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Diabetes Tied to a Third of California Hospital Stays, Driving Health Care Costs Higher



WHAT

A new policy brief, *Diabetes Tied to a Third of California Hospital Stays, Driving Health Care Costs Higher*, takes the first comprehensive look at the impact of diabetes on hospitalizations and hospital costs in California. Every third hospital bed is filled with a patient with diabetes, with hospital stays for patients with diabetes costing nearly \$2,200 more than for patients without diabetes. These stays add an extra \$1.6 billion dollars every year to California hospitalization costs, including \$254 million in costs paid by Medi-Cal alone.

WHY

Type 2 diabetes rates have jumped 35 percent over the past decade in California and tripled nationally over the past 30 years. For 2.4 million Californians and their families, diabetes has become a common and painful reality, too often leading to amputations, blindness, cardiovascular disease and premature death. Understanding the impact of diabetes on a county-by-county basis offers health care professionals and decision makers a vital tool to aid their efforts to curb this disease and its related costs.

HOW

This study uses 2011 hospital patient discharge and annual financial data from the Office of Statewide Health Planning and Development and data from the 2011-12 California Health Interview Survey.

WHO

The study was produced collaboratively by the UCLA Center for Health Policy Research and the California Center for Public Health Advocacy, with funding from The California Endowment.

KEY FINDINGS

- Almost one in three hospital stays (31 percent) in California in 2011 was for patients with diabetes.
- Hospital stays for patients with diabetes cost an average of nearly \$2,200 more per stay than those for patients without diabetes, regardless of the primary reason for the hospitalization.
- The percent of hospitalizations for patients with diabetes varies by county, with the highest percent in Imperial County (41 percent) and the lowest in Nevada County (19.9 percent).
- Compared to the percent of White hospital patients having diabetes (27 percent), rates were higher among every other racial and ethnic group, with 43.2 percent of Latino, 40.3 percent of American Indian & Alaska Native, 39.3 percent of African American and 38.7 percent of Asian American & Pacific Islander hospital patients having diabetes.

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HOSPITALIZATIONS FOR PATIENTS WITH DIABETES BY COUNTY (AGE 35 OR OLDER)

	Percent of Hospitalizations for Patients with Diabetes	Number of Hospitalizations for Patients with Diabetes	Estimated Additional Costs for Hospital Stays for Patients with Diabetes
CALIFORNIA	31.0%	729,314	\$1,604,490,800
Alameda	31.8%	28,311	\$62,284,200
Alpine, Amador, Calaveras, Inyo, Mariposa, Mono and Tuolumne	23.5%	2,840	\$6,248,000
Butte	27.5%	6,221	\$13,686,200
Colusa, Glenn and Tehama	27.5%	1,716	\$3,775,200
Contra Costa	31.5%	20,820	\$45,804,000
Del Norte, Lassen, Modoc, Plumas, Sierra, Siskiyou and Trinity	25.9%	1,208	\$2,657,600
El Dorado	23.3%	2,419	\$5,321,800
Fresno	35.1%	19,198	\$42,235,600
Humboldt	25.4%	2,090	\$4,598,000
Imperial	40.1%	4,324	\$9,512,800
Kern	31.9%	17,427	\$38,339,400
Kings	29.3%	1,238	\$2,723,600
Lake	27.1%	1,960	\$4,312,000
Los Angeles	33.1%	223,512	\$491,726,400
Madera	33.3%	2,862	\$6,296,400
Marin	20.0%	3,233	\$7,112,600
Mendocino	25.5%	1,668	\$3,669,600
Merced	35.7%	5,259	\$11,569,800
Monterey	30.5%	6,689	\$14,715,800
Napa	30.2%	3,126	\$6,877,200
Nevada	19.9%	1,460	\$3,212,000
Orange	29.2%	49,543	\$108,994,600
Placer	24.4%	4,140	\$9,108,000

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	Percent of Hospitalizations for Patients with Diabetes	Number of Hospitalizations for Patients with Diabetes	Estimated Additional Costs for Hospital Stays for Patients with Diabetes
Riverside	30.4%	40,727	\$89,599,400
Sacramento	34.5%	27,249	\$59,947,800
San Benito	26.5%	922	\$2,028,400
San Bernardino	33.6%	42,367	\$93,207,400
San Diego	29.2%	54,595	\$120,109,000
San Francisco	26.7%	13,993	\$30,784,600
San Joaquin	33.6%	14,085	\$30,987,000
San Luis Obispo	23.0%	3,823	\$8,410,600
San Mateo	29.0%	11,096	\$24,411,200
Santa Barbara	25.5%	5,708	\$12,557,600
Santa Clara	31.0%	26,610	\$58,542,000
Santa Cruz	25.1%	3,879	\$8,533,800
Shasta	26.1%	4,469	\$9,831,800
Solano	36.2%	8,168	\$17,969,600
Sonoma	25.9%	7,459	\$16,409,800
Stanislaus	34.3%	12,203	\$26,846,600
Sutter	32.8%	2,097	\$4,613,400
Tulare	34.4%	9,322	\$20,508,400
Ventura	28.3%	14,571	\$32,056,200
Yolo	30.8%	2,640	\$5,808,000
Yuba	35.7%	1,867	\$4,107,400

Source: Office of Statewide Health and Planning Development, 2011; data for Alpine, Del Norte, Inyo, Mariposa, Modoc, Mono, Plumas, and Sierra Counties are not included either because data were not available or no hospitals in the county met the inclusion criteria. Estimated additional costs for hospital stays for patients with diabetes calculated by multiplying the number of hospital stays for patients with diabetes by \$2,200 (the average cost difference for a hospital patient with diabetes compared to a hospital patient without diabetes.).

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HOSPITALIZATIONS FOR PATIENTS WITH DIABETES BY RACE/ETHNICITY (AGE 35 OR OLDER)

Racial/Ethnic Group	Percent of Hospitalizations for Patients with Diabetes	Number of Hospitalizations for Patients with Diabetes
White	27.5%	288,438
Latino	43.2%	140,176
African American	39.3%	52,484
Asian American & Pacific Islander	38.7%	44,262
American Indian & Alaska Native	40.3%	882
Other	37.7%	13,779

Source: Office of Statewide Health and Planning Development, 2011

Note: Patients whose racial/ethnic designations are not known are not shown in the table. Patients' racial/ethnic designation was considered unknown if it was not noted in their records, or if the racial/ethnic designation was removed from the data set to protect patient anonymity.

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WHAT IS DIABETES?

- Diabetes is a disease in which blood glucose (sugar) levels rise higher than normal. Diabetes can be managed with proper treatment, and complications from type 2 diabetes can often be prevented or delayed with change in diet and exercise and close monitoring of blood sugar levels.¹
- Without treatment, diabetes is a progressive disease that gradually “wears out” critical body functions, including nerves, vision, muscles and vital body organs, such as the liver and pancreas. Untreated, diabetes can lead to limb amputation, blindness, fatty liver disease, kidney disease and a variety of cardiovascular diseases, as well as premature, preventable death.²
- There are two types of diabetes – type 1 (which is congenital and represents about 5 percent of diabetes cases) and type 2 (which is preventable and represents about 95 percent of all diabetes cases).²
- Almost 95% of diagnosed diabetes among adults is type 2 diabetes. If you have type 2 diabetes, your body does not use insulin properly. At first, your pancreas makes extra insulin to make up for it. But, over time it isn’t able to keep up and can’t make enough insulin to keep your blood sugar at normal levels.²

WHAT CAUSES DIABETES?

- The most significant contributors to or causes of type 2 diabetes are diet and exercise. Obesity is a major risk-factor for diabetes.¹
- Eating less fat, fried foods and sugar, in addition to exercising at least 30 minutes five days a week can delay and possibly prevent the onset of type 2 diabetes.¹
- A growing body of research shows that sugary beverages – because they provide all of their calories as liquid sugar – are uniquely harmful. We absorb liquid sugar in as little as 30 minutes, much faster than a candy bar, leading to a spike in blood sugar that the body is not well-equipped to handle, particularly in repetition. These spikes in blood sugar can overwhelm the body and lead to the transformation of sugar into fat in the liver, which contributes directly to the development of diabetes.^{3,4}
- Drinking just one soda a day increases an adult’s likelihood of being overweight by 27 percent; for children, the likelihood doubles to 55 percent.^{5,6}
- Drinking one or more sodas a day increases the risk of developing type 2 diabetes by 26 percent.⁷

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PREVALENCE OF DIABETES

- More than 2.3 million California adults (8.4 percent) have diabetes.⁸
- 25.8 million children and adults in the United States (8.3 percent) have diabetes, and another 79 million have pre-diabetes.⁹
- The prevalence of diabetes in the United States has more than tripled since 1980.¹⁰
- The prevalence of diabetes and pre-diabetes among adolescents rose from nine percent to 23 percent from 1999-2008.¹¹
- Diabetes in California has increased 35 percent in the last 10 years.¹²

HEALTH IMPACT OF DIABETES

- Despite medical advances enabling those with diabetes to live longer today than in the past, a 50-year-old with the disease still can expect to live 8.5 years fewer years, on average, than a 50-year-old without the disease.¹³
- Mismanaged diabetes can lead to damaged blood vessels, heart attacks, strokes, blindness, liver disease, certain kinds of cancer, kidney failure, bone fractures, and amputations.²
- In 2006, it was estimated that 60 percent of people with diabetes in the United States had one or more complications from the condition.¹⁴
- Diabetes contributed to 231,404 deaths in the United States in 2007.⁹
- More than 13,000 Californians undergo limb amputations every year, with the majority of them due to diabetes-related complications like infection and peripheral arterial disease.¹⁵
- Almost half of adults with diabetes in the U.S. do not receive the recommended diabetes care.^{16,17}

COST OF DIABETES

- Diabetes cost the United States an estimated \$245 billion in 2012, with \$176 billion in direct medical costs and \$69 billion in indirect costs (e.g. lost productivity, disability and premature death).¹⁸
- Total health care and related costs for the treatment of diabetes in California alone is about \$24.5 billion each year.¹⁹
- Average medical expenditures for people with diabetes are 2.3 times higher than for those without diabetes.¹⁸
- Hospital charges for the removal of a leg or foot due to diabetes complications totaled \$205,502,679 in California in 2008, at a rate of \$20,062 per hospitalization.²⁰

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LIVING WITH DIABETES COMPLICATIONS

Type 2 diabetes, if not managed properly, can affect every part of the body. The disease can have debilitating physical effects, including damaged blood vessels, heart attacks, strokes, blindness, liver disease, certain kinds of cancer, kidney failure, bone fractures, and amputations.

Eye Complications:

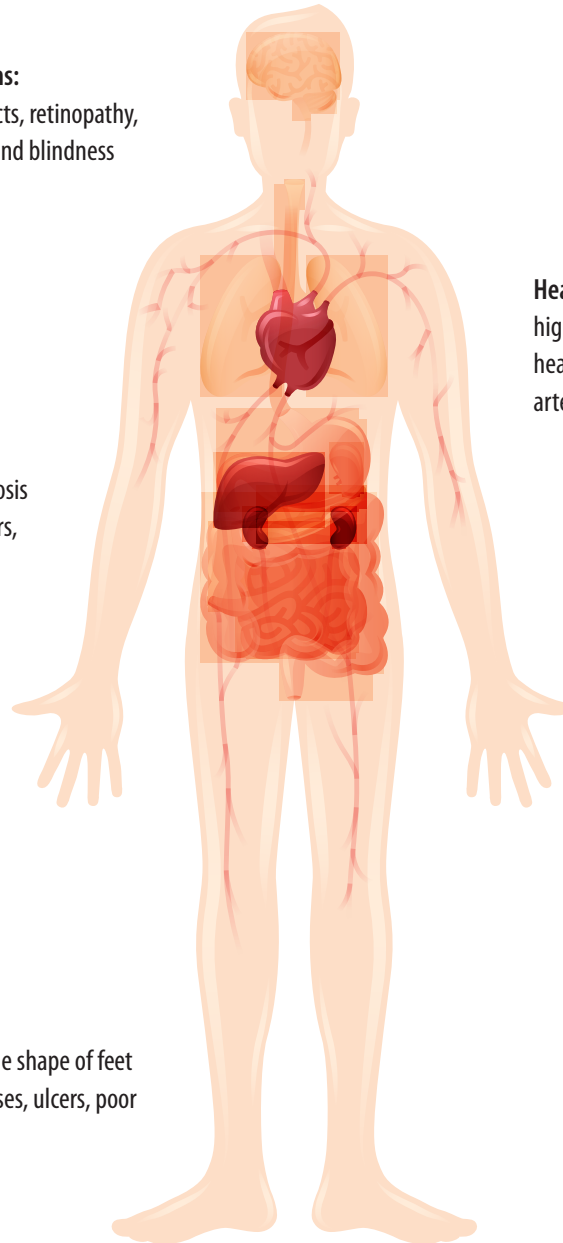
glaucoma, cataracts, retinopathy, macular edema, and blindness

Skin Complications:

bacterial infections, fungal infections, itching, diabetic dermopathy, necrobiosis lipoidica diabetorum, diabetic blisters, and eruptive xanthomatosis

Foot Complications:

nerve damage, changes in the shape of feet and toes, skin damage, calluses, ulcers, poor circulation and amputations



Heart Complications:

high blood pressure (hypertension), heart attack, stroke, and peripheral arterial disease (PAD)

Other Major Complications:

- Neuropathy (nerve damage)
- Diabetic ketoacidosis (DKA), which can lead to diabetic coma or even death
- Kidney disease
- Hyperosmolar Hyperglycemic Nonketotic Syndrome (HHNS)
- Gastroparesis

Source: American Diabetes Association. Accessed April 10, 2014. www.diabetes.org

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POLICY RECOMMENDATIONS

What Individuals and Families Can Do

- Learn about diabetes and pre-diabetes and see your doctor for regular screenings.
- Maintain a healthy weight by eating foods that are low in fat, sugar and calories; by limiting portion sizes; and by engaging in 30 minutes of physical activity at least five days a week.
- Because of the uniquely harmful effects of liquid sugar, drink water instead of soda and other sugary drinks.
- Advocate for federal, state, and local policies to address the growing diabetes epidemic.

What Health Insurers and Providers Can Do

- Educate providers about effective diabetes and pre-diabetes prevention, screening and early detection, and treatment programs and referrals.
- Ensure patient access to and provider reimbursement for pre-diabetes and diabetes prevention services and screenings, self-management education, and treatment services provided by medical and non-medical providers and specialists.
- Remove sugary drinks from health care facilities.
- Dedicate a substantial proportion of community benefits funds to building healthy communities.
- Advocate for federal, state, and local policies to address the growing diabetes epidemic.

What Cities and Counties Can Do

- Implement diabetes prevention recommendations by developing walkable communities, healthy transportation, healthy community design, access to fresh fruits and vegetables and safe water, and safe places to play and be physically active.
- Ensure access to clean, free drinking water in public parks and other public places.
- Conduct public education campaigns about products known to contribute to diabetes, particularly sugary drinks, and promote consumption of healthy products including water.
- Establish local taxes on sugary drinks, designating funds for programs to prevent, detect, and treat diabetes.

What the California Legislature Can Do

- Require public and private health insurers to cover early screening and detection programs, diabetes management support services and equipment, and diabetes prevention services, including those provided by medical and non-medical providers.
- Require warning labels on sugary drinks describing the harmful effects of consuming liquid sugar.
- Establish a tax on sugary drinks and use revenues for diabetes prevention efforts.
- Prohibit marketing of unhealthy food and beverages on public school campuses K-12.
- Use funding from a statewide water bond to ensure that all Californians, particularly those who are economically disadvantaged, have access to clean safe drinking water.

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THE CALIFORNIA CENTER FOR PUBLIC HEALTH ADVOCACY (CCPHA)

is an independent, nonpartisan, nonprofit organization at the forefront of solving the obesity and diabetes epidemics by advocating for policies that build a healthier California. CCPHA was founded in 1999 by the California Public Health Association-North and the Southern California Public Health Association. For more information, visit www.publichealthadvocacy.org.

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THE CALIFORNIA ENDOWMENT

a private, statewide health foundation, was established in 1996 to expand access to affordable, quality health care for underserved individuals and communities, and to promote fundamental improvements in the health status of all Californians. Headquartered in downtown Los Angeles, The Endowment has regional offices in Sacramento, Oakland, Fresno and San Diego, with program staff working throughout the state. The Endowment challenges the conventional wisdom that medical settings and individual choices are solely responsible for people's health. Through its 'Health Happens Here' campaign and ten-year initiative for Building Healthy Communities, The Endowment is creating places where children are healthy, safe and ready to learn. At its core, The Endowment believes that health happens in neighborhoods, schools, and with prevention. For more information, visit The California Endowment's homepage at www.calendow.org.