



Center for Health Statistics



February 2005

COUNTY HEALTH FACTS UPDATE No. 05-A

County Health Facts is a series of reports using California Health Interview Survey data to describe the health status of California's counties.

2003 HIGHLIGHTS

About 6.6 percent of adults in California, more than 1.7 million people, had diabetes.

There was no significant change in the proportion of Californians with diabetes between 2001 and 2003.

Prevalence of Diabetes in California Counties: 2003 Update

By Laura E. Lund, M.A.¹

This report presents 2003 data to update the report: "Prevalence of Diabetes in California Counties, 2001."² All data come from the California Health Interview Survey (CHIS) 2003. (See "Methods" on page two for a description of the survey and analytic methods used in this report.) CHIS 2003 defined persons as having diabetes if a physician ever told them that they had the disease.³ The terms "rate", "percent", and "proportion" are used interchangeably throughout this report.

Diabetes Prevalence

Crude rates: About 6.5 percent of all adults in California, nearly 1.7 million people, had diabetes in 2003 (Table 1, page 3). There was considerable variation in diabetes rates across counties, from a low of 3.7 percent in Marin County to a high of 10.8 percent in Imperial County.

Age-adjusted rates: After adjusting for differences in county age distributions, California's age-adjusted diabetes rate was 6.6 percent. The Nevada/Plumas/Sierra region had the lowest age-adjusted diabetes rate, 2.7 percent (Table 1). Imperial County continued to have the highest rate, 11.2 percent. Healthy People 2010 (HP2010) Objective 5-3 states that only 2.5 percent of the population will have clinically diagnosed diabetes.⁴ In 2003 only five counties and one region (Nevada/Plumas/Sierra, Marin, San Luis Obispo, El Dorado, Santa Cruz, and Butte) had diabetes rates for adults that achieved this objective.

Although the proportion of adult Californians with diabetes increased to 6.6 percent in 2003 from 6.1 percent in 2001, the change was not statistically significant. Only Orange County had a significant increase in the proportion of persons with diabetes in the county, from 4.6 percent in 2001 to 6.8 percent in 2003. Five counties and one region (Nevada/Plumas/Sierra, Marin, San Luis Obispo, El Dorado, Napa, and Butte) had diabetes rates that were significantly lower than the California rate in 2003. Four counties (Merced, Tulare, Imperial, San Bernardino) had diabetes rates that were significantly higher than the State rate.

¹California Department of Health Services, Center for Health Statistics.

²Lund LE, He G. "Prevalence of Diabetes in California Counties, 2001." California Department of Health Services, Center for Health Statistics. January 2004. URL: <http://www.dhs.ca.gov/org/hisp/chs/OHIR/Publication/CoHlthFacts/Diabetes01.pdf>.

³Excludes women who were told that they had gestational diabetes (diabetes only during pregnancy).

⁴United States Department of Health and Human Services. Health People 2010: Understanding and Improving Health. 2nd Ed. Washington D.C.: U.S. Government Printing Office. November 2000.

According to the Centers for Disease Control and Prevention, Californians can reduce their risk for diabetes by exercising regularly (30 minutes of moderate intensity physical activity per day, five days per week) and eating a healthy diet. For more information on diabetes activities in California, contact the California Diabetes Program at (916) 552-9872, or www.caldiabetes.org. A report entitled *Diabetes in California Counties: Prevalence, Risk Factors, and Resources*, will be available from the California Diabetes Program in Spring 2005.

Methods

Data: CHIS 2003 is a population-based household telephone survey, representative of the non-institutionalized adult population of California, with more than 42,000 Californians participating. In addition to statewide data, CHIS 2003 provides representative samples for California counties with populations greater than 100,000. For smaller counties, CHIS 2003 provides representative data estimates for contiguous county groups, referred to as “regions” in this report. Respondents to the survey were randomly selected California residents aged 18 and older living in households with telephones. CHIS 2003 is a collaboration of the California Department of Health Services, the University of California at Los Angeles Center for Health Policy Research, and the Public Health Institute. More information on the CHIS 2003 sample is available at <http://www.chis.ucla.edu>.

Analysis: In this report, both crude rates and age-adjusted rates are provided as measures of prevalence. Crude rates reflect the actual number and proportion of persons with diabetes in the population. However, since diabetes is more common among older persons than young adults, crude diabetes rates are not useful for comparing counties if the counties being compared have different proportions of younger and older people. For example, in counties with a larger proportion of older persons diabetes prevalence will tend to be higher than in counties with fewer older persons, all else being equal. Age-adjustment statistically controls for these differences in county age structures. Therefore, age-adjusted rates rather than crude rates should be used for comparing diabetes prevalence differences between counties or between a county and the State. Age-adjustment was done using the direct method with the 2003 California adult population aged 18 and older as the standard. Contact the author for further information on the methods used to calculate rates in this report.

The 95 percent confidence intervals (CIs) are presented for each rate. Because CHIS data are collected through a sampling method, there may be some random error in the rate estimate. The CIs represent the range of values likely to contain the “true” population rate 95 percent of the time. In this report, rates are considered to be significantly different from each other when their confidence intervals do not overlap. When comparing county or State rates to HP2010 objectives in this report, a rate is not considered significantly different from an HP2010 objective if the confidence intervals of the rate include the target rate for the HP2010 objective. Other methods for determining statistically significant differences may yield different results.

Limitations: The CHIS 2003 data are self-reported by respondents to the survey, and may be subject to error, such as respondent failure to recall information about existing health conditions. Only persons living in households with telephones were included in the survey. Participation in CHIS 2003 is voluntary; persons who refused to participate may be different than those who were interviewed. Details on response rates, respondent characteristics, and other survey information can be obtained at <http://www.chis.ucla.edu>.

For more information on CHIS 2003 contact:
Laura E. Lund, CHIS Coordinator
California Department of Health Services
Center for Health Statistics
Office of Health Information and Research MS 5103
PO Box 997410
Sacramento, CA 95899-7410.

**TABLE 1
PREVALENCE OF DIABETES IN ADULTS IN CALIFORNIA, BY COUNTY OR REGION, 2003**

| County of Residence | Age-adjusted Rate ¹ | 95% Confidence Interval | | Crude Rate ¹ | 95% Confidence Interval | |
|---|--------------------------------|-------------------------|------------|-------------------------|-------------------------|------------|
| | | Lower | Upper | | Lower | Upper |
| HP2010 Objective 5-3 | 2.5 | - | - | - | - | - |
| Nevada/Plumas/Sierra* | 2.7 | 1.5 | 3.8 | 3.9 | 1.9 | 5.8 |
| Marin* | 3.1 | 1.6 | 4.6 | 3.7 | 1.5 | 5.9 |
| San Luis Obispo* | 3.2 | 1.8 | 4.5 | 4.1 | 2.3 | 6.0 |
| El Dorado* | 3.6 | 2.0 | 5.3 | 4.3 | 2.2 | 6.4 |
| Butte* | 4.1 | 2.3 | 5.9 | 4.3 | 2.5 | 6.1 |
| Napa* | 4.3 | 2.7 | 5.9 | 5.1 | 2.9 | 7.2 |
| Santa Cruz | 4.3 | 2.3 | 6.3 | 4.1 | 2.1 | 6.2 |
| Sonoma | 4.7 | 2.9 | 6.4 | 5.2 | 3.2 | 7.2 |
| Placer | 4.8 | 2.9 | 6.8 | 5.5 | 3.1 | 8.0 |
| San Mateo | 4.9 | 3.2 | 6.6 | 5.3 | 3.2 | 7.5 |
| Ventura | 5.0 | 3.3 | 6.7 | 5.1 | 3.1 | 7.1 |
| Alameda | 5.3 | 4.7 | 6.0 | 5.1 | 4.1 | 6.0 |
| Santa Barbara | 5.4 | 3.5 | 7.3 | 5.5 | 3.2 | 7.7 |
| Santa Clara | 5.5 | 4.3 | 6.7 | 5.5 | 4.1 | 7.0 |
| Tuolumne/Calaveras/Amador/Inyo/Mariposa/Mono/Alpine | 5.6 | 3.3 | 7.9 | 7.1 | 4.0 | 10.1 |
| Contra Costa | 5.6 | 4.0 | 7.3 | 5.9 | 3.8 | 7.9 |
| Riverside | 5.7 | 4.5 | 6.9 | 6.1 | 4.6 | 7.7 |
| Humboldt/Del Norte | 5.7 | 3.8 | 7.6 | 6.0 | 3.8 | 8.1 |
| Siskiyou/Lassen/Trinity/Modoc | 5.7 | 2.9 | 8.5 | 6.7 | 4.1 | 9.4 |
| Stanislaus | 5.7 | 3.8 | 7.7 | 6.0 | 3.6 | 8.3 |
| Mendocino, Lake | 6.1 | 3.2 | 8.9 | 6.4 | 3.7 | 9.0 |
| San Diego | 6.1 | 5.4 | 7.1 | 5.9 | 4.7 | 7.1 |
| San Francisco | 6.4 | 4.7 | 8.1 | 6.5 | 4.6 | 8.4 |
| Monterey/San Benito | 6.4 | 4.3 | 8.5 | 6.1 | 3.9 | 8.4 |
| Solano | 6.5 | 4.2 | 8.8 | 6.5 | 3.8 | 9.3 |
| CALIFORNIA | 6.6 | 6.3 | 6.8 | 6.5 | 6.2 | 6.9 |
| Orange | 6.8 | 5.7 | 7.9 | 6.6 | 5.3 | 7.9 |
| Los Angeles | 7.0 | 6.5 | 7.6 | 6.9 | 6.3 | 7.5 |
| Yolo | 7.3 | 4.8 | 9.8 | 6.2 | 3.6 | 8.9 |
| Tehama/Glenn/Colusa | 7.4 | 4.7 | 10.1 | 7.6 | 4.8 | 10.4 |
| Kern | 7.4 | 4.9 | 9.9 | 7.3 | 4.6 | 10.0 |
| Shasta | 7.6 | 5.4 | 9.7 | 8.9 | 6.2 | 11.6 |
| San Joaquin | 7.8 | 5.1 | 10.5 | 7.6 | 4.9 | 10.4 |
| Fresno | 8.1 | 5.7 | 10.4 | 4.9 | 10.2 | 7.5 |
| Sacramento | 8.3 | 6.6 | 10.0 | 8.3 | 6.4 | 10.2 |
| Sutter/Yuba | 8.5 | 5.9 | 11.1 | 8.6 | 5.7 | 11.5 |
| Kings | 9.1 | 6.3 | 12.0 | 8.1 | 5.2 | 11.0 |
| San Bernardino* | 9.2 | 7.4 | 11.0 | 8.5 | 6.4 | 10.5 |
| Madera | 9.2 | 6.4 | 12.0 | 9.8 | 6.7 | 13.0 |
| Tulare* | 9.4 | 6.9 | 11.8 | 8.7 | 6.1 | 11.3 |
| Merced* | 10.5 | 7.6 | 13.4 | 9.7 | 6.7 | 12.8 |
| Imperial* | 11.2 | 8.1 | 14.3 | 10.8 | 7.2 | 14.5 |

¹Rate is per 100 county or State population.
*Age-adjusted rate is significantly different from age-adjusted State rate.

Sources: University of California at Los Angeles and State of California, Department of Health Services. 2001 California Health Interview Survey.
State of California, Department of Finance. Race/Ethnic Population with Age and Sex Detail, 2000.
Prepared by: Department of Health Services, Center for Health Statistics.