

Economic Burden of Chronic Disease in California



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Aims

- Provide estimates of:
 - (i) the marginal or additional cost of treating chronic conditions in each county in California
 - (ii) in a given year
 - (iii) using estimates of the cost of chronic conditions that are derived from a common data source and methodology

Cost of chronic conditions selected

<i>Authors</i>	<i>Year</i>	<i>Condition</i>	<i>Per person estimate</i>
CDC	2007	Cancer	\$7400
Agency for healthcare research and quality	2010-2011	Cancer	\$5,617
National Cancer Institute	2010	Initial phase of Cancer Continuing care for Cancer Last phase of Cancer	\$40,000 \$50,000 \$38,000

Methodology

- CDC's Chronic Disease Cost Calculator
- County-level data
 - Rates of chronic conditions by age, gender, ethnicity
 - Health services usage
 - Prices

County Estimate Process

County	Females 18-44	Pervallence	Numbers with condition	Cost per person	Total Cost	County Price adjuster	Adjusted Cost
Merced							
Hispanc	27889	5.00%	1394.45	1,310.00	1826729.5	\$1.03	\$1,885,732.86
NH White	13161	10.00%	1316.1	1,310.00	1724091	\$1.03	\$1,779,779.14
NH Black	1497	4.50%	67.365	1,310.00	88248.15	\$1.03	\$91,098.57
NH Asian	3748	2.80%	104.944	1,310.00	137476.64	\$1.03	\$141,917.14
Total	46295		2882.859		3776545.29	\$1.03	\$3,898,527.70
Alameda							
Hispanic	74373	5.00%	3718.65	1,310.00	4871431.5	\$1.13	\$5,491,077.59
NH White	89124	10.00%	8912.4	1,310.00	11675244	\$1.13	\$13,160,335.04
NH Black	36905	4.50%	1660.725	1,310.00	2175549.75	\$1.13	\$2,452,279.68
NH Asian	86656	2.80%	2426.368	1,310.00	3178542.08	\$1.13	\$3,582,852.63
Total	287058		16718.143		21900767.33	\$1.13	\$24,686,544.93

Data Sources

- Cost estimates from CDC Cost Calculator
- Adjustment of cost of chronic conditions by county
- Prevalence rates for CA
- SEER-Medicare
- National Diabetes Fact Sheet
- Population estimates

Cost of chronic conditions by County

<i><u>County</u></i>	<i><u>Arthritis</u></i>	<i><u>Asthma</u></i>	<i><u>Cardiovascular</u></i>	<i><u>Diabetes</u></i>	<i><u>Cancer</u></i>	<i><u>Depression</u></i>	<i><u>Total</u></i>
<i>Alameda</i>	\$584,470,465	\$387,570,769	\$470,601,137	\$535,407,794	\$511,721,512	\$541,824,671	\$3,031,596,348
<i>Alpine</i>	\$498,421	\$277,681	\$412,775	\$319,246	\$245,974	\$369,415	\$2,123,512
<i>Amador</i>	\$22,620,238	\$11,196,760	\$19,451,374	\$15,145,434	\$21,476,660	\$14,677,380	\$104,567,846
<i>Colusa</i>	\$7,718,782	\$4,754,883	\$6,554,703	\$6,880,025	\$5,412,203	\$6,862,354	\$38,182,951
<i>El dorado</i>	\$86,808,555	\$49,246,250	\$71,440,364	\$57,931,275	\$75,744,701	\$65,874,955	\$407,046,100
<i>Humboldt</i>	\$57,101,908	\$34,181,322	\$46,562,996	\$36,737,587	\$49,832,552	\$46,273,473	\$270,689,836
<i>Inyo</i>	\$9,686,529	\$4,822,081	\$8,353,853	\$6,679,735	\$8,629,743	\$6,378,640	\$44,550,581
<i>Los Angeles</i>	\$3,519,884,810	\$2,308,392,744	\$2,888,926,630	\$3,616,352,830	\$3,095,111,420	\$3,455,937,595	\$18,884,606,029
<i>Orange</i>	\$1,185,345,665	\$751,064,342	\$992,048,211	\$1,020,886,811	\$1,076,182,629	\$1,084,439,449	\$6,109,967,107
<i>Riverside</i>	\$797,241,189	\$505,177,619	\$667,259,217	\$700,226,327	\$580,537,921	\$711,325,518	\$3,961,767,792
<i>San Diego</i>	\$1,139,340,437	\$730,519,760	\$942,766,846	\$958,423,495	\$1,009,923,874	\$1,044,142,269	\$5,825,116,682
<i>Sierra County</i>	\$1,994,802	\$997,840	\$1,692,632	\$1,309,897	\$1,438,277	\$1,318,902	\$8,752,349

Percentage of total healthcare expenditure due to chronic conditions by county

<i>County</i>	<i>Total healthcare expenditure</i>	<i>Total healthcare expenditure on chronic conditions</i>	<i>Percentage of total healthcare expenditure due to chronic conditions</i>
<i>Alameda</i>	\$9,441,169,334	\$3,031,596,348	32%
<i>Alpine</i>	\$7,154,986	\$2,123,512	30%
<i>Amador</i>	\$236,463,866	\$104,567,846	44%
<i>Butte</i>	\$1,372,509,712	\$487,985,722	36%
<i>Calaveras</i>	\$282,319,404	\$122,408,873	43%
<i>Colusa</i>	\$133,817,576	\$38,182,951	29%
<i>Contra Costa</i>	\$6,563,573,696	\$2,308,569,577	35%
<i>Del Norte</i>	\$178,263,326	\$55,851,842	31%
<i>El Dorado</i>	\$1,130,219,554	\$407,046,100	36%
<i>Fresno</i>	\$5,820,521,850	\$1,563,469,564	27%
<i>Glenn</i>	\$175,836,744	\$56,201,446	32%
<i>Humboldt</i>	\$839,478,850	\$270,689,836	32%
<i>Imperial</i>	\$1,095,355,372	\$289,291,016	26%
<i>Inyo</i>	\$116,195,226	\$44,550,581	38%
<i>Kern</i>	\$5,250,799,072	\$1,318,256,728	25%
<i>Kings</i>	\$954,538,760	\$225,296,985	24%
<i>Lake County</i>	\$402,138,908	\$155,487,707	39%
<i>Lassen</i>	\$216,645,740	\$58,684,435	27%
<i>Los Angeles</i>	\$61,301,262,660	\$18,884,606,029	31%
<i>Madera</i>	\$942,936,080	\$271,105,741	29%
<i>Marin</i>	\$1,576,760,546	\$697,006,306	44%
<i>Mariposa</i>	\$113,026,322	\$48,276,521	43%
<i>Mendocino</i>	\$548,563,482	\$185,184,114	34%
<i>Merced</i>	\$1,599,335,868	\$406,004,109	25%
<i>Tuolumne</i>	\$342,846,718	\$151,062,427	44%

Summary of cases and costs of chronic conditions in CA

	<i>Cases</i>	<i>% of total population</i>	<i>Costs</i>	<i>% of total healthcare costs</i>
<i>Arthritis</i>	5,259,795	14.1%	\$14,016,086,666	6.0%
<i>Asthma</i>	4,964,776	13.3%	\$8,980,070,898	3.9%
<i>Cardiovascular</i>	1,679,437	4.5%	\$11,558,526,057	5.0%
<i>Diabetes</i>	2,212,746	5.9%	\$12,596,386,237	5.4%
<i>Cancer</i>	1,012,802	2.7%	\$12,199,464,207	5.2%
<i>Depression</i>	4,967,114	13.3%	\$12,917,068,671	5.5%
Totals: * Chronic conditions	20,096,670		\$72,267,602,736	31.0%
* People with a chronic condition	14,554,208	39% of population		

Conclusions

- Combined estimates from:
 - the CDC's Chronic Disease Cost Calculator (CDCC)
 - with prevalence and census data from counties in California
- Information is important for planning prevention and control efforts, including identifying health services

Limitations

- Accuracy of county prevalence rates
- Accuracy of estimates for small counties/
younger ages
- Adjusting for differences in health services
usage between counties

Next Steps

- Health and economic burden of chronic disease
- Cost implications for payers and providers in each county