rise in Los Angeles County Adults

The disparities described in this report highlight the need for preventive interventions that not only address health behaviors at the individual level, but also at the community level. For example, access to fresh produce and opportunities for physical activity are severely restricted in some communities in the county.<sup>5</sup> Changes to the built environment that encourage healthy eating and regular exercise

5. *Healthy Food, Healthy Communities: Improving Access and Opportunities through Food Retailing, Fall 2005. Policy Link and The California Endowment.*

can help LA County residents overcome the diabetes epidemic.

Controlling the diabetes epidemic requires a multilevel strategy, involving individuals, health care providers, community organizations, and private and governmental agencies. To prevent diabetes and ensure timely screening, treatment, and management of the condition, any approach must incorporate improved access to and delivery of high quality health care for all county residents.

The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The 2005 survey collected information on a random sample of 8,648 adults and 6,032 children. The survey was conducted for the Los Angeles County Department of Public Health by Field Research Corporation and was supported by grants from First 5 LA, Tobacco and Control Prevention Program, the Emergency Response and Bioterrorism Preparedness Program and various Department of Public Health programs.

### L. A. County Board of Supervisors

Gloria Molina, First District  
Yvonne Brathwaite Burke, Second District  
Zev Yaroslavsky, Third District  
Don Knabe, Fourth District  
Michael D. Antonovich, Fifth District

### L. A. County Department of Public Health

Jonathan Fielding, MD, MPH  
Director and Health Officer  
John Schunhoff, PhD  
Chief Deputy Director  
Paul Simon, MD, MPH  
Director of Chronic Disease and  
Injury Prevention Program

### Office of Health Assessment & Epidemiology

Frank Sorvillo, PHD, Acting Director, Health Assessment and Epidemiology  
Susie Baldwin, MD, MPH, Chief, Health Assessment Unit

### Health Assessment Unit Staff:

Amy S. Lightstone, MPH;  
Douglas M. Morales, MPH; Gigi Mathew, DrPH; Grace Law, MA;  
Vichuda Lousuebsakul, DrPH; Yajun Du, MS; Yan Cui, MD, PhD;

### Acknowledgements:

Special thanks to Margaret Shih, MD, PhD;  
Jean Tremaine, MA, MPH and Matthew Sharp for their helpful review.

For additional information about the L.A. County Health Survey, visit: [www.lapublichealth.org/ha](http://www.lapublichealth.org/ha)

Suggested Citation: Los Angeles County Department of Public Health, *Diabetes on the Rise in Los Angeles County Adults*, LA Health; August 2007.