

an early warning sign

# *Diabetes Deaths in California Legislative Districts*



## **WHAT**

*An Early Warning Sign: Diabetes Deaths in California Legislative Districts 2004* examined diabetes death rates by both California Senate and Assembly Districts.

## **WHY**

The study suggests that environments may be as significant in predicting susceptibility to chronic diseases as personal health choices and behaviors. Unless something is done to fundamentally improve community environments, California families and businesses will face unparalleled increases in human suffering and costs related to increasing rates of diabetes.

## **WHEN**

This report is based on data from the California Multiple Cause of Death Files for the five-year period between 1996 and 2000. The data was analyzed in 2003 and released in February 2004.

## **How**

The California Center for Public Health Advocacy utilized data derived from the California Multiple Cause of Death Files from 1996 to 2000. Dr. Chi Kao of the University of California, San Francisco, San Francisco's Institute for Health Policy Studies, and Richard Cohen of the Public Health Institute conducted data management and analysis. Deaths for which diabetes was reported as either the underlying cause or as one of multiple causes were included in the analysis. The CCPHA correlated the findings from this analysis with the findings from their previous reports on the prevalence of overweight and unfit children by state legislative district.

## **WHO**

The study was conducted by the California Center for Public Health Advocacy, with funding from The Robert Wood Johnson Foundation.

## *key* **findings**

- There is considerable variation in diabetes death rates between legislative districts, and districts that have higher diabetes death rates also tend to have higher prevalence of overweight and unfit children.
- Legislative districts in three regions – Los Angeles County, the Central Valley, and southwest San Bernardino County – have the highest diabetes death rates.
- Three racial/ethnic groups – African Americans, Latinos and American Indians/ Alaska Natives – have the highest burden of diabetes deaths.
- Diabetes death rates are increasing.

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*Diabetes death rates are strongly correlated with the prevalence of overweight and unfit children in legislative districts.*

In both Assembly Districts ( $r=0.75$ ,  $p<0.0001$ ) and Senate Districts ( $r=0.73$ ,  $p<0.0001$ ) diabetes death rates and the prevalence of overweight children were positively correlated.

In both Assembly Districts ( $r=0.68$ ,  $p<0.0001$ ) and Senate Districts ( $r=0.64$ ,  $p<0.0001$ ) diabetes death rates and the prevalence of unfit children were positively correlated.

*There is considerable variation in diabetes death rates throughout California that cannot be attributed to age and racial/ethnic differences between legislative districts.*

In Assembly Districts, diabetes death rates adjusted for age and race/ethnicity range from 40.6 per 100,000 to 158.4 per 100,000—nearly a four-fold difference.

In Senate Districts, age- and race-adjusted diabetes-related death rates range from 52.5 per 100,000 to 140.2 per 100,000—nearly a three-fold difference.

*Legislative districts in three regions — Los Angeles County, the Central Valley, and southwest San Bernardino County — have the highest diabetes death rates.*

**LOS ANGELES COUNTY** has 10 of the 16 Assembly Districts with the highest rates, and three of the eight Senate Districts with the highest rates.

**THE CENTRAL VALLEY** has three of the 16 Assembly Districts with the highest rates, and three of the eight Senate Districts with the highest rates.

**SOUTHWEST SAN BERNARDINO COUNTY** has three of the 16 Assembly Districts with the highest rates, and two of the eight Senate Districts with the highest rates.

*Findings by race — three racial/ethnic groups — African Americans, Latinos and American Indians/Alaska Natives — have the highest burden of diabetes deaths.*

African Americans have the highest death rate for all ethnic groups in 95% of Assembly Districts and 100% of Senate Districts.

Latinos have a higher death rate than Whites in 69% of Assembly Districts and 75% of Senate Districts, and a higher rate than Asians/Pacific Islanders in 85% of Assembly Districts and 95% of Senate Districts.

Statewide, American Indians/Alaska Natives, African Americans & Latinos also have the youngest average age of death due to diabetes. American Indians/Alaska Natives die from the disease an average of 6.4 years younger than Whites, while African Americans die an average of 5.5 years younger, and Latinos die an average of 4.5 years younger than Whites.

However, even for a given racial/ethnic group, there are differences in diabetes-related death rates across legislative districts that cannot be attributed to age differences. For example, Whites have the largest proportional variation in age-adjusted diabetes death rates between Assembly Districts, ranging from 38.2 to 161.4 per 100,000—more than a four-fold difference. Other ethnic groups have at least a two-fold variation between the legislative district, with the highest rate and the district with the lowest rate.

*Diabetes death rates are increasing. Over the five-year period under study, the age- and race/ethnicity-adjusted death rate due to diabetes rose annually, from 79.0 per 100,000 in 1996 to 83.6 deaths per 100,000 in 2000, an increase of 5.8 percent.*

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The diabetes epidemic will not be solved by calling for individual behavior change alone. Instead, policymakers must address the community and environmental factors that perpetuate it. Policies must be established that employ the following strategies to reduce diabetes-related deaths in California:

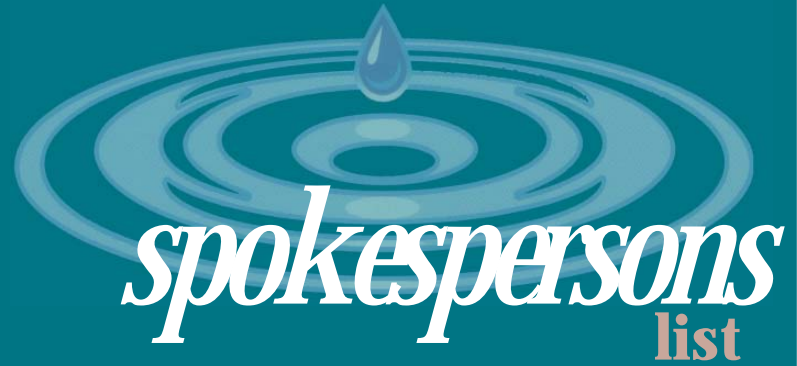
- Prevent and delay diabetes, and ensure access to health care to prevent, treat, and manage the disease.
- Create healthy nutrition and physical activity environments.
- Place special emphasis on racial/ethnic and geographic communities experiencing the greatest burden of disease.

## **SPECIFIC RECOMMENDATIONS INCLUDE:**

- Every legislator should convene a district forum to address the epidemics of diabetes and obesity locally.
- Educate health care providers about diabetes primary prevention and clinical management practices proven to be successful with individuals at high risk for diabetes.
- Develop and implement a coordinated statewide plan for simultaneously addressing the epidemics of diabetes and overweight/obesity.
- Improve access to health care in order to prevent, delay, manage and treat diabetes.
- Improve school environments:
  - o Implement SB 19 nutrition standards in grades K-12.
  - o Enforce state law mandating 200-400 minutes of physical education every 10 days in grades 1 – 12.
  - o Utilize in-service funds to train teachers in physical education.
- Improve community environments:
  - o Require chain restaurants to provide nutrition information on display boards and menus.
  - o Design communities in ways that promote healthy eating and physical activity.
  - o Restrict marketing and advertising of unhealthful foods and beverages to children.
  - o Establish zoning regulations that prohibit the sale of unhealthful food near schools.
- Conduct research to determine the specific conditions in communities that contribute to high diabetes-related death rates and high percentages of overweight and unfit children.
- Retain the diabetes-related benefits currently provided by public and private health insurance plans.

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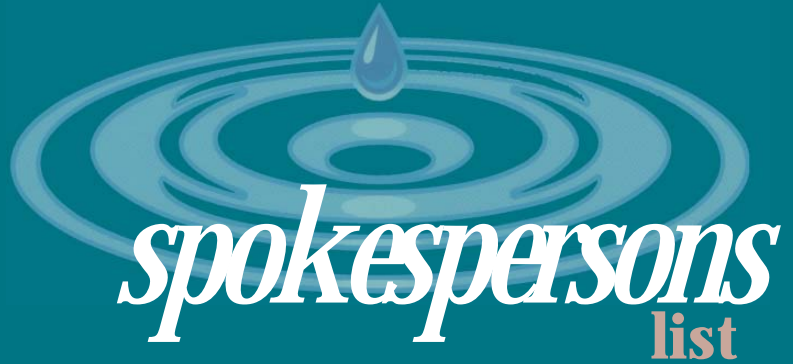
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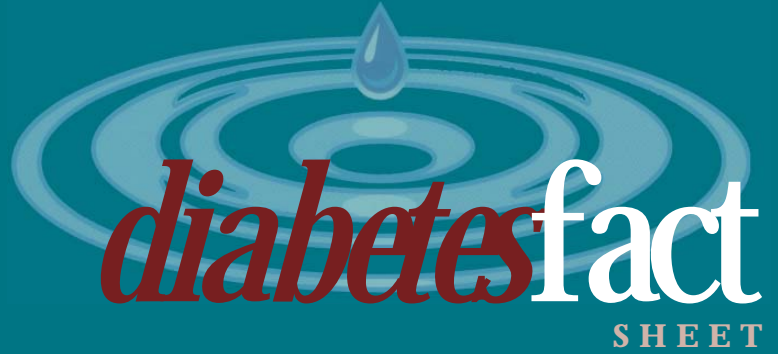
\* Bilingual Spanish

If you would like to contact your local legislators, you can locate their contact information for both their Sacramento and district offices via the link below. For Senators, use the first link; for Assembly Persons, the second link.

<http://www.sen.ca.gov/~newsen/senators/roster.htm>  
<http://www.assembly.ca.gov/acs/acsframeset7.htm>

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## **WHAT IS DIABETES?**

Diabetes is characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both. Diabetes manifests itself in two forms, known as Type 1 and Type 2 diabetes; neither can be cured.

## *types of* **diabetes**

### **TYPE 1 DIABETES:**

- may account for 5 to 10 percent of all diagnosed cases of diabetes
- usually strikes children and young adults, who need several injections a day or an insulin pump to survive
- previously called insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes

### **TYPE 2 DIABETES:**

- may account for about 90 to 95 percent of all diagnosed cases of diabetes
- increasingly being diagnosed in children and adolescents
- is largely preventable or can be delayed
- risk factors include older age, obesity, family history of diabetes, prior history of gestational diabetes, impaired glucose tolerance, physical inactivity, and race/ethnicity
- African Americans, Latinos, American Indians/Alaska Natives, and some Asian Americans and Pacific Islanders are at a particularly high risk for Type 2 diabetes
- previously called non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes

# diabetes

by the



## **\$132 BILLION**

Estimated cost in the United States of direct medical and indirect expenditures attributable to diabetes in 2002.<sup>1</sup>

## **\$40 BILLION**

Estimated economic loss to the U.S. economy in 2002 due to the higher rates of lost work time, disability, and premature mortality associated with diabetes.<sup>1</sup>

## **20¢**

Amount per dollar spent in the U.S. on health care for people with diabetes (this includes costs attributable to diabetes as well as non-diabetes-related costs).<sup>1</sup>

## **2.4**

Number of times greater medical expenditures in the U.S. are for those with diabetes than for those without, after adjusting for differences in age, sex, and race/ethnicity.<sup>1</sup>

## **213,062**

Estimated number of deaths attributable to diabetes in the U.S. in 2003.<sup>2</sup>

## **19**

Estimated percentage of all deaths in the U.S. for which cardiovascular disease is listed as the primary cause of death attributed to diabetes.<sup>1</sup>

## **2**

Number of times greater the risk of death is for people in the U.S. with diabetes than for those without the disease.<sup>3</sup>

## **60**

Percent of nontraumatic lower-limb amputations in the U.S. that occur among people with diabetes.<sup>3</sup>

## **67**

Percent increase in diabetes among Californians between 1990 and 1998.<sup>4</sup>

## **1 MILLION**

Number of people in the U.S., aged 20 years and older, diagnosed with diabetes each year.<sup>3</sup>

## **1.8 MILLION**

Number of adults in California not diagnosed with diabetes (8.2%) who are at significant risk for developing diabetes because they are sedentary in conjunction with being overweight or obese.<sup>5</sup>

## **100**

Projected percentage increase, nationally, in the number of Latinos and other minority populations diagnosed with diabetes between 2002 and 2020.<sup>1</sup>

## **50**

Projected percentage increase, nationally, in the number of African Americans diagnosed with diabetes between 2002 and 2020.<sup>1</sup>

## **27**

Projected percentage increase, nationally, in the number of Whites diagnosed with diabetes between 2002 and 2020.<sup>1</sup>

## **5.1**

Number of times more likely American adults with diabetes aged 35 – 64 years were to report a history of coronary heart disease during 1999 – 2001 than those without the disease.<sup>6</sup>

## **4.9**

times more likely to report a history of stroke.<sup>6</sup>

## **2.4**

times more likely to report another heart condition.<sup>6</sup>

## **3.1**

times more likely to report at least one of these conditions than adults of similar age without diabetes.<sup>6</sup>

## **33**

Percentage of boys born in 2000 who will develop diabetes if current trends continue.<sup>7</sup>

## **39**

Percentage of girls born in 2000 who will develop diabetes if current trends continue.<sup>7</sup>

<sup>1</sup> American Diabetes Association: Economic Costs of Diabetes in the U.S. in 2002. *Diabetes Care* 26:917-932, 2003 [Abstract]

<sup>2</sup> Center for Disease Control: National Diabetes Fact Sheet 2003

<sup>3</sup> American Diabetes Association: National Diabetes Fact Sheet

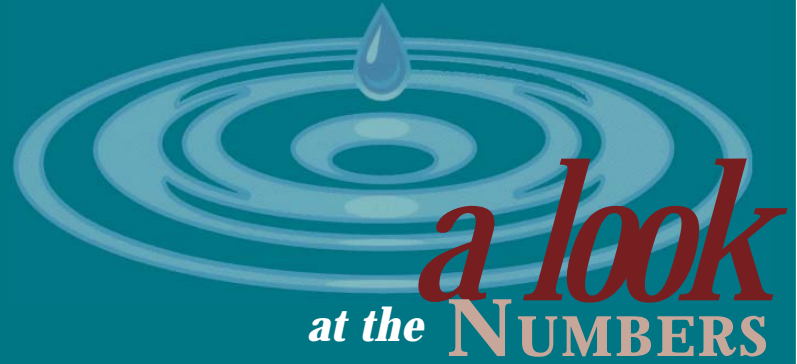
<sup>4</sup> Mokdad, AH, et al., *Diabetes Care*. 2000; 23(9): 1278-1283

<sup>5</sup> *Diabetes in California: Findings from the 2001 Health Interview Survey*

<sup>6</sup> From the Center for Disease Control's Morbidity and Mortality Weekly Report, November 7, 2003/Vol. 52/No. 44. \*Self-Reported Heart Disease and Stroke Among Adults With and Without Diabetes – United States, 1999 - 2001

<sup>7</sup> Narayan, KM, et al., *JAMA*. 2003; 290(14): 1884-1890

# Shaping Community Environments



**100**

Percent increase in obesity rates in adults over the last twenty years.<sup>1</sup>

**65**

Percent of American adults who are overweight or obese.<sup>1</sup>

**200**

Percent increase in obesity rates in teens over the past two decades.<sup>2</sup>

**26**

Percent of their food dollars Americans spent on restaurant meals and other foods prepared outside their home in 1970.<sup>3</sup>

**46**

Percent of food dollars spent on away-from-home foods in the U.S. today.<sup>3</sup>

**92**

Percent increase in the amount of calories children consume when they eat a meal at a restaurant (770 calories) versus at home (420 calories).<sup>3</sup>

**70**

Percent increase over the last two decades of meals and snacks from restaurants and other food-service establishments (from 16% of meals and snacks in 1978 to 27% in 1995).<sup>3</sup>

**2.26**

Number of times more supermarkets per capita in middle- and upper-income neighborhoods than in low-income neighborhoods.<sup>4</sup>

**95**

Percentage of California schools that sell fast foods.<sup>5</sup>

**\$26 Billion**

Amount spent on food advertising & promotional expenditures in 2000.<sup>6</sup>

**\$1 Billion**

Amount spent on television advertising aimed at children in 1997, a tenfold increase from 1983.<sup>7</sup>

**2.2**

Percentage of food advertising that is for fruits, vegetables, grains & beans.<sup>8</sup>

<sup>1</sup> Flegal KM, Carroll MD, Ogden CL, Johnson CL. "Prevalence and Trends in Obesity Among US Adults, 1999-2000." *Journal of the American Medical Association* 2002, vol. 288, pp. 1723-1727

<sup>2</sup> Ogden CL, Flegal KM, Carroll MD, Johnson CL. "Prevalence and Trends in Overweight Among US Children and Adolescents, 1999-2000." *Journal of the American Medical Association* 2002, vol. 288, pp. 1728-1732

<sup>3</sup> Center for Science in the Public Interest: Anyone's Guess, The Need for Nutrition Labeling at Fast-Food and Other Chain Restaurants

<sup>4</sup> Amanda Shaffer, *The Persistence of L.A.'s Grocery Gap*, Center for Food and Justice, 2002 at 43.

<sup>5</sup> 2000 California High School Fast Food Survey

<sup>6</sup> Elitzak H. "Food Marketing Costs at a Glance." *Food Review* 2001, vol. 24, no. 3, pp. 47-48., cited in CSPI's *Pestering Parents* report

<sup>7</sup> Lauro PW. "Coaxing the Smile that Sells." *New York Times*, November 1, 1999, p. C1., cited in CSPI's *Pestering Parents* report

<sup>8</sup> Marion Nestle, *Food Politics*

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*The California Center for Public Health Advocacy convened a panel of diabetes experts including:*

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UCSF & the

California Department of Health Services Diabetes Prevention and Control Program

*Albright is the Chief of the Diabetes Prevention and Control Program.*

**DEBRA COHEN, MD**

Kaiser Permanente Santa Theresa Medical Center

*Cohen is a pediatric endocrinologist.*

**GUADALUPE HEREDIA, RN, CDE**

Clinica De Salud, Brawley

*Heredia is a Certified Diabetes Educator.*

**ALKA KANAYA, MD**

UCSF

*Kanaya, an assistant adjunct Professor of Medicine, Division of General Internal Medicine at UCSF, has conducted research on diabetes.*

**FRANCINE KAUFMAN, MD**

Keck School of Medicine

*Kaufman is the Head of the Center for Diabetes, Endocrinology and Metabolism at Children's Hospital of Los Angeles and is on the faculty of the Keck School of Medicine at USC. Kaufman is the immediate past president of the American Diabetes Association and was the chair of the Los Angeles County Task Force on Youth Obesity.*

**PHYLLIS PRECIADO, MD, RN**

Latino Center for Medical Research, UCSF

*Preciado is a Faculty Research Fellow at the University of California at San Francisco-Fresno Latino Center for Medical Education and Research. In February of 2003 Preciado initiated a community-based comprehensive diabetes management program in Fresno.*

**BILL RELEFORD, JR., MD**

Diabetes Amputation Prevention Foundation

*Releford is the founder of the Diabetes Amputation Prevention Foundation, an organization dedicated to reducing the amputation rate associated with diabetes. Releford is a past president of the African Chapter of the American Diabetes Association.*

**JOE SOLOWIEJCZK, RN, MSW, CDE**

Texas Diabetes Institute

*Solowiejczk, a diabetes nurse educator and family therapist, worked with the Oakland Unified School District in 2002.*

**TRESS STEWART, RN**

Southeast Health Center, San Francisco

*Stewart is a public health nurse with the San Francisco Department of Public Health.*

**CHRIS WALKER, MPH**

Whittier Institute for Diabetes and Endocrinology

*Walker is the Executive Director of Project Dulce, a community-based diabetes management services program that operates at health centers throughout San Diego County, and is the Director of Clinical and Community Programs for the Whittier Institute.*

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## *California Center for Public Health Advocacy*

The California Center for Public Health Advocacy (CCPHA) raises awareness about public health issues and mobilizes communities to promote the establishment of effective health policies. Established in 1999 by California's two public health associations—Southern California Public Health Association and California Public Health Association-North—the CCPHA is an independent, nonpartisan, nonprofit organization.

The CCPHA uses tools of public health—health education, social marketing, epidemiology, and grassroots organizing—to design policy solutions to address public health challenges facing California today. The CCPHA's strength lies in their unique approach of working simultaneously with facets of public health that are rarely combined.

The CCPHA uses both scientific expertise and grassroots means to effect change at the community and state level, focusing not only on specific public health issues but the general well-being of all Californians.

Building on the historic strength of California's two Public Health Associations the CCPHA provides leadership in California in the field of public health, focusing their efforts on the following priority areas:

**Prevention.** The CCPHA encourages the establishment of policies and programs that support community-based health promotion and disease prevention, paying particular attention to addressing health disparities;

**Public Health Constituency Building.** The CCPHA works toward expanding and strengthening the constituency for public health by acting as a catalyst and convener of different types of people—both professional and lay—and organizations interested in promoting community health;

**Information Transfer.** The CCPHA encourages others to learn from their experience, sharing the lessons they learn through training programs and by publicizing their findings at local and national conferences and in professional publications.

The CCPHA receives funding from The California Endowment, The Robert Wood Johnson Foundation, The California Wellness Foundation and Kaiser Permanente.

## *The Robert Wood Johnson Foundation*

The Robert Wood Johnson Foundation, based in Princeton, New Jersey, is the nation's largest philanthropy devoted exclusively to health and health care. It became a national institution in 1972 with receipt of a bequest from the industrialist whose name it bears, and has since made more than \$2 billion in grants.

The Foundation concentrates its grantmaking in three areas: to assure that all Americans have access to basic health care at reasonable cost; to improve the way services are organized and provided to people with chronic health conditions; and to reduce the personal, social, and economic harm caused by substance abuse—tobacco, alcohol, and illicit drugs.