LODI CITY COUNCIL
SHIRTSLEEVE SESSION
CARNEGIE FORUM, 305 WEST PINE STREET
TUESDAY, NOVEMBER 3, 2009

A. Roll Call by City Clerk

An Informal Informational Meeting ("Shirtsleeve" Session) of the Lodi City Council was held Tuesday, November 3, 2009, commencing at 7:02 a.m.

Present: Council Member Hitchcock, Council Member Johnson, Mayor Pro Tempore Katzakian, and Mayor Hansen
Absent: Council Member Mounce
Also Present: City Manager King, City Attorney Schwabauer, and City Clerk Johl

B. Topic(s)

B-1 Presentation Concerning The Healthy Eating Active Living Campaign (HEAL) - What Lodi Can Do to Promote Healthy Active Lifestyles

City Manager King briefly introduced the subject matter of the "Healthy Eating Active Living" (HEAL) Campaign.

Kanat Tibet provided a PowerPoint presentation regarding the HEAL Campaign. Specific topics of discussion included the three-year grant for the project provided by Kaiser, obesity concerns in children, obesity statistics in the United States, costs associated with obesity and physical inactivity, environmental factors, healthy food alternatives, 2004 and 2006 League Annual Conference Resolutions, legislative efforts by California Center for Public Heath Advocacy, campaign goals, campaign policy areas including general plans and zoning, healthy food access, and employee wellness, current cities participating in the campaign, and next steps for participation in the campaign.

In response to Council Member Johnson, Interim Community Development Director Rad Bartlam stated he is not sure where the City falls in comparison with respect to California's 4 to 1 statistics for the ratio of unhealthy to healthy food outlets.

In response to Mayor Hansen, Mr. Tibet confirmed there is a challenge associated with the availability of health food options versus fast food options and it does require a paradigm shift with respect to healthy eating, living actively, and public transit. Mr. Tibet also discussed the use of American Recovery Act funds to promote these types of activities.

Council Member Hitchcock and Mayor Hansen stated they would like the City to participate in the campaign to promote healthy eating and active living lifestyles in the community.

City Manager King provided a brief overview of how the campaign and policies are related to the community needs, land use options, pedestrian options, in a broad campaign adopting relevant policies, and the City serving as a leader in this area.

Council Member Johnson suggested implementing a healthy snack policy for City-facilities for children games and urging the Boosters of Boys/Girls Sports Organization to participate also.

In response to Council Member Hitchcock, Mr. Bartlam stated the subject matter of fast food restaurants did not come up as an issue in the General Plan update process.

In response to Mayor Hansen, Mr. King stated the next step would be to adopt a HEAL resolution, which is generally a statement of principles encouraging healthy eating and active living.

Myrna Wetzel suggested incorporating supermarkets and distributors into the healthy campaign efforts as well.

C. Comments by Public on Non-Agenda Items

None.

D. Adjournment

No action was taken by the City Council. The meeting was adjourned at 7:53 a.m.

ATTEST:

Randi Johl
City Clerk

B-1

CITY OF LODI
COUNCIL COMMUNICATION

AGENDA TITLE: Presentation Concerning *The Healthy Eating Acfive Living Cities Campaign* (HEAL) – What Lodi Can Do to Promote Healthy Active Lifestyles

MEETING DATE: November 3, 2009

PREPARED BY: City Manager

RECOMMENDED ACTION: Receive presentation about the Healthy Eating Active Living Cities Campaign (HEAL).

BACKGROUND INFORMATION: Supported by the League of California Cities and the California Center for Public Health Advocacy, a new campaign in California has been launched to address local governments' role in improving public health and reducing the level of obesity among the population and specifically in children. The Healthy Eating Active Living Cities Campaign (HEAL) is asking city officials to look at policies that affect community health.

The rising rate of childhood obesity is pointed to as a major reason cities need to become involved in encouraging healthy eating and active living. According to the California Center for Public Health Advocacy, of the Boys and Girls in 5th, 7th, and 9th grades tested in San Joaquin County, 29.6% were overweight in 2004. Over 2,316 students were tested in Lodi, and 28.6% were overweight. Of the cities tested in San Joaquin County, Tracy had the least percent of children overweight at 25.8%, and Stockton had the most at 31.8%. Obesity and physical inactivity are major risk factors for health conditions related to premature illness, disability, and death.

The Campaign is asking cities to look at land use policies, internal personnel policies, and economic development programs to encourage active living and improved access to healthy food options.

Mr. Kanat Tibet of the HEAL campaign will make the presentation.

FISCAL IMPACT: There is no cost to hear a presentation concerning the HEAL campaign. Specific policies could have a financial impact upon the City in the future.

Blair King, City Manager

cc: Kanat Tibet

APPROVED: _____
Blair King, City Manager

HEALTHY EATING ACTIVE LIVING CITIES CAMPAIGN

CCS PARTNERSHIP cities counties schools

LEAGUE OF CALIFORNIA CITIES

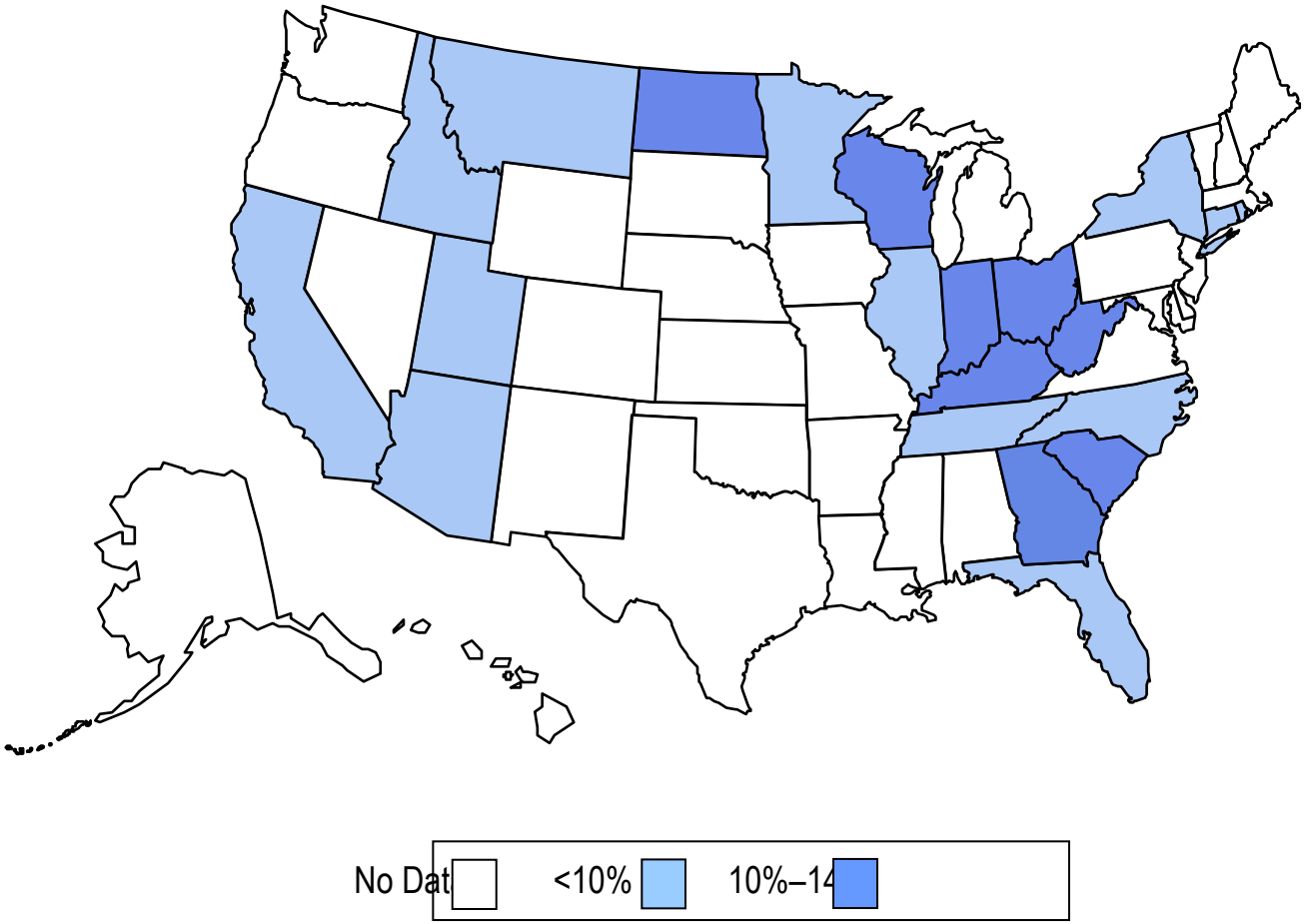
CALIFORNIA CENTER FOR PUBLIC HEALTH ADVOCACY

The Problem

Obesity Trends* Among U.S. Adults

BRFSS, 1985

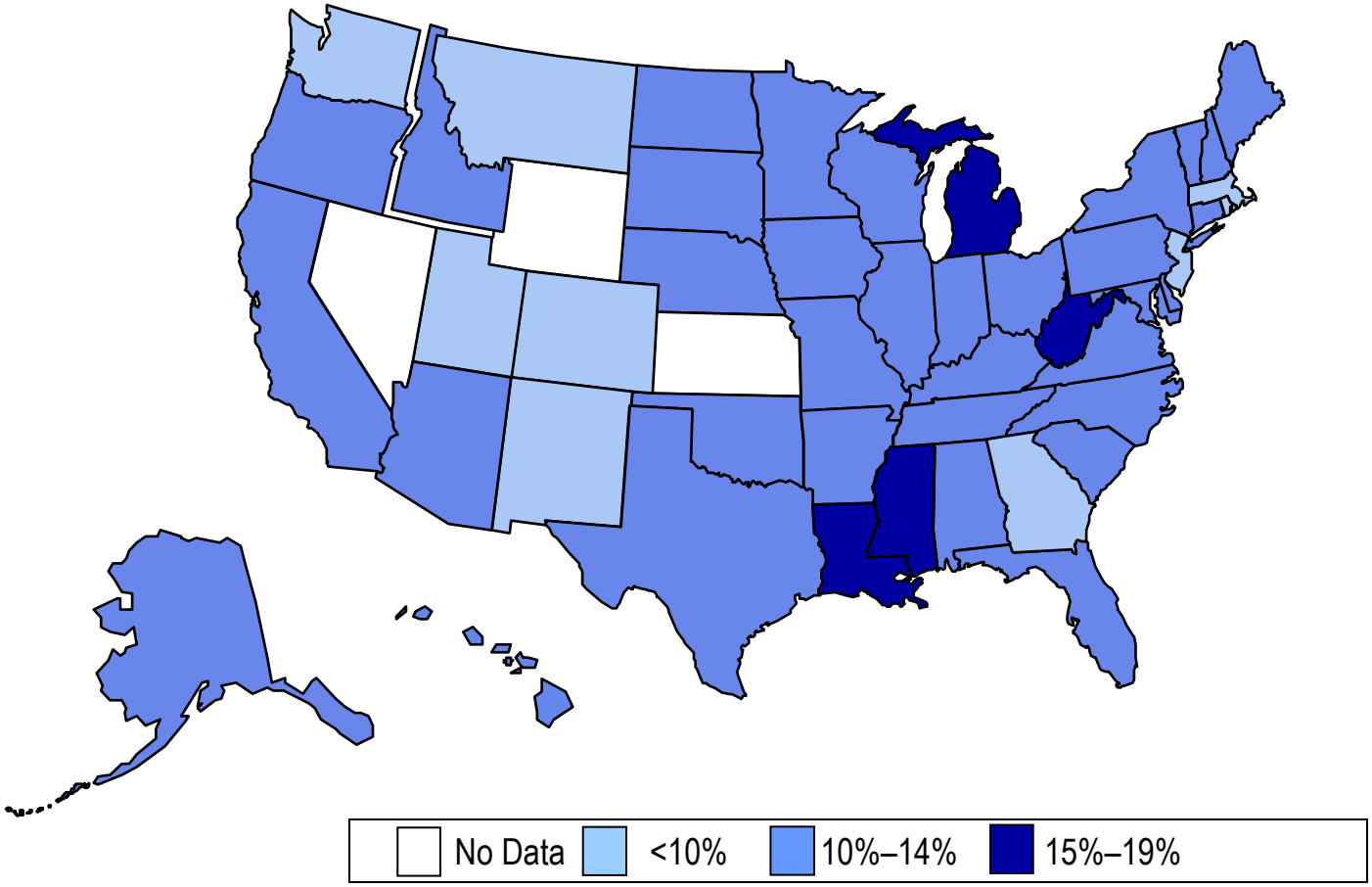
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)



Obesity Trends* Among U.S. Adults

BRFSS, 1991

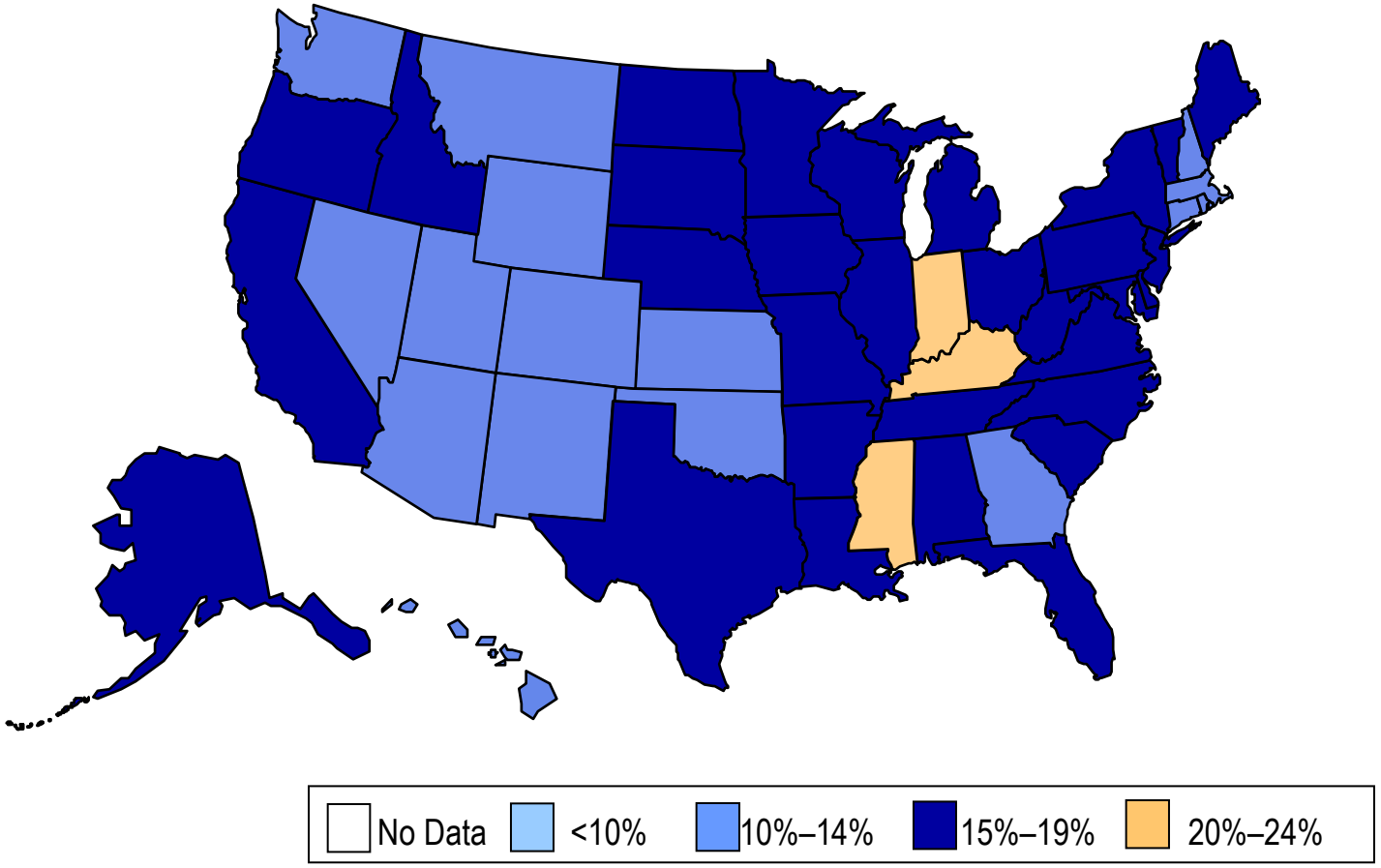
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)



Obesity Trends* Among U.S. Adults

BRFSS, 1997

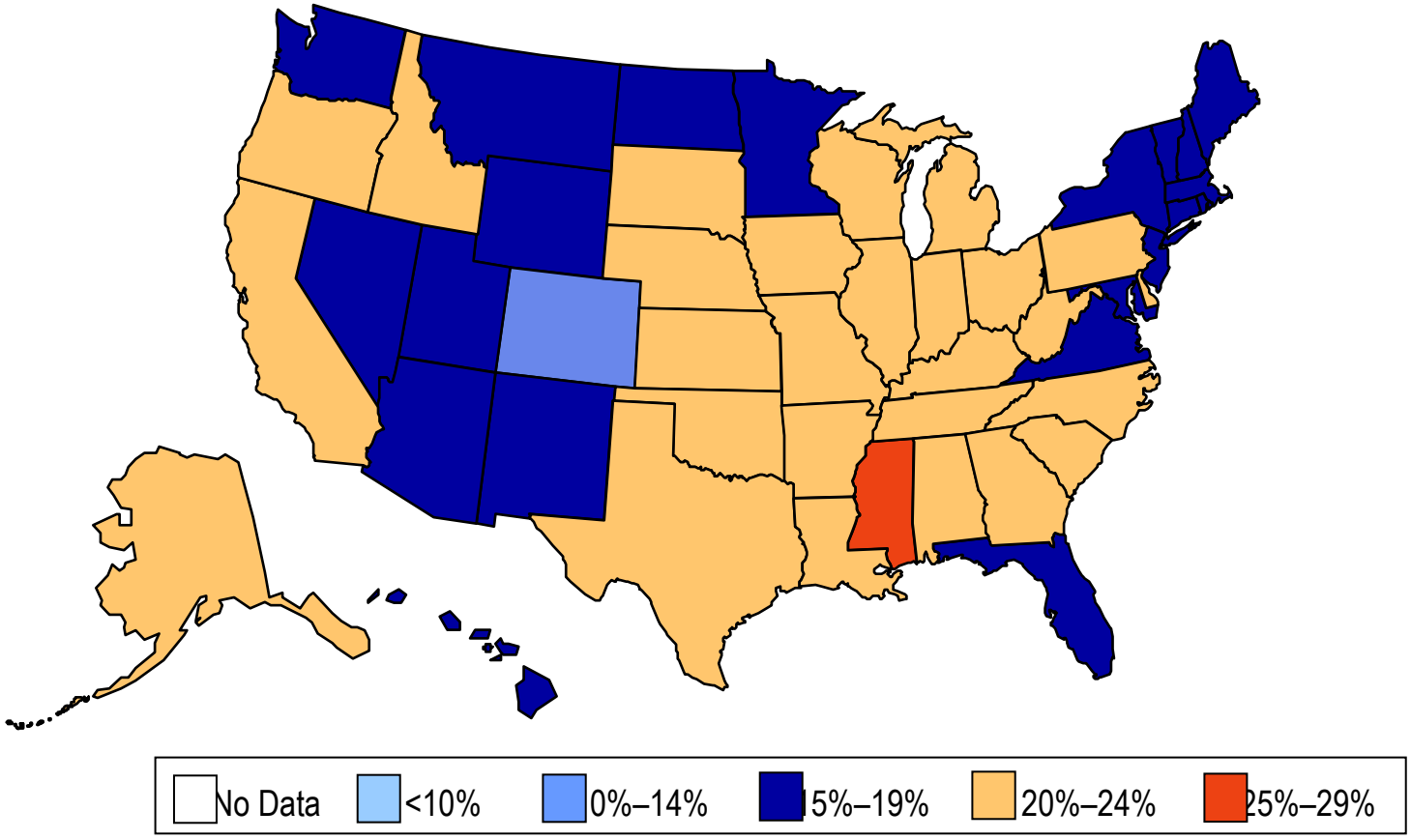
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)



Obesity Trends* Among U.S. Adults

BRFSS, 2001

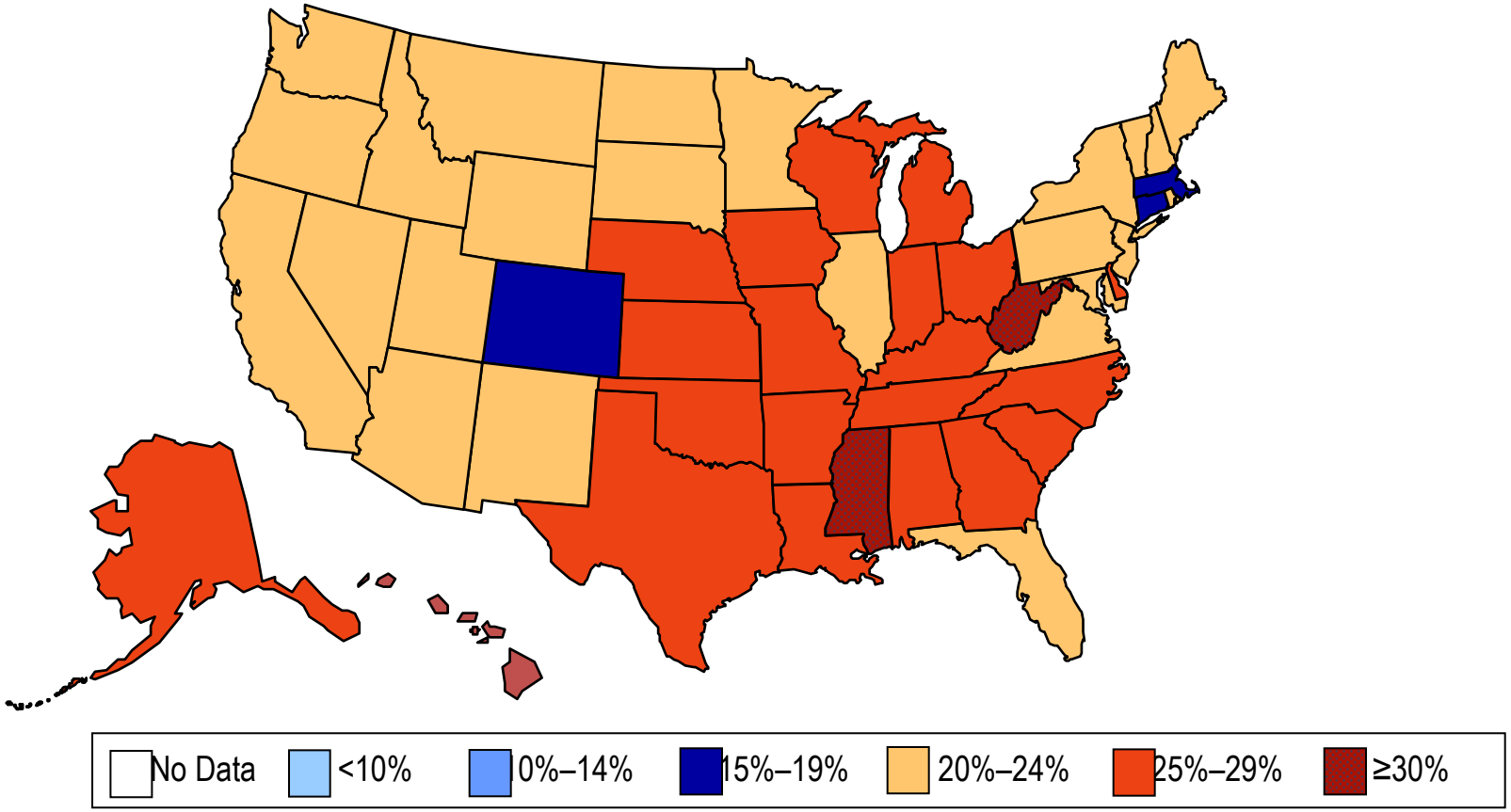
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

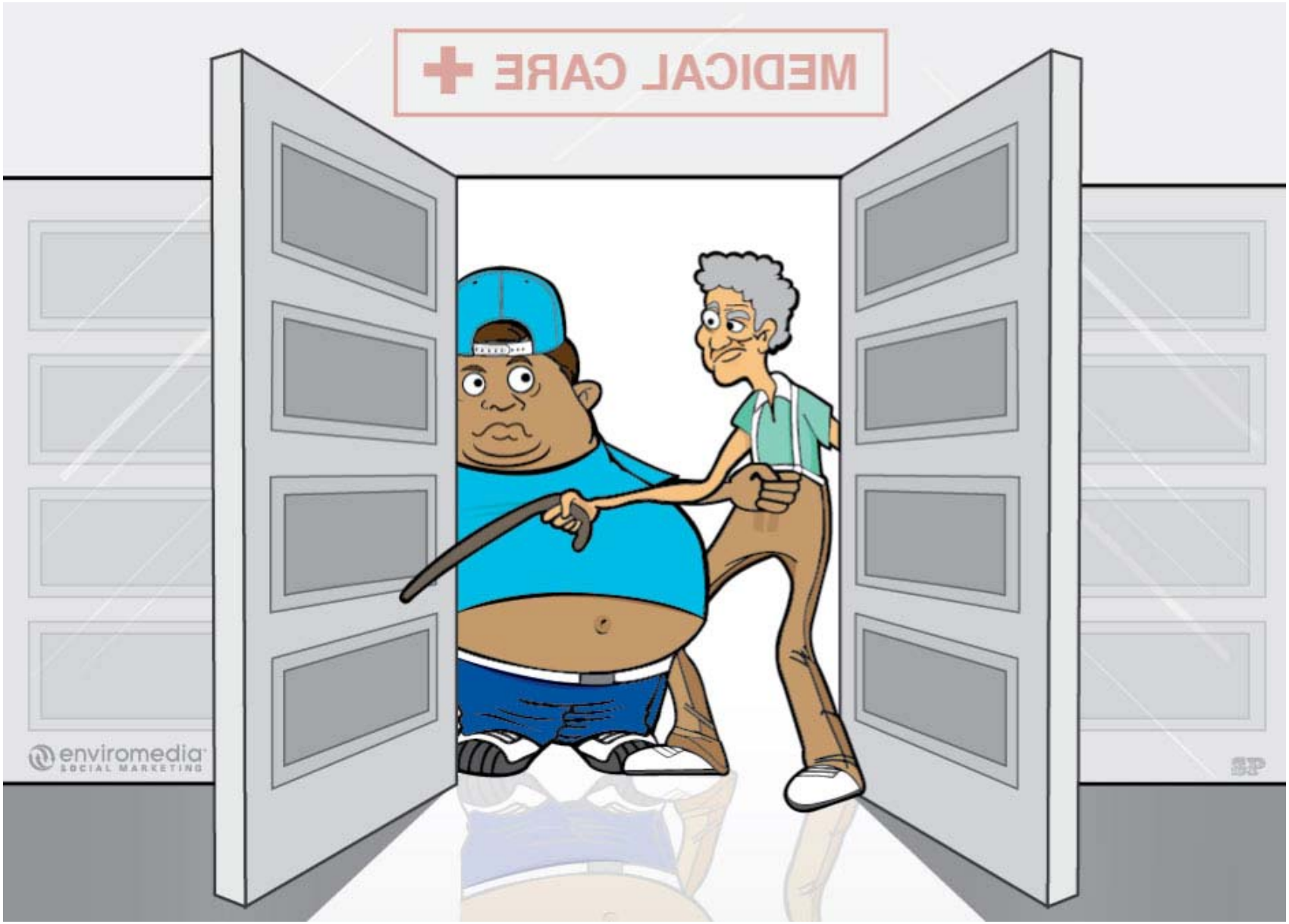


Obesity Trends* Among U.S. Adults

BRFSS, 2006

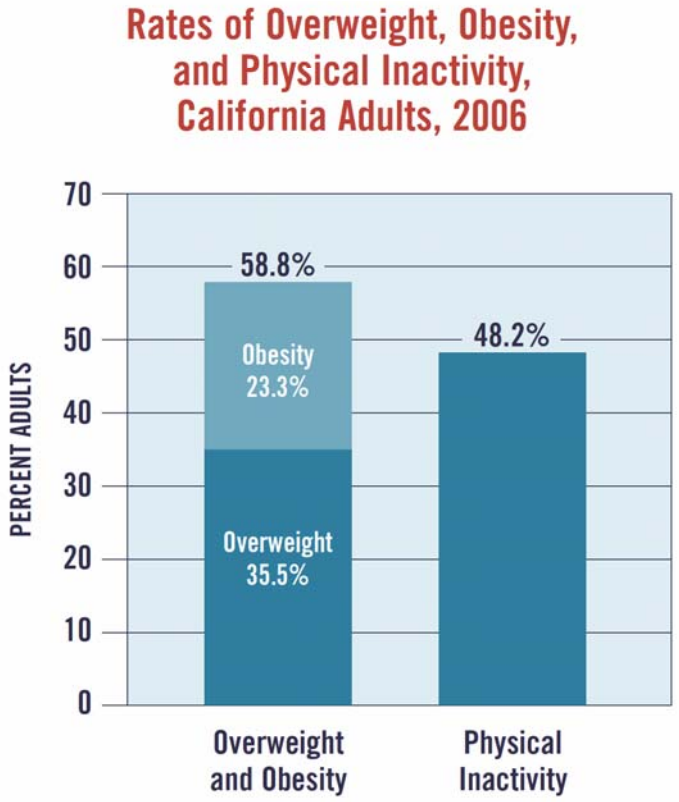
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)




MEDICAL CARE
enviromedia
SOCIAL MARKETING

The Economic Costs of Overweight, Obesity and Physical Inactivity

Cost of Overweight, Obesity and Physical Inactivity



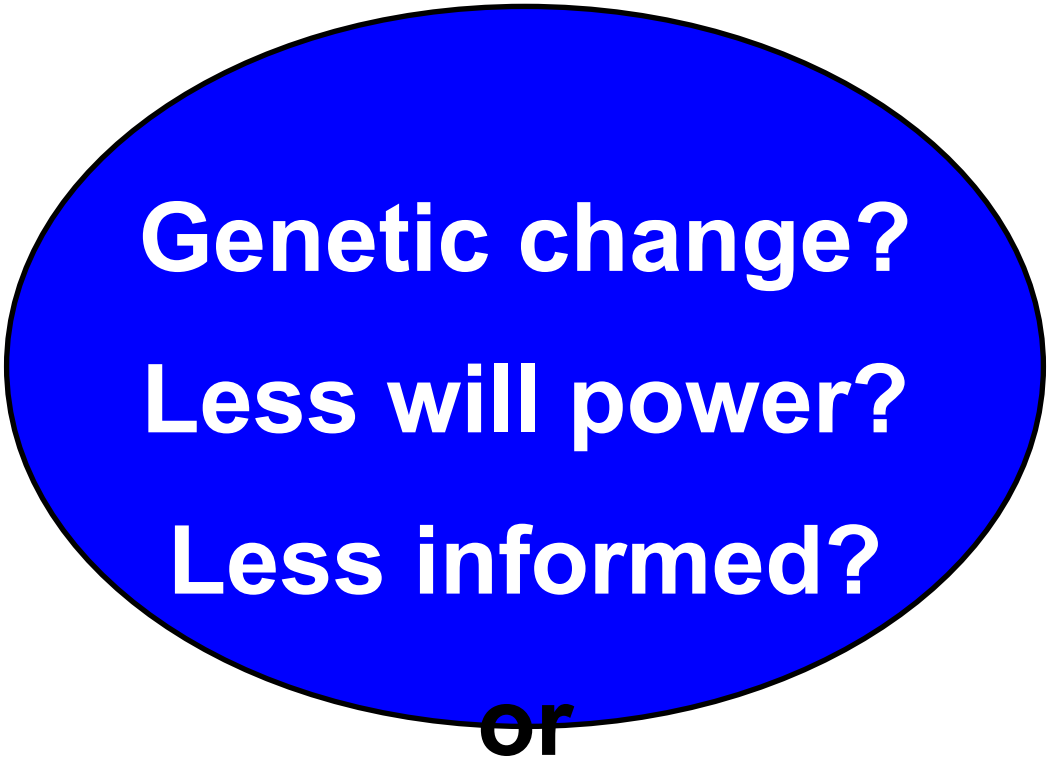
WHAT: The statewide cost of overweight, obesity and physical inactivity has doubled in six years and conservatively is projected to cost California more than $52 billion by the year 2011 (equivalent to half the state's current budget), according to a study released today by the California Center for Public Health Advocacy.

WHY: The heart disease, cancer and diabetes that result from obesity and inactivity are major contributors to rising health care costs and represent a preventable drain on an already troubled California economy. In fact, the study shows that by reducing obesity/physical inactivity by just 5 percent, California could recapture $2 billion every year.

ACTION: Given the scope of these human and economic costs, local political leaders can build community health and prevention into every policy decision.

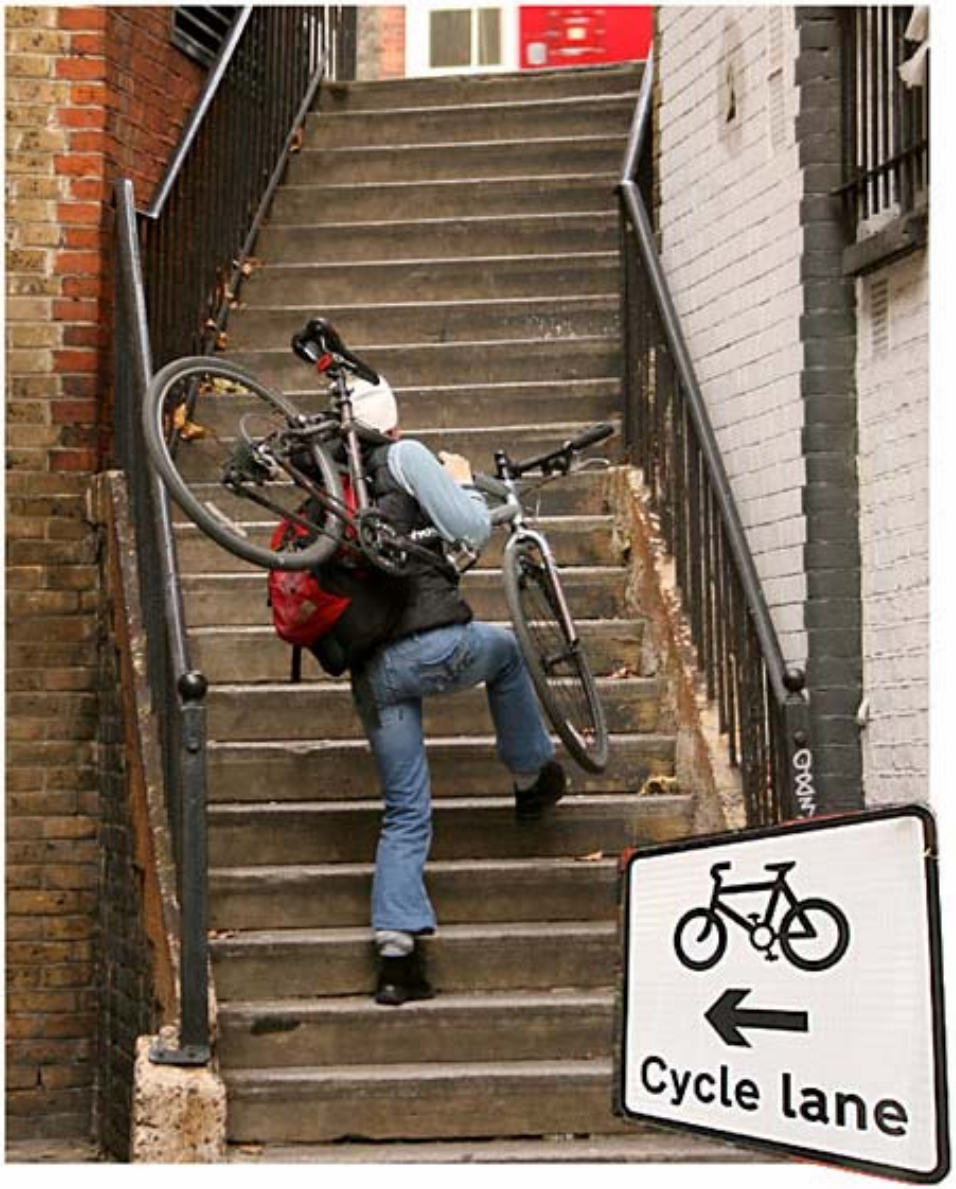
California Center for Public Health Advocacy

So What's Happening?



Have we built a toxic environment?

Environmental Factors


Cycle lane


OUTSIDE IS SO OVERRATED.
ULTIMATE
ELECTRONICS
JVC
LAMAR
290
WEST


0C

Searching for Healthy Food

- Ratio of Unhealthy and Healthy Food Outlets

- CA Average 4:1

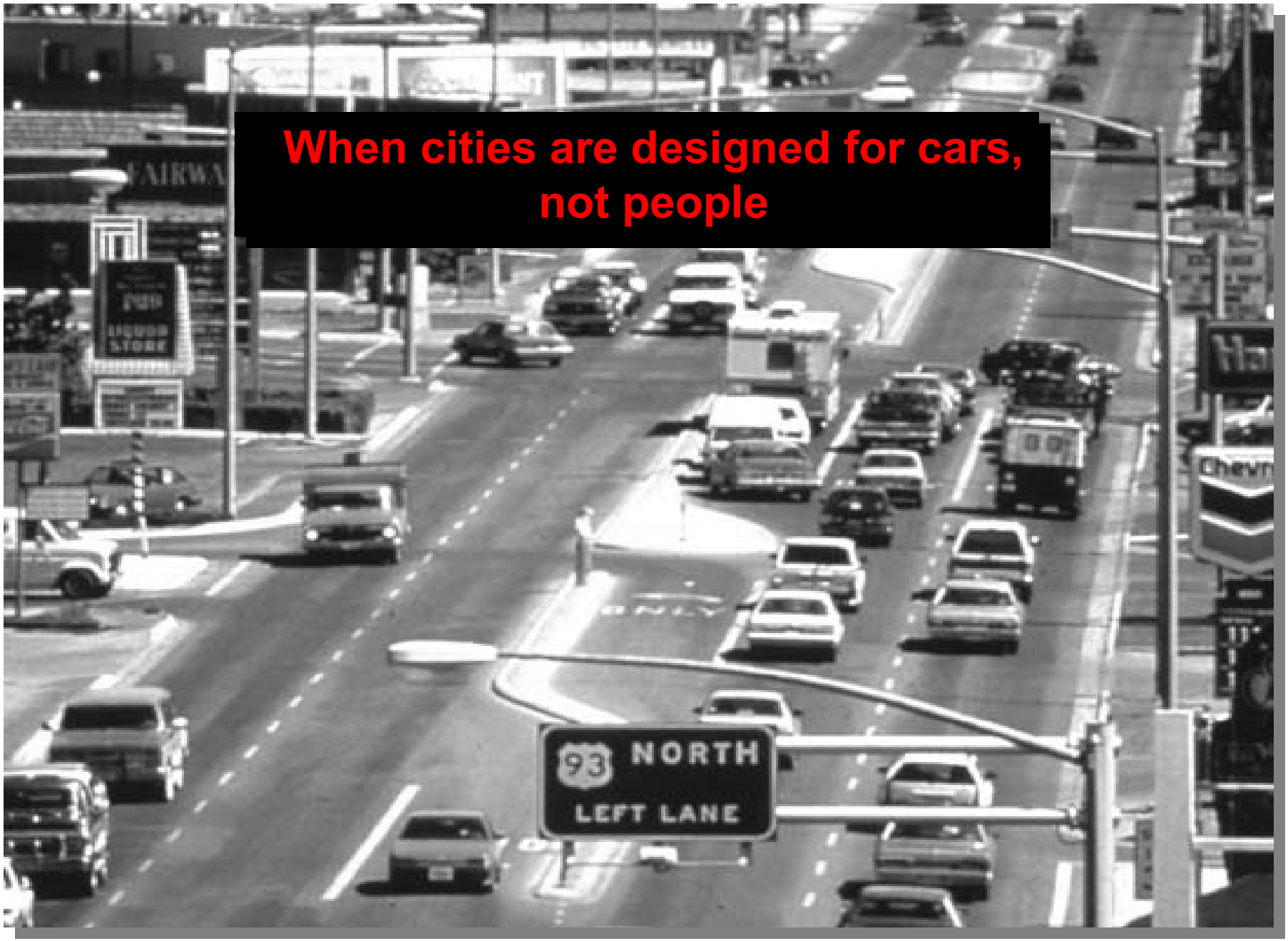

When cities are designed for cars, not people
93 NORTH
LEFT LANE

Photo courtesy of Dan Burden, Walkable Communities

Cities can and are
making progress to
change the environment
so that the healthy choice
is the easy choice!

HEALTHY EATING
ACTIVE LIVING
CITIES
CAMPAIGN

HEAL CAMPAIGN'S ROOTS

2004 LCC Annual Conference Resolution

to encourage cities to embrace policies

- that facilitate activities to promote healthier lifestyles and communities, including healthy diet and nutrition
- the adoption of city design and planning principles that enable citizens of all ages and abilities to undertake exercise

2006 LCC Annual Conference Resolution

to work together with the ILG, and the CCS Partnership to develop a clearinghouse of information that cities can use to promote wellness policies and healthier cities.

Promotes the establishment of public health policy at both the State and local levels

- **Statewide Menu Labeling at Chain Restaurants, 2008 (SB 1420, Padilla**
- **School Junk Food Ban, 2005 (SB 12, Escutia)**
- **High School Soda Ban, 2005 (SB 965, Escutia)**
- **Marketing to Children, 2004 (SJR 29 Kuehl)**
- **K-8 Soda Ban, 2003 (SB 677 Ortiz)**
- **School Food Standards, 2001 (SB 19 Escutia)**

Campaign Goals

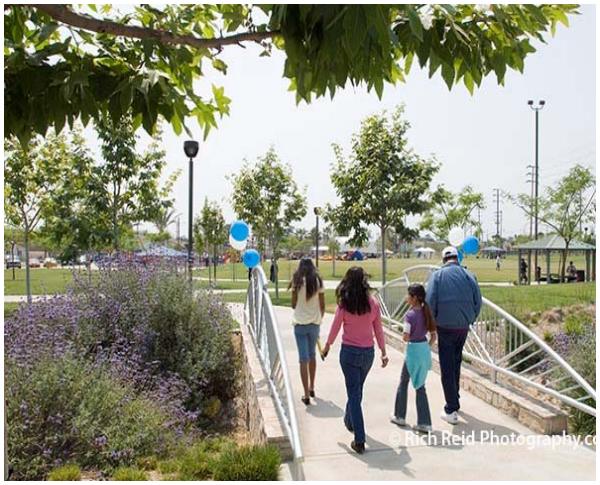
- *California cities have healthy, active residents and workforces*
- *California cities contribute to the reduction of obesity, diabetes and chronic disease*
- *California cities contribute to reduction of greenhouse gases*

Campaign Policy Areas

1. General plans and zoning
2. Healthy food access
3. Employee wellness

General Plans and Zoning

Increase walking and biking through street design and connectivity

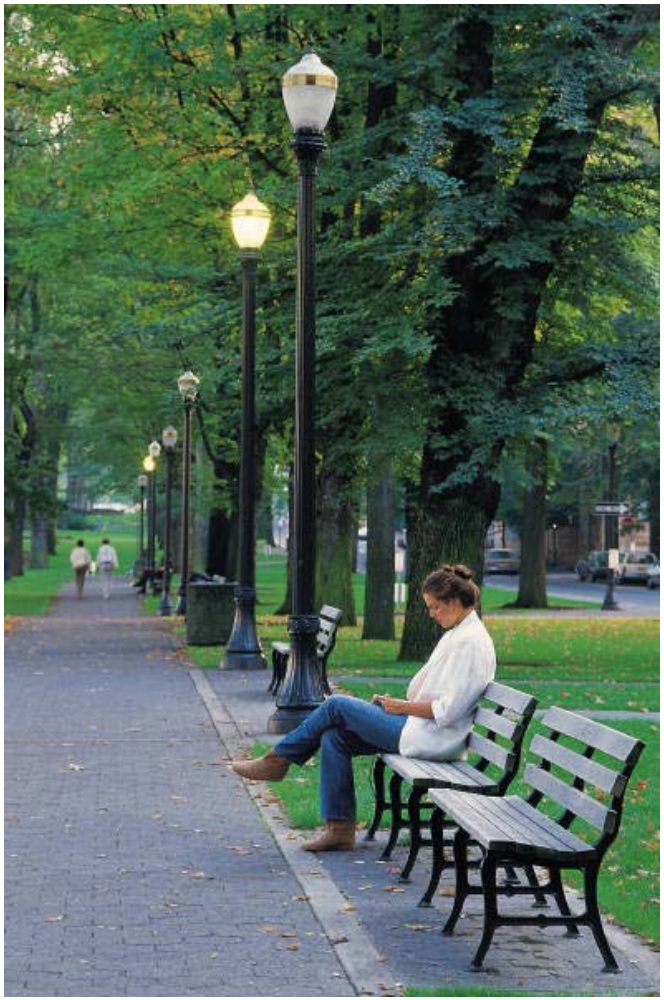


General Plans and Zoning

Establish health goals in general plan

Support mixed use and transit oriented development

Joint use agreements to expand use of city parks and recreational facilities



General Plans and Zoning

- Zoning protections for farmers markets and community gardens
- Limits on fast food and drive through outlets

Healthy Food Access

- Utilize redevelopment & community development incentives
- Recognize restaurants with menu labeling & grocers with healthy check-out lanes
- Expand areas zoned for farmers markets and community gardens
- Encourage farmers markets to accept food stamps & WIC coupons

Employee Wellness

- Health breaks
- Nutritional standards for food served at city functions & on city property
- Healthy vending
- Stress management classes

HEAL Cities Campaign Resolutions

Reedley, Fowler, Davis, Cathedral City, Sanger, Arcata, West Sacramento, San Joaquin, Mountain View, Santa Clarita

HEALTHY EATING
ACTIVE LIVING
CITIES
CAMPAIGN

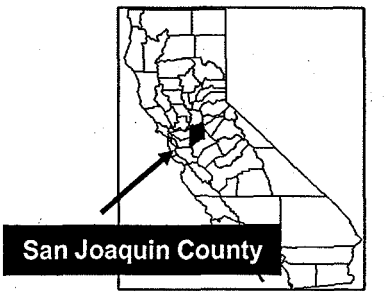
www.HealCitiesCampaign.org

CALIFORNIA CENTER FOR PUBLIC HEALTH ADVOCACY

OVERWEIGHT CHILDREN IN CALIFORNIA COUNTIES & COMMUNITIES, 2004

San Joaquin County

Website: http://www.sjgov.org
Contact the Board of Supervisors:
(209)468-2350



Overweight Students in San Joaquin County By Gender and Grade

	San Joaquin County	California
All Students Tested	29.6%	28.1%
GENDER		
Girls	24.1%	22.0%
Boys	35.1%	33.9%
GRADE		
5th Graders	28.4%	29.3%
7th Graders	31.8%	29.1%
9th Graders	28.6%	25.4%

Overweight Students in Cities & Communities in San Joaquin County*

Community Name	Total Students Tested in 5th, 7th & 9th Grades	Overweight (%)
Lodi	2,316	28.6
Manteca	3,489	26.1
Stockton	14,501	31.8
Tracy	4,150	25.8

* Includes only cities and communities with a population of at least 10,000 and a total enrollment of 5th, 7th, and 9th graders of at least 1,000. The population data are from the 2000 Census; the enrollment data are from the California Department of Education 2003-2004 public school enrollment data.

NOTES: The term overweight as used in CCPHA's analysis of the California Physical Fitness Test data is based on assessment standards described in CCPHA's report, The Growing Epidemic: Child Overweight Rates on the Rise in California Assembly Districts, released in August 2005.

Support for this project was provided by a grant from The California Vitamin Cases Consumer Settlement Fund.

The California Center for Public Health Advocacy is a nonpartisan, nonprofit organization established by the Northern and Southern California Public Health Associations.

Post Office Box **2309, Davis CA 95617** **(530) 297-6000** **http://www.publichealthadvocacy.org**

CALIFORNIA CENTER FOR PUBLIC HEALTH ADVOCACY

OVERWEIGHT CHILDREN IN CALIFORNIA COUNTIES & COMMUNITIES, 2004

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THE PROBLEM

The California Center for Public Health Advocacy analyzed the 2004 California Physical Fitness Test of 5th, 7th and 9th graders. The analysis shows that among students in San Joaquin County:

- **29.6% *of* children were overweight.**
- **Overweight rates in cities in San Joaquin County range from 25.8% in Tracy to 31.8% in Stockton.** See page 2 for city specific data.

THE EFFECT

- **Overweight children face a greater risk of developing many health problems during childhood,** including type 2 diabetes, high blood pressure, asthma, orthopedic problems and gallstones, as well as low self-esteem, poor body image, and depression.
- **Overweight children are more likely to be obese as adults,** putting them at a much higher risk for heart disease, cancer, stroke, and diabetes later in life.
- **Overweight, obesity and physical inactivity are estimated to cost California $28 billion during 2005** for medical care, worker's compensation, and lost productivity.

WHAT CAN BE DONE

To address the epidemic of overweight children, state and local leaders must address the conditions in schools and communities that contribute to this crisis and that undermine parents' efforts to protect their children's health. The California Center for Public Health Advocacy recommends the following actions:

- Implement healthy food and beverage standards for products sold in schools and other public facilities.
- Ensure quality physical education for all children in grades K-12.
- Eliminate advertising of unhealthy foods and beverages on public property.
- Make school recreation facilities available for after-hours use.
- Ensure public access to all public facilities that provide physical activity programs.
- Provide financial incentives that bring grocery stores and recreation facilities to low-income communities.
- Provide safe roadway access for walking and biking.
- Require health insurance to cover nutrition counseling and physical activity.

NOTES The term overweight as used in CCPHA's analysis of the California Physical Fitness Test data is based on assessment standards described in CCPHA's report, The Growing Epidemic: Child Overweight Rates on the Rise in *California* Assembly Districts, released in August 2005.

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THE ECONOMIC COSTS OF OVERWEIGHT, OBESITY, AND PHYSICAL INACTIVITY AMONG CALIFORNIA ADULTS — 2006

A study for the California Center for Public Health Advocacy

Conducted by Chenoweth & Associates, Inc.
New Bern, North Carolina | July 2009

www.PublicHealthAdvocacy.org

EXECUTIVE SUMMARY

Overweight, obesity, and physical inactivity are major risk factors for health conditions related to premature illness, disability, and death, and contribute significantly to the nation's rising medical care costs. In California in 2006, nearly 60% of adults were overweight or obese and almost half of California adults did not meet the recommended level and intensity of daily physical activity.

The estimated cost to California for overweight, obesity, and physical inactivity in 2006 was $41.2 billion. If this trend continues, total costs for the state will increase to more than $52.7 billion in 2011.

The California Center for Public Health Advocacy commissioned Chenoweth & Associates, Inc. to estimate the economic costs of overweight, obesity, and physical inactivity in the state of California and its counties. The results are based on an assessment of both health care costs and costs associated with lost productivity. The study also determined projected costs for overweight, obesity, and physical inactivity through 2011.

This study estimated the cost to California for overweight, obesity, and physical inactivity in 2006 to be $41.2 billion. Of the total costs, $21.0 billion was attributable to overweight and obesity and $20.2 billion was attributable to physical inactivity. Half of the total amount was spent on health care and half came from lost productivity. If this trend continues, total costs for the state will increase to $52.7 billion in 2011. Among California's counties, Los Angeles County, with its large population, accounted for more than one-quarter of all costs, followed by Orange and San Diego counties.

If the state of California is able to achieve a modest reduction in the prevalence of overweight, obesity, and physical inactivity of just 5% per year for each of these risk factors, the savings realized would average nearly $2.4 billion per year.

Because employers and taxpayers share much of the burden of the economic costs associated with overweight, obesity, and physical inactivity, both the public and private sectors would benefit from the development and implementation of strategies that promote healthy eating and physical activity.

DEFINITIONS

Overweight:
Body mass index of 25.0–29.9

Obesity:
Body mass index of 30.0 or above

Physical Inactivity:
Engaging in less than 30 minutes of moderate physical activity on most days

SOURCE: Centers for Disease Control & Prevention

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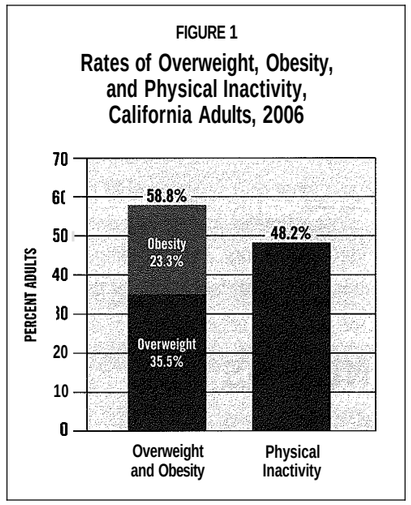
BACKGROUND

Overweight, obesity, and physical inactivity are major risk factors for many health conditions related to premature illness, disability, and death — among them, coronary heart disease, type 2 diabetes, some forms of cancer, and stroke[1–4] — and contribute significantly to the nation's rising medical care costs.[5–12]

In 2006, the Centers for Disease Control and Prevention (CDC) reported that a total of 58.8% of California adults were overweight or obese (35.5% and 23.3%, respectively).[13] The two most recent CDC surveys reported a statewide adult physical inactivity rate for California of 46.6% in 2005 and 49.8% in 2007.[14] A median prevalence rate of 48.2% was used in this study to estimate an approximate level of physical inactivity in 2006 (see Figure 1).

FIGURE 1
Rates of Overweight, Obesity, and Physical Inactivity, California Adults, 2006



PURPOSE OF THE STUDY

The purpose of the study was to determine the current and future economic impact of overweight, obesity, and physical inactivity in the state of California. The last time such a study was published was in 2005 based on data for the year 2000.[15] The current study also provides findings for California's counties. Economic costs at the county level were intended to allow local policy makers, business and community leaders, and community residents to know the economic effect of these three conditions in their geographic areas.

Specifically, the study sought to determine the following:

- Total medical care and prescription drug costs of medical conditions related to overweight, obesity, and physical inactivity for the state of California and its counties
- Lost productivity costs for each risk factor at the state and county level
- Future cost projections for each risk factor, assuming current prevalence and inflationary trends continue
- Projected cost savings for the state if even 5% of California adults who are currently overweight, obese, and/or physically inactive reduced their body weight or increased their physical activity to the recommended levels

Overweight, obesitj and physical inactivity are major risk factors for many health conditions related to premature illness, disabilitj and death.

METHODOLOGY

A statewide econometric analysis of costs related to overweight, obesity, and physical inactivity was conducted for California and its counties using health care and productivity data from several California and national databases. Health care cost estimates for each risk factor include direct medical care and prescription drug costs; lost productivity costs for each risk factor include costs associated with absenteeism, short term disability, and presenteeism (defined as the portion of an employee's work load they are unable to do because of their compromised health status). The aggregate cost of each of the three risk factors was calculated for each county and the entire state. Finally, medical care/prescription drug costs and lost productivity costs were projected for future years to estimate how these costs would change if the prevalence rates for the three risk factors continued at the current pace and what cost savings could be achieved if those risk factors were reduced even minimally,

Cost estimates assigned to each of the selected risk factors were based on conservative estimates of underlying factors. Thus, findings are likely to be conservative estimates as well. The Appendix provides a detailed description of the study methodology and limitations.

Overweight, obesity, and physical inactivity have profound health and economic consequences.

FINDINGS

Health Care and Lost Productivity Costs

The total estimated cost to California for overweight, obesity, and physical inactivity in 2006 was $41.2 billion. Of the total costs, $21.0 billion was attributable to overweight and obesity, and $20.2 billion was attributable to physical inactivity. Half of the total amount was spent on health care (medical care and prescription drugs) and half came from lost productivity (see Table 1). Conditions stemming from overweight and obesity contributed $12.8 billion (62%) to health care costs, while those related to physical inactivity accounted for $7.9 billion (38%). Total lost productivity costs associated with overweight, obesity, and physical inactivity in California in 2006 were $20.4 billion, including $8.2 billion related to overweight and obesity (40%) and $12.3 billion related to physical inactivity (60%) (see Figure 2).

TABLE 1

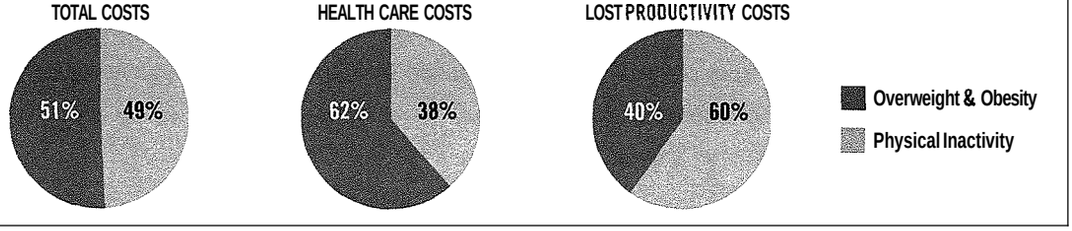
Health Care and lost Productivity Costs from Overweight, Obesity, and Physical Inactivity, California, 2006

	Overweight & Obesity	Physical Inactivity	TOTALS
Health Care Costs	$12.8 billion	$7.9 billion	**$20.7 billion**
Lost Productivity Costs	$8.2 billion	$12.3 billion	**$20.4 billion**
TOTALS	**$21.0 billion**	**$20.2 billion**	**$41.2 billion***

**Figures may not add to total due to rounding.*

Table 2 (on next page) presents the costs of health care and lost productivity for the three risk factors by county and for the state as a whole. Due to the size of their populations, Los Angeles, Orange, and San Diego counties accounted for nearly half of the state's total costs.

FIGURE 2: **Percentage of Costs to California for Overweight, Obesity, and Physical Inactivity, 2006**



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FINDINGS

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The total estimated cost to California for overweight, obesity, and physical inactivity in 2006 was $41.2 billion. Of the total costs, $21.0 billion was attributable to overweight and obesity, and $20.2 billion was attributable to physical inactivity. Half of the total amount was spent on health care (medical care and prescription drugs) and half came from lost productivity (see Table 1). Conditions stemming from overweight and obesity contributed $12.8 billion (62%) to health care costs, while those related to physical inactivity accounted for $7.9 billion (38%).Total lost productivity costs associated with overweight, obesity, and physical inactivity in California in 2006 were $20.4 billion, including $8.2 billion related to overweight and obesity (40%) and $12.3 billion related to physical inactivity (60%) (see Figure 2).

TABLE 1

Health Care and Lost Productivity Costs from Overweight, Obesity, and Physical Inactivity, California, 2006

	Overweight & Obesity	Physical Inactivity	TOTALS
Health Care Costs	$12.8 billion	$7.9 billion	**$20.7 billion**
Lost Productivity Costs	$8.2 billion	$12.3 billion	**$20.4 billion**
TOTALS	**$21.0 billion**	**$20.2 billion**	**$41.2 billion***

**Figures may not add to total due to rounding.*

Table 2 (on next page) presents the costs of health care and lost productivity for the three risk factors by county and for the state as a whole. Due to the size of their populations, Los Angeles, Orange, and San Diego counties accounted for nearly half of the state's total costs.

FIGURE 2: **Percentage of Costs to California for Overweight, Obesity, and Physical Inactivity, 2006**

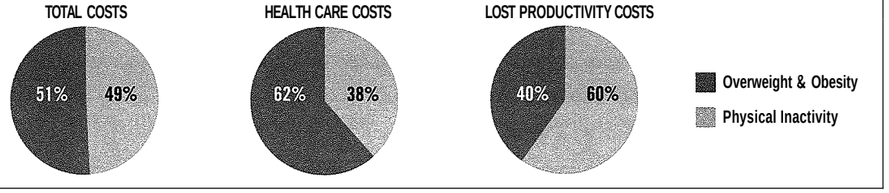

TABLE 2

Economic Costs Associated with Overweight, Obesity, and Physical Inactivity in California Counties: 2006

COUNTY	OVERWEIGHT & OBESITY		PHYSICAL INACTIVITY		TOTAL
	HEALTH CARE	LOST PRODUCTIVITY	HEALTH CARE	LOST PRODUCTIVITY	
Alameda	$1,022,493,320	$370,977,757	$189,635,029	$595,643,405	$2,178,749,511
Butte	$101,396,770	$32,399,599	$65,758,445	$43,463,232	$243,018,045
Contra Costa	$404,221,810	$272,232,863	$255,603,709	$386,509,777	$1,318,568,159
El Dorado	$59,641,096	$31,626,939	$39,983,414	$44,781,471	$176,032,920
Fresno	$267,397,527	$181,083,857	$149,737,716	$216,618,388	$814,837,488
Humboldt	$40,700,227	$19,822,518	$26,035,970	$25,055,640	$111,614,355
Imperial	$56,344,348	$27,113,157	$31,538,647	$29,852,954	$144,849,106
Kern	$281,023,090	$153,339,517	$172,825,417	$199,394,032	$806,582,056
Kings	$42,523,486	$28,055,537	$25,821,065	$32,069,645	$128,469,732
Lake	$36,298,603	$9,101,561	$21,502,216	$11,119,542	$78,021,922
Los Angeles	$3,601,500,613	$2,380,889,464	$2,389,631,908	$3,509,485,298	$11,881,507,282
Madera	$35,757,909	$26,745,791	$21,813,037	$32,062,484	$116,379,222
Marin	$55,823,745	$43,404,436	$48,414,014	$82,121,072	$229,763,267
Mendocino	$9,041,988	$14,673,312	$5,164,952	$18,172,965	$47,053,217
Merced	$122,833,747	$47,636,058	$64,206,122	$52,823,237	$287,499,163
Monterey	$186,716,905	$110,934,183	$109,920,445	$126,813,230	$534,384,763
Napa	$63,033,157	$29,541,415	$42,867,363	$42,794,998	$178,236,933
Nevada	$55,814,482	$13,826,790	$48,269,253	$22,146,490	$140,057,014
Orange	$776,396,969	$691,959,910	$586,129,199	$1,219,456,431	$3,273,942,509
Placer	$81,770,064	$64,181,888	$56,055,632	$97,173,505	$299,181,088
Riverside	$443,401,567	$345,544,640	$370,674,371	$459,833,591	$1,619,454,168
Sacramento	$558,107,329	$363,575,032	$301,772,622	$437,819,850	$1,661,274,834
San Bernardino	$371,988,689	$401,747,270	$192,254,829	$524,830,196	$1,490,820,984
San Diego	$817,945,377	$647,077,040	$577,254,569	$999,779,198	$3,042,056,184
San Francisco	$244,703,445	$193,072,957	$225,528,252	$423,071,502	$1,086,376,156
San Joaquin	$357,643,950	$129,502,359	$191,599,880	$161,820,055	$840,566,243
San Luis Obispo	$179,805,931	$44,329,042	$168,087,338	$61,456,910	$453,679,220
San Mateo	$351,116,006	$216,493,810	$223,291,405	$361,466,707	$1,152,367,927
Santa Barbara	$133,523,535	$89,644,429	$82,771,771	$128,916,568	$434,856,303
Santa Clara	$420,089,065	$496,770,143	$227,377,058	$911,184,787	$2,055,421,054
Santa Cruz	$116,932,507	$48,507,742	$78,952,361	$72,688,675	$317,081,285
Shasta	$111,090,845	$30,900,455	$69,350,965	$41,393,440	$252,735,705
Solano	$158,429,455	$97,507,493	$97,239,872	$129,336,401	$482,513,221
Sonoma	$114,668,973	$84,373,927	$90,816,010	$146,866,048	$436,724,958
Stanislaus	$362,487,458	$111,753,779	$208,431,543	$128,436,390	$811,109,170
Sutter	$32,084,565	$14,578,464	$19,343,231	$17,654,708	$83,660,969
Tulare	$143,835,345	$50,338,408	$86,403,564	$62,434,963	$343,012,280
Ventura	$287,718,588	$154,743,132	$204,090,472	$222,866,813	$869,419,005
Yolo	$58,250,081	$40,487,741	$41,322,192	$57,404,447	$197,464,460
STATEWIDE	**$12,789,271,376**	**$8,198,210,169**	**$7,948,454,479**	**$12,250,512,800**	**$41,186,448,824**

**Results for counties with populations less than 50,000 (Alpine, Amador, Calaveras, Colusa. Del Norte, Glenn, Inyo, Lassen, Mariposa, Modoc, Mono, Plumas, San Benito, Sierra, Siskiyou, Tehama, Trinity, Tuolumne, and Yuba) are not included in the table because county-specific risk factor data were not available. Costs from these counties were included in the statewide total.*

Projected Costs and Potential Cost Savings

The final phase of this analysis focused on the projected costs of overweight, obesity, and physical inactivity from 2007 through 2011 and the potential cost savings that could be achieved if the prevalence rates of these risk factors could be reduced.

Even if the prevalence rates remained constant, over time the economic costs associated with these risk factors would rise because of population growth and increased health care and employment costs.

Specifically, if California's population continues to rise at an expected rate of about 1% per year, medical care and prescription drug costs continue to rise at least 6% per year, and employment costs continue to rise at least 3% per year, then the combined health care and lost productivity costs associated with the three risk factors are conservatively estimated to increase to $52.7 billion in 2011, or a cumulative five-year increase of 28% (see Figure 3).

If, however, the state of California is able to achieve a modest reduction in the prevalence of overweight, obesity, and physical inactivity of just 5% per year for each risk factor, the savings realized would average nearly $2.4 billion per year.

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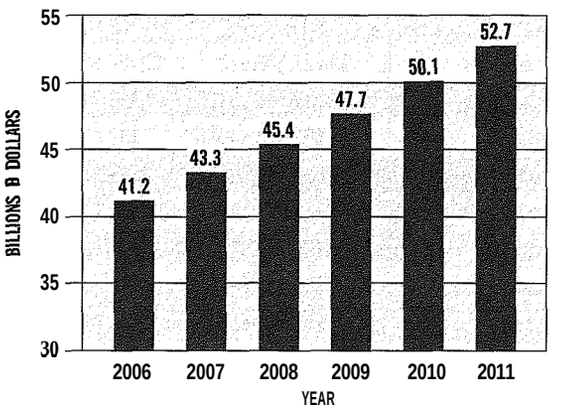
FIGURE 3

Actual (2006) and Projected (2007–2011) Costs from Overweight, Obesity, & Physical Inactivity



DISCUSSION

Overweight, obesity, and physical inactivity have profound health consequences for the people of California. This analysis shows that the three risk factors — individually and collectively — also have profound economic consequences. California businesses, the backbone of the state's economy, are particularly affected. Because employers pay much of the cost of health care benefits, steady increases in health insurance premiums, in part due to increasing illness caused by poor diet and lack of physical activity, affect their bottom line, as does lost productivity resulting from these risk factors and their resulting illnesses. Taxpayers, too, have a huge financial stake in reversing these public health liabilities, as they pay for resulting illnesses through Medi-Cal and Medicare.

In order to reduce the unacceptably high prevalence of overweight, obesity, and physical inactivity, along with the costly and preventable illnesses associated with them, both the public and private sectors would benefit from promoting healthy eating and physical activity. While Californians must be encouraged to improve their individual behaviors, public policies must also be established to make it easier for Californians to adopt healthier lifestyles.

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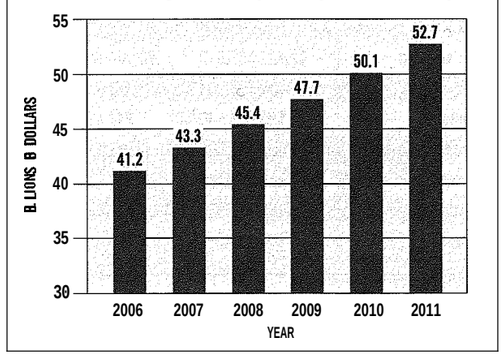

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APPENDIX

Study Methodology

This econometric evaluation of costs related to overweight, obesity, and physical inactivity for California and its counties used available medical care and productivity data sources obtained from several California and national databases (see Table A-1).

TABLE A-1: Data Framework for the Study

Dollar year	Year 2006 dollars
Population	Statewide and 58 counties
Risk factors included	Overweight, obesity, and physical inactivity
Medical conditions included	Circulatory, digestive, injury, mental, metabolic, musculo-skeletal, neoplasm, nervous, pregnancy complications, and signs/symptoms ill-defined
State-level risk factor prevalence rates	Self-reported height and weight from the 2006 California Behavioral Risk Factor Surveillance Surveys (BRFSS); physical inactivity rates from the 2005 and 2007 BRFSS
County-level risk factor prevalence rates	Self-reported height and weight reported in the 2005 California Health Interview Survey (CHIS); self-reported physical inactivity rates reported in the 2001 California Health Interview Survey (CHIS)
Data source for inpatient medical costs: employer and private pay	2006 claims data from California's Office of Statewide Health Planning and Development (OSHPD) for 2006 by patient county residence and Diagnosis Related Group (DRG)
Data source for outpatient medical costs employer and private pay	Estimated 2006 California corporate medical claims data (based on 2000 data from the authors) and 2006 claims data from OSHPD for ambulatory surgery and emergency department by patient county residence and Diagnosis Related Group (DRG)
Data source for outpatient medical costs: public pay (Medi-Cal)	Claims data from Medi-Cal for enrolled adults for the period of January 1, 2004 to December 31, 2004, projected to 2006 dollar values
Data source for prescription drug costs	Year 2006 cost norms from the 2007 Express Scripts Drug Trend Report and California prescription drug retail sales data from The Henry J. Kaiser Family Foundation
Lost productivity	Official Disability Guidelines injury frequency norms, 23 published studies, and California Employment Development Division average annual worker earnings

Overweight, Obesity, and Physical Inactivity Prevalence Rates

In order to estimate 2006 overweight and obesity prevalence rates, 2005 California Health Interview Survey (CHIS) results for height and weight for California counties were statistically adjusted to make them consistent with statewide-level Behavioral Risk Factor Surveillance Survey (BRFSS) findings for 2006.

The physical inactivity rates used in this study were based on the most recent available state and national health survey data. Because BRFSS did not collect physical inactivity prevalence rates in 2006, this study used the median between the statewide rates reported by BRFSS in 2005 and 2007. Because 2005 CHIS did not determine what proportion of Californians engage in less than 30 minutes of moderate physical activity on most days, this study utilized 2001 county-level CHIS

physical inactivity rates and statistically adjusted them to make them consistent with the estimated *2006* state-level physical inactivity rates from BRFSS.

Health Care Costs: Medical Care

Medical care costs were determined using health care claims data for California adults for medical conditions that have been shown in the published scientific literature as being directly linked to overweight, obesity, and physical inactivity. These conditions are represented by more than 100 diagnosis-related groups (DRGs) within the following ten major diagnostic categories: circulatory, digestive, injury, mental, metabolic, musculoskeletal and nervous conditions, some cancers, some pregnancy complications, and other signs and symptoms of an ill-defined nature (see Table A-2).

TABLE A-2

Medical Conditions Associated with Targeted Risk Factors—Diagnosis-Related Groups

Circulatory
(DRGs: 014-017, 103-112, 120-145)
Cardiovascular disease
Myocardial infarction
Hypertension
Deep vein thrombosis
Chronic venous insufficiency
Stroke
Atherosclerosis
Coronary atherosclerosis
Angina pectoris
Congestive heart failure

Digestive
(DRGs: 179, 193-198, 203-204, 207-208, 316-317)
Gallbladder disease
Liver disease
End stage renal disease
Acute/chronic pancreatitis

Injury
(DRGs: 418, 452-453)
Infection following wounds
Heat disorders
Surgical complications
Hip fracture

Mental
(DRGs: 426-427)
Neurotic depression*
Depressive disorder
Anxiety states
** Excludes brief depressive reactive and prolonged depressive reaction*

Metab/Endo/Nutrition
(DRGs: 294-295, 488-490)
Diabetes
Gout
Impaired immune response

Musculo-Skeletal
(DRGs: 237, 241-246, 243, 248)
Osteoarthritis knee or hip
Rheumatoid arthritis
Low back pain
Low back strain/sprain
Tendon/myo/bursitis
Pain in joint
Stiffness in joint
Polymyalgia/rheum.
Osteoporosis

Neoplasms (Cancers)
(DRGs: 148-149, 152, 154-156, 203, 290, 274-275, 306-307, 318-319, 354-359, 401-404)
Esophageal/gastric
Colorectal
Breast
Endometrial
Bladder
Renal (kidney)
Lymphoma
Carcinoma *in situ*
Prostate

Nervous
(DRG: 6)
Carpal tunnel syndrome

Pregnancy
(DRGs: 354, 358, 366, 368, 370, 372, 390)
Obstetric & gynecol. complications

Signs/Symptoms Ill-Defined
(DRGs: 87-88)
Impaired respiratory function
Sleep apnea
Urinary stress incontinence

As the first step toward estimating the direct medical care costs of each risk factor in relation to the targeted conditions, medical care claims utilization and cost data were obtained on as many California adults as possible for *2006* on a county-by-county basis. The California Office of State Health Planning and Development (OSHPD), the organization charged with acquiring, tracking, and managing all inpatient encounters, provided the inpatient claims data for the selected medical conditions.

Although no centralized database on outpatient claims for California is available, OSPHD tracks outpatient ambulatory surgery (AS) and emergency department (ED) encounters. These claims data were obtained for *2006.* Because financial charge and payment data are not provided on either AS or ED encounters, an in-house California corporate medical claims database compiled by the authors was used. This database includes medical encounters and costs from numerous medical claims data

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Low back strain/sprain
Tendon/myo/bursitis
Pain in joint
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Polymyalgia/rheum.
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Claims and costs for adults enrolled in Medi-Cal were based on 2004 data from California's Department of Health Services, Office of Fiscal Forecasting and Data Management. Due to the two-year lag, the 2004 claims were adjusted to 2006 values,[16] and payments per selected condition were inflated to reflect actual California state-specific medical cost changes during that period.

Next, the prevalence of these three risk factors was combined with the medical care data for each county through a process developed by the authors known as the Proportionate Risk Factor Cost Appraisal™ (PRFCA). The PRFCA uses findings from published studies in peer-reviewed scientific journals to estimate the proportion of people who have a given risk factor (the risk factor weight) for designated medical conditions (i.e., any of the 100 or so DRGs).

Finally, the estimated number of people in each county who have the medical condition was multiplied by the average cost to treat that condition to get the total cost to treat that condition by county. Treatment costs for all conditions were then summed to determine the cost of medical care for conditions associated with each risk factor.

To estimate indirect health care costs associated with a health condition, health care economists generally multiply direct medical costs by a factor ranging from 2 to 9.[17,18] indirect costs reflect any additional expense or lost opportunity that occurs in addition to the direct (immediate) medical cost associated with a medical condition. Examples of indirect costs include lingering or unexpected health problems that require additional medical care and/or prescription drugs, create additional stress or depression leading to a lower quality of life, or negatively affect an individual's ability to work at a level necessary for job promotion, greater earnings, and other advancement opportunities. In order to be conservative, the indirect costs were added as a multiple of 3.

Health Care Costs: Prescription Drugs

Prescription drug costs were assessed as complementary medical costs because they typically occur in conjunction with the provision of health care diagnoses or treatment. Prescription drug expenses associated with each of the targeted medical conditions are not available in a statewide database. Therefore, in order to calculate the approximate prescription drug costs associated with all of the targeted medical conditions for each of the three risk factors, claims data from several industry-leading drug utilization reports were used.[19, 20]

Lost Productivity Costs

For the analysis of lost productivity costs associated with overweight, obesity, and physical inactivity, three outcome measures were used: absenteeism, short-term disability, and presenteeism (i.e., the portion of an employee's work load they are unable to do because of their compromised health status). The analysis is based on published scientific research on the effect of each of the three risk factors on each of the three measures of lost productivity.[21]

To determine lost productivity costs associated with each of the three outcome measures, estimates were made of the average annual number of hours of lost work time per individual associated with the presence of each the three risk factors. These were then summed to reflect the overall average estimated impact of each risk factor for an individual (see Table A-3 on next page).

Based on applicable regional and state data sources, the total cost of the lost productivity was then computed for each county using county- and state-specific data on risk-factor prevalence, the number of workers, and the average salary in the county.

TABLE A-3

Estimated Average Annual Number of Hours of Lost Work Time, per Individual, Associated with Overweight, Obesity, and Physical Inactivity, California, 2006

	Overweight	Obesity	Physical Inactivity
Absences	4.08 hours	12.43 hours	15.75 hours
Short-term disability	4.86 hours	14.78 hours	13.00 hours
Presenteeism	8.94 hours	27.19 hours	28.75 hours
TOTAL	17.88 hours	54.40 hours	57.50 hours
% Annual work*	0.89%	2.72%	2.80%

** Based on an annual workload of 2,000 hours.*

Study Limitations

Although this study was based on the best data available, the findings are limited by the following factors:

- The prevalence rates of overweight, obesity, and physical inactivity that were applied to each county are based on self-reports from respected state and national population-based surveys. Self-reported data are generally recognized as being underreported.[22]
- The risk factor weights were based on a review of published studies for the general adult population. These weights could change as research findings are refined over time.
- In cases where specific health care cost data were not available, estimates were made. These include Medi-Cal managed care plan data, pharmaceutical drug costs paid by private and employer-paid sources, and employer-paid outpatient medical claims and cost data. The latter were estimated based on norms developed from the author's in-house California corporate database.
- Because county-specific lost productivity data were not available, national norms were used to estimate risk-factor-based absenteeism, short-term disability, and presenteeism rates.
- Lost productivity costs by county were based on the assumption that people work in the counties in which they live.

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128 St. Andrews Circle, New Bern, North Carolina 28562
(252) 636-3241 | **www.chenoassociates.com**

The California Center for Public Health Advocacy

The California Center for Public Health Advocacy is an independent, nonpartisan, non-profit organization that raises awareness about public health issues and mobilizes communities to promote the establishment of effective health policies.

Post Office Box 2309, Davis, CA 95617
(530) 297-6000 | FAX: (530) 297-6200

2201 Broadway, Suite 502, Oakland, CA 94512
(510) 302-3387 | FAX: (510) 444-8253

12921 Ramona Boulevard, Suite D, Irwindale, CA 91706
(626) 962-5900 | FAX: (626) 961-1609

www. **PublicHealthAdvocacy.org**

UCLA Health Policy Research Brief

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Bubbling Over: Soda Consumption and Its Link to Obesity in California

Susan H. Babey, Malia Jones, Hongjian Yu and Harold Goldstein

In California, 62% of adolescents ages 12-17 and *41%* of children ages 2-11 drink at least one soda or other sweetened beverage every day. In addition, 24% of adults drink at least one soda or other sweetened beverage on an average day. Adults who drink soda occasionally (not every day) are 15% more likely to be overweight or obese, and adults who drink one or more sodas per day are 27% more likely to be overweight or obese than adults who do not drink soda, even when adjusting for poverty status and race/ethnicity.

This policy brief, produced collaboratively by the California Center for Public Health Advocacy and the UCLA Center for Health Policy Research, examines soda consumption in California by cities and counties using data from the 2005 California Health Interview Survey (CHIS 2005). In addition, the brief investigates whether there is an association between soda consumption and the prevalence of overweight and obesity.

There are major differences in soda consumption rates by geographic area in California, suggesting that social and environmental factors affect the consumption of soda. Also, the prevalence of overweight and obesity is higher among those who drink one or more sodas or other sweetened beverages every day than among those who do not consume these soft drinks. Establishing public policies that focus on reducing soda consumption could contribute to reversing California's increasing overweight and obesity problem.

Background

The prevalence of overweight and obesity has increased dramatically in both adults and children in the last three decades in the United States. In the 1970s, about 15% of adults were obese and by 2004 the rate had climbed to 32%.[1] Although the prevalence of overweight among children is lower than among adults, the rates among children and adolescents have increased considerably more. The prevalence of overweight and obesity nearly tripled among 12-19 year olds and more than quadrupled among 6-11 year olds in the last three decades.

In California, 21% of adults are currently obese and an additional 35% are overweight. Among adolescents, 14% are obese and another 16% are overweight.[2] Similar to national trends, the trend in California is toward increasing weight in both adults and adolescents.[3] Each year in California, overweight and obesity cost families, employers, the health care industry and the government $21 billion.[4] California spends more public and private money on the health consequences of obesity than any other state.[5]

Overweight and obesity are associated with serious health risks. In children and adolescents, overweight and obesity are associated with increased risk for cardiovascular disease indicators including

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This policy brief was developed in collaboration with the California Center for Public Health Advocacy

high total cholesterol, high blood pressure, and high fasting insulin, an early indicator of diabetes risk.[6] In addition, overweight children and adolescents are more likely to be overweight or obese as adults.' In adults, overweight and obesity are associated with increased risk for diabetes, heart disease, stroke, some types of cancer and premature death.[1, 8, 9]

Drinking sweetened beverages such as soda and fruit drinks that have added caloric sweeteners (e.g., sucrose, high fructose corn syrup) is one marker of a poor diet, and is associated with overweight and obesity in people of all ages.[10-13] A number of studies have found that greater consumption of sweetened beverages is associated with overweight and obesity among both adults and children.[12-19] In addition, randomized controlled trials that examine the impact of reducing intake of sweetened beverages on weight indicate that reducing consumption of soda and other sweetened drinks leads to reductions in overweight and obesity[20, 21] Among adults, drinking soda is also associated with increased risk for type 2 diabetes."

Moreover, drinking sweetened beverages has increased, and it is now more common than ever, particularly among adolescents.[22] Between 1977 and 2002 Americans increased their calorie intake from soft drinks by 228%.[23] Portion sizes have also increased from an average serving size of 6.5 fl oz (88 calories) in the 1950s, to 12 fl oz (150 calories), 20 fl oz (266 calories), and even larger portion sizes common today.[24-26] The average serving size of soft drinks in fast food restaurants in 2002 was 23 fl oz (299 calories), with some chains now commonly selling soft drinks in 32 to 64 fl oz portions (416 to 832 calories, respectively).[27] Sweetened beverages are a significant contributor to total caloric intake, especially for children and adolescents, and they lack the nutrients our bodies need.[24, 26, 28] Additionally, eating habits established in childhood are important determinants of eating habits as adults.[29, 30]

Soda Consumption in California

Drinking sweetened beverages is common among California adults, adolescents and children. Data from CHIS 2005 show that nearly one out of four adults (24%) drink at least one soda every day—6.4 million California adults—and 36% drink soda occasionally, but not every day. Forty percent of adults report not drinking soda at all. In addition, 41% of children ages 2-11 drink at least one soda every day, nearly 2.2 million children in all. The rates of soda consumption among adolescents are much higher than among adults or children. More than 62% of adolescents ages 12-17—over two million teens—drink soda every day, including 13% (over 400,000) who drink three or more sodas every day. California adolescents drink 1.2 sodas per day on average. Conservatively assuming one soda is a 12-ounce can which contains 10 teaspoons of sugar, the average California adolescent consumes the equivalent of 39 pounds of sugar each year from soda and other sweetened beverages.

Soda Consumption Associated with Higher Prevalence of Overweight and Obesity

In California, 56% of adults and 30% of adolescents are either overweight or obese. The prevalence of overweight and obesity is higher among adults and adolescents who drink soda than among those who don't.

For both adults and adolescents, rates of overweight and obesity are 18%higher among those who drink one or more sodas every day compared to those who do not drink soda. Among adults, 62% of those who drink one or more sodas daily are either overweight or obese compared to 52% of adults who do not drink soda. Among adolescents, 32% of those who consume at least one soda per day are either overweight or obese, while 27% of those who consume no sodas on a typical day are either overweight or obese.

high total cholesterol, high blood pressure, and high fasting insulin, an early indicator of diabetes risk.[6] In addition, overweight children and adolescents are more likely to be overweight or obese as adults.[7] In adults, overweight and obesity are associated with increased risk for diabetes, heart disease, stroke, some types of cancer and premature death.[1, 8, 9]

Drinking sweetened beverages such as soda and fruit drinks that have added caloric sweeteners (e.g., sucrose, high fructose corn syrup) is one marker of a poor diet, and is associated with overweight and obesity in people of all ages.[10-13] A number of studies have found that greater consumption of sweetened beverages is associated with overweight and obesity among both adults and children.[12-19] In addition, randomized controlled trials that examine the impact of reducing intake of sweetened beverages on weight indicate that reducing consumption of soda and other sweetened drinks leads to reductions in overweight and obesity.[20, 21] Among adults, drinking soda is also associated with increased risk for type 2 diabetes.[13]

Moreover, drinking sweetened beverages has increased, and it is now more common than ever, particularly among adolescents.[22] Between 1977 and 2002 Americans increased their calorie intake from soft drinks by 228%.[23] Portion sizes have also increased from an average serving size of 6.5 fl oz (88 calories) in the 1950s, to 12 fl oz (150 calories), 20 fl oz (266 calories), and even larger portion sizes common today.[24-26] The average serving size of soft drinks in fast food restaurants in 2002 was 23 fl oz (299 calories), with some chains now commonly selling soft drinks in 32 to 64 fl oz portions (416 to 832 calories, respectively).[27] Sweetened beverages are a significant contributor to total caloric intake, especially for children and adolescents, and they lack the nutrients our bodies need.[24, 26, 28] Additionally, eating habits established in childhood are important determinants of eating habits as adults.[29, 30]

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Soda consumption is associated with poverty and race/ethnicity; lower income people and people of color tend to drink more soda.[31] These same groups also tend to be at higher risk for overweight and obesity. However, in our analysis of California adults, the association between soda consumption and overweight or obesity was independent of poverty status and race/ethnicity. Adults who drink soda occasionally (not every day) are 15% more likely to be overweight or obese, and adults who drink one or more sodas per day are 27% more likely to be overweight or obese than adults who do not drink soda, even when adjusting for poverty status and race/ethnicity (Exhibit 1).

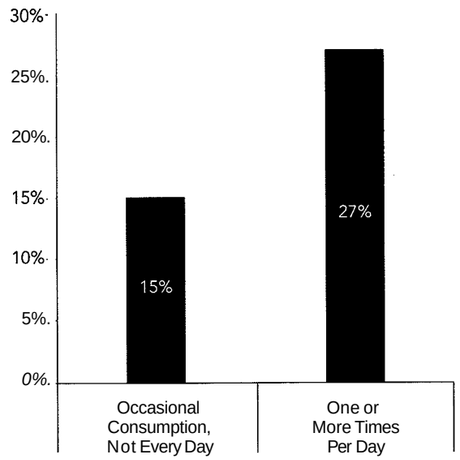
Among adolescents, the association between soda consumption and overweight is not independent of poverty status and race/ethnicity. This may be partially due to the relatively small sample size for adolescents compared to adults. Compared to white adolescents, African-American and Latino adolescents are more likely to consume soda daily, while Asian adolescents are less likely. Adolescents from lower-income families are more likely to drink soda every day compared to adolescents from higher-income families.

Soda Consumption Varies from Place to Place in California

Trends in soda consumption and obesity may be influenced by social and environmental factors. For example, the food environment, including the presence of fast-food outlets, convenience stores, grocery stores and other food vendors, has an impact on health and dietary choices of the local population.[32-34] A recent study by the California Center for Public Health Advocacy showed that California has more than four times as many fast-food restaurants and convenience stores as grocery stores and produce vendors—suggesting that Californians have greater access to foods with lower nutritional values than to healthier foods.[35] Moreover, this food environment has been linked to the prevalence of obesity and diabetes among California adults.[32]

Exhibit 1

Increased Likelihood of Being Overweight or Obese for Those Who Drink Sodas Compared to Those Who Do Not, Adjusted for Race/Ethnicity and Income, Adults Age 18 and Over, California, 2005



Source: 2005 California Health Interview Survey

At the same time, soda consumption is associated with the use of fast-food restaurants among adolescents, and there is wide variation in the relative availability of fast-food restaurants in California communities.[32, 36, 37]

Findings from CHIS 2005 show that there are major geographic differences in soda consumption in California (Exhibit 2). The percent of children drinking at least one soda each day ranges from 18% in Marin County to 61% in Imperial County. Among adolescents, the percent drinking one or more sodas each day ranges from 39% in Mendocino County to 78% in San Joaquin County. Among adults, the percent drinking one or more sodas each day ranges from just 11% in Marin County to 39% in Kings County.

Soda consumption also varies considerably among cities and census designated places (Exhibit 3). Among children and adolescents ages 2-17, the percent drinking at least one

Exhibit 2

Percent Drinking One or More Sodas per Day by County or County Group, Children, Adolescents and Adults, California, 2005

	Children Ages 2–11	Adolescents Ages 12–17	Adults Age 18 and Over
	One or More Sodas %	One or More Sodas %	One or More Sodas %
California	**41.2**	**62.2**	**24.3**
Alameda	31.0	58.9	17.4
Butte	30.4	61.8	20.3
Contra Costa	40.7	47.2	21.2
Del Norte, Siskiyou, Lassen, Trinity, Modoc, Plumas, Sierra	24.5	63.0	20.8
El Dorado	31.8	55.3	21.6
Fresno	53.1	68.7	35.0
Humboldt	33.2	50.3	16.4
Imperial	60.7	61.2	36.4
Kern	55.0	67.2	36.6
Kings	57.2	57.7	39.1
Lake	31.6	62.8	30.1
Los Angeles	44.3	64.9	25.5
Madera	39.9	75.3	37.4
Marin	18.4	41.3	10.6
Mendocino	38.1	39.0	18.8
Merced	55.4	*	32.7
Monterey	32.8	58.1	27.1
Napa	41.5	56.8	27.3
Nevada	25.6	40.9	17.5
Orange	36.9	56.4	23.4
Placer	31.5	66.2	18.4
Riverside	40.6	69.5	29.5
Sacramento	35.4	55.5	23.6
San Benito	26.4	58.9	25.6
San Bernardino	49.6	68.5	29.6
San Diego	34.8	63.1	21.1
San Francisco	21.5	42.1	10.9
San Joaquin	44.2	77.8	26.6
San Luis Obispo	41.7	66.8	18.3
San Mateo	32.5	50.1	14.4
Santa Barbara	39.8	53.8	19.0
Santa Clara	40.9	48.2	21.1
Santa Cruz	41.4	56.0	15.5
Shasta	32.0	60.0	27.5
Solano	45.2	58.7	26.1
Sonoma	42.0	60.7	20.7
Stanislaus	47.5	*	34.3
Sutter	44.5	*	29.2
Tehama, Glenn, Colusa	36.8	*	30.1
Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine	35.0	*	17.3
Tulare	44.2	71.0	36.1
Ventura	39.0	60.4	24.8
Yolo	37.3	62.4	13.9
Yuba	50.5	62.9	30.9

Note:

* Indicates the estimate was not statistically reliable. Not all differences between rates are statistically significant. The 95% confidence intervals are available at: *http://www.healthpolicy.ucla.edu/soda_consumption.html*

Source: 2005 California Health Interview Survey

hibit 2

Percent Drinking One or More Sodas per Day by County or County Group, Children, Adolescents and Adults, California, 2005

	Children Ages 2–11	Adolescents Ages 12–17	Adults Age 18 and Over
	One or More Sodas %	One or More Sodas %	One or More Sodas %
California	**41.2**	**62.2**	**24.3**
Alameda	31.0	58.9	17.4
Butte	30.4	61.8	20.3
Contra Costa	40.7	47.2	21.2
Del Norte, Siskiyou, Lassen, Trinity, Modoc, Plumas, Sierra	24.5	63.0	20.8
El Dorado	31.8	55.3	21.6
Fresno	53.1	68.7	35.0
Humboldt	33.2	50.3	16.4
Imperial	60.7	61.2	36.4
Kern	55.0	67.2	36.6
Kings	57.2	57.7	39.1
Lake	31.6	62.8	30.1
Los Angeles	44.3	64.9	25.5
Madera	39.9	75.3	37.4
Marin	18.4	41.3	10.6
Mendocino	38.1	39.0	18.8
Merced	55.4	*	32.7
Monterey	32.8	58.1	27.1
Napa	41.5	56.8	27.3
Nevada	25.6	40.9	17.5
Orange	36.9	56.4	23.4
Placer	31.5	66.2	18.4
Riverside	40.6	69.5	29.5
Sacramento	35.4	55.5	23.6
San Benito	26.4	58.9	25.6
San Bernardino	49.6	68.5	29.6
San Diego	34.8	63.1	21.1
San Francisco	21.5	42.1	10.9
San Joaquin	44.2	77.8	26.6
San Luis Obispo	41.7	66.8	18.3
San Mateo	32.5	50.1	14.4
Santa Barbara	39.8	53.8	19.0
Santa Clara	40.9	48.2	21.1
Santa Cruz	41.4	56.0	15.5
Shasta	32.0	60.0	27.5
Solano	45.2	58.7	26.1
Sonoma	42.0	60.7	20.7
Stanislaus	47.5	*	34.3
Sutter	44.5	*	29.2
Tehama, Glenn, Colusa	36.8	*	30.1
Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine	35.0	*	17.3
Tulare	44.2	71.0	36.1
Ventura	39.0	60.4	24.8
Yolo	37.3	62.4	13.9
Yuba	50.5	62.9	30.9

Note:
* Indicates the estimate was not statistically reliable. Not all differences between rates are statistically significant. The 95% confidence intervals are available at: *http://www.healthpolicy.ucla.edu/soda_consumption.html*

ource: 2005 California Health Interview Survey

Percent Drinking One or More Sodas per Day by Cities and Census Designated Places, California, 2005

Exhibit 3

	Children and Adolescents Ages 2–17 %	Adults Age 18 and Over %
California	**49.4**	**24.3**
Anaheim	45.4	26.5
Antioch	44.8	21.9
Bakersfield	60.1	33.9
Baldwin Park	52.2	29.0
Bellflower	51.3	30.9
Buena Park	44.0	24.5
Burbank	48.3	19.6
Carlsbad	43.5	16.3
Carson	52.7	25.0
Chino	56.3	31.2
Chino Hills	52.4	22.2
Chula Vista	46.2	23.1
Citrus Heights	39.4	21.9
Clovis	53.8	27.0
Compton	54.7	33.2
Concord	44.2	21.5
Corona	50.7	29.6
Costa Mesa	43.5	25.0
Daly City	38.3	13.7
Downey	51.4	29.6
East Los Angeles *	53.3	38.4
El Cajon	47.6	22.2
El Monte	51.8	29.2
Elk Grove *	43.3	21.2
Escondido	48.1	22.6
Fairfield	47.0	26.5
Florence-Graham *	54.2	36.5
Fontana	57.5	31.9
Fremont	38.0	14.1
Fresno	57.4	33.5
Fullerton	44.0	23.6
Garden Grove	43.9	24.0
Glendale	47.6	19.6
Hawthorne	53.2	31.4
Hayward	41.3	18.4
Hesperia	55.5	27.2
Huntington Beach	40.7	20.7
Indio	55.6	37.5
Inglewood	55.0	32.6
Irvine	43.6	19.5
Lancaster	54.8	30.7
Livermore	41.1	15.1
Long Beach	51.5	27.2
Los Angeles	51.9	24.8
Lynwood	53.5	33.3
Merced	61.9	33.3
Mission Viejo	43.3	18.0
Modesto	57.0	31.8
Moreno Valley	55.4	33.7
Murrieta	49.7	26.5
Norwalk	51.5	31.0
Oakland	44.1	20.6
Oceanside	47.7	20.8
Ontario	57.7	32.9
Orange	46.0	22.6
Oxnard	50.6	30.0
Palmdale	54.9	32.1
Pasadena	54.2	22.9
Pomona	56.6	29.5
Rancho Cucamonga	54.6	26.0
Redding	44.2	25.3
Rialto	59.4	32.8
Richmond	46.1	28.4
Riverside	49.8	31.7
Roseville	43.6	16.4
Sacramento	44.3	25.4
Salinas	46.9	28.9
San Bernardino	58.6	32.7
San Buenaventura (Ventura)	46.6	22.3
San Diego	46.2	22.8
San Francisco	36.9	11.5
San Jose	42.8	21.7
Santa Ana	47.3	33.2
Santa Clara	40.6	19.2
Santa Clarita	49.9	20.6
Santa Maria	48.3	24.1
Santa Rosa	45.4	19.7
Simi Valley	44.0	20.5
Southgate	52.9	36.8
Stockton	57.3	28.1
Sunnyvale	39.8	18.7
Temecula	47.8	28.2
Thousand Oaks	43.8	19.8
Torrance	46.0	18.9
Tracy	56.9	24.9
Vacaville	45.4	25.4
Vallejo	48.8	25.7
Victorville	57.0	29.2
Visalia	56.3	30.8
Vista	48.8	23.8
West Covina	50.4	21.6
Westminster	42.8	22.4

Note:
* Indicates a Census Designated Place. Census designated places are communities that lack separate governments but otherwise resemble incorporated places such as cities. This table includes only cities in which the combined population of children and adolescents ages 2-17 was at least 20,000. Not all differences between rates are statistically significant. The 95% confidence intervals are available at: *http://www.healthpolicy.ucla.edu/soda_consumption.html*

Source: 2005 California Health Interview Survey

soda per day ranged from 37% in San Francisco to 62% in Merced. Among adults, the percent drinking at least one soda per day ranged from 12% in San Francisco to 38% in East Los Angeles.

Conclusions

In California, 62% of adolescents ages 12-17 and 41% of children ages 2-11 drink at least one soda or other sweetened beverage every day. In addition, nearly one out of four adults (24%) drink soda every day and 36% drink soda occasionally. This amounts to 10.7 million Californians over the age of one who drink at least one soda each day. This soda consumption greatly increases the amount of added sugar and other caloric sweeteners in the diet of Californians without contributing substantially to the nutritional needs of the population.

For both adults and adolescents, the prevalence of overweight and obesity is higher among those who drink one or more sodas or other sweetened beverages every day than among those who do not. Among adults, even after adjusting for race and household income, those who drink one or more sodas each day are 27% more likely to be overweight or obese than adults who do not drink soda. These findings are consistent with other research.[38] Additionally, childhood eating habits and weight status are important determinants of health as adults.[7, 29, 30] Taken together, these findings suggest a number of potential benefits from reducing soft drink consumption including reduced risk of obesity, improved dietary intake and reduced risk of diabetes.

Data Source and Methods

This policy brief examines geographical variation in soda consumption among children, adolescents and adults in California as well as its association with overweight and obesity among adults and adolescents using data from the 2005 California Health Interview Survey (CHIS 2005). All statements in this report that compare rates for one group with another group reflect statistically significant differences ($p<0.05$) unless otherwise noted. CHIS 2005 completed interviews with over 4,000 adolescents and over 43,000 adults, drawn from every county in the state, in English, Spanish, Chinese (both Mandarin and Cantonese), Vietnamese and Korean. The California Health Interview Survey is a collaboration of the UCLA Center for Health Policy Research, California Department of Public Health, the California Department of Health Care Services and the Public Health Institute. Funding for the CHIS 2005 statewide survey was provided by the California Department of Health Care Services, The California Endowment, the National Cancer Institute, The Robert Wood Johnson Foundation, the California Children and Families Commission, the California Office of the Patient Advocate, the California Department of Mental Health, the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente. For local funders and other information on CHIS, visit *www.chis.ucla.edu.*

In adults, overweight is defined as a Body Mass Index (BMI) between 25 and 30, while obesity is defined as BMI of 30 or greater. Among adolescents, overweight is defined as having a BMI between the 85th and 95th percentile on the Centers for Disease Control and Prevention's BMI-for-age growth charts, while obesity is defined as having a BMI above the 95th percentile.[39]

Adults and adolescents self-reported their consumption of soda and other sweetened beverages. Adults were asked the following two questions: "During the past month, how many times (per day, per week or per month) did you drink soda such as Coke or 7-Up? Do not include diet soda." and "How many times did you drink fruit-flavored drinks such as lemonade or Sunny Delight? Do not include diet drinks." Responses to these questions were combined and converted to a common metric to estimate daily consumption of soda and other sweetened beverages. Adolescents were asked: "Yesterday, how many glasses or cans of soda such as Coke, or other sweetened drinks such as fruit punch or Sunny Delight did you drink? Do not count diet drinks." For children ages 2-11, the most knowledgeable parent or guardian responded to the following question: "Yesterday, how many glasses or cans of soda such as Coke or other sweetened drinks such as fruit punch or Sunny Delight did (he/she) drink? Do not count diet drinks." For all respondents, consumption of 100% fruit juice was reported in a previous question and is not included in our estimates of sweetened beverage consumption.

We used small-area estimation to generate model-based estimates of the proportion of adults and children who consume one or more sodas per day for each city.[40, 41] Small-area estimation uses modeling to produce estimates for small geographic areas, such as cities, for which there is not sufficient sample to produce direct estimates. The models are based on

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Author Information

Susan H. Babey, PhD, is a senior research scientist at the UCLA Center for Health Policy Research. Malia Jones, MPH, is a graduate student researcher at the UCLA Center for Health Policy Research. Hongjian Yu, PhD, is the director for statistical support at the UCLA Center for Health Policy Research. Harold Goldstein, DrPH, is the Executive Director of the California Center for Public Health Advocacy.

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10960 Wilshire Blvd., Suite 1550
Los Angeles, California 90024

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Phone: 310-794-0909
Fax: 310-794-2686
Email: chpr@ucla.edu
Web Site: www.healthpolicy.ucla.edu

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April 2008

Designed for Disease

The Link Between Local Food Environments and Obesity and Diabetes

Summary

Healthy eating can help reduce the incidence of obesity and diabetes—increasingly common conditions that result in shortened lives, lowered productivity, and enormous economic costs. Although healthy eating habits are ultimately a matter of individual choice, local food environments influence the options available to individuals and families.

Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes examines the relationships between retail food environments, obesity and diabetes, and community income. The study demonstrates that people who live near an abundance of fast-food restaurants and convenience stores compared to grocery stores and fresh produce vendors, have a significantly higher prevalence of obesity and diabetes.

The highest rates of obesity and diabetes are among people who live in lower-income communities and have worse food environments. However, for people living in lower-income and higher-income communities alike, the higher the ratio of fast-food restaurants and convenience stores to grocery stores and produce vendors near home, the higher the prevalence of obesity and diabetes.

To help reduce the prevalence of obesity and diabetes, the authors urge state and local lawmakers to enact public policies to make healthy foods more readily available. These policies include providing retail incentives, promoting smaller-scale markets that sell healthy foods, maximizing the opportunities that come with the new WIC food package, using zoning to limit the number of fast-food restaurants in overburdened communities, and requiring nutritional information on restaurant menus.

Study Overview

Increasingly, research suggests that the foods available in communities influence dietary behaviors and related health outcomes.[1] According to a 2007 study by the California Center for Public Health Advocacy, California has more than four times as many fast-food restaurants and convenience stores as grocery stores and produce vendors—suggesting that Californians have greater access to foods with lower nutritional values than to healthier foods.[2]

This policy brief, produced collaboratively by the California Center for Public Health Advocacy, PolicyLink, and the UCLA Center for Health Policy Research, builds on the 2007 study as well as on related research by all three organizations. It investigates whether there is an association between the retail food environment and the prevalence of obesity and diabetes in California and explores the effect of community income on that relationship.

Background

Obesity and Diabetes Rates Are Increasing

According to the 2005 California Health Interview Survey (CHIS 2005), 21 percent of California adults are obese and another 35 percent are overweight. The consequences of obesity are severe; they include increased risk for chronic conditions such as diabetes, heart disease, cancer, arthritis, stroke, and hypertension.[3-5] Each year in California, obesity is responsible for thousands of deaths [6] and costs families, employers, the health-care industry, and the government more than $6 billion.[7] Due to the rapid rise in obesity, today's youth may—for the first time in modern history—live shorter lives than their parents.[8]

The prevalence of type 2 diabetes is also rising dramatically, and the human and financial costs are devastating. Diabetes is the leading cause of blindness, non-traumatic lower-limb amputation, and kidney failure.[9] In addition, two-thirds of people with diabetes will die from cardiovascular

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The rising prevalence of diabetes is fueling increases in healthcare expenditures and insurance premiums, costing $18 billion each year in California alone.

disease or stroke.[10] The rising prevalence of diabetes is fueling increases in healthcare expenditures and insurance premiums, costing $18 billion each year in California alone.[11]

Rates of obesity and diabetes are highest and have risen the most rapidly among people of color and in lower-income communities.[12,13] Even after accounting for individual risk factors such as socioeconomic status and race/ethnicity, living in a lower-income community is associated with poor health outcomes, including higher rates of obesity and mortality.[14,15] Increasingly, public health researchers, policymakers, advocates, and health care providers have acknowledged the influence of community factors, including the local food environment, on health.[16]

Food Environments Are Associated with Health

The availability of retail food outlets that sell high-quality, nutritious foods at affordable prices is an important factor for encouraging individuals to select a healthy diet and subsequently reduce their risk for obesity and diabetes.[17,18] People who live near grocery stores are more likely to eat recommended amounts of fruits and vegetables[19] and less likely to be obese or have a diagnosis of diabetes.[20,21] Alternatively, eating at fast-food restaurants is associated with higher caloric intake,[22] lower fruit and vegetable consumption,[23] greater consumption of sweetened beverages,[24] and higher rates of obesity and diabetes.[25] Most food sold at convenience stores is typically of similarly low nutritional quality.[26]

The food environments of lower-income communities and communities of color are of particular concern, given that obesity and diabetes rates are highest in these communities. Lower-income neighborhoods and communities of color have fewer grocery stores and an abundance of fast-food restaurants and convenience stores compared to higher-income and predominantly Caucasian neighborhoods.[27-31] When grocery stores are not accessible—when residents do not have access to a private vehicle or reliable public transportation, or when grocery stores are not located within short walking distance—residents of these communities often resort to purchasing the generally higher-calorie, lower-nutrient foods sold at nearby convenience stores and fast-food restaurants. These disparities in food access contribute to subsequent chronic health conditions, including obesity, cancer, diabetes, and cardiovascular disease, as well as to higher mortality rates and years of potential life lost.[32-34]

Data and Methods

To examine the association of retail food environments with obesity and diabetes, we combined individual-level demographic and health outcome data from the 2005 California Health Interview Survey (CHIS 2005) with the locations of retail food outlets from the 2005 InfoUSA Business File. Using geographic information system (GIS) software, we calculated a Retail Food Environment Index (RFEI) for each adult CHIS respondent by dividing the total number of fast-food restaurants and convenience stores by the total number of grocery stores* (including supermarkets) and produce vendors (including produce stores and farmers' markets) within a given radius around their home address (0.5 mile in urban areas, 1 mile in smaller cities and suburban areas, and 5 miles in rural areas).[35,36] Thus the RFEI is an indicator of the density of food outlets that are less likely to stock fresh fruits and vegetables and other healthy foods relative to those where such healthy options are more likely to be available. A higher RFEI indicates that a person lives near a larger number of fast-food restaurants and convenience stores relative to the number of grocery stores and produce vendors. For example, an individual with an RFEI of 2.0 has twice as many fast-food restaurants and convenience stores nearby compared to grocery stores and produce vendors.

To investigate the influence of community income on the relationship between the RFEI and health outcomes, this study uses data from the 2000 Census to describe community economic status. Lower-income communities are defined as census tracts in which at least 30 percent of households have incomes below 200

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*In the California Center for Public Health Advocacy 2007 study, *Searching for Healthy Food: The Food Landscape in California Cities and Counties*, this category of stores was referred to as supermarkets.

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Ten nationally recognized experts with knowledge and experience in community nutrition, social marketing, health policy, consumer behavior, public health ethics, biostatistics, epidemiology, health disparities, neighborhood effects, and spatial analysis served as a Scientific Advisory Panel for this study, reviewed the methodology and results and helped develop policy recommendations.

All statements in this report that compare rates for one group with another reflect statistically significant differences ($p<0.05$) unless otherwise noted.

For more information on the RFEI and the study methodology, please see *www.publichealthadvocacy.org/research*.

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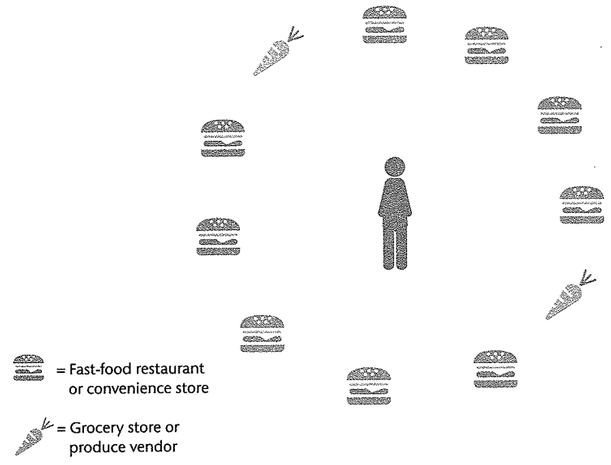
The Retail Food Environment Index (RFEI)

The Retail Food Environment Index is constructed by dividing the total number of fast-food restaurants and convenience stores by the total number of grocery stores (including supermarkets) and produce vendors (produce stores and farmers' markets) within a radius around an individual CHIS respondent's home (0.5 mile in urban areas, 1 mile in smaller cities and suburban areas, and 5 miles in rural areas).

$$\text{RFEI} = \frac{\text{\# Fast-Food Restaurants} + \text{\# Convenience Stores}}{\text{\# Grocery Stores} + \text{\# Produce Vendors}}$$

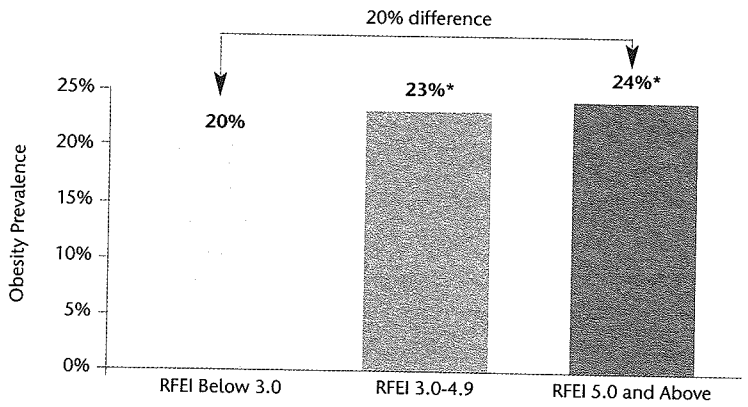
The result is the ratio of retail food outlets around an individual's home that are likely to offer little in the way of fresh fruits and vegetables or other healthy foods to those in which such products are likely to be more readily available. For example, an individual whose RFEI is 2.0 has twice as many fast-food restaurants and convenience stores nearby as grocery stores and produce vendors.



The average local RFEI for California adults is approximately 4.5, meaning that for each grocery store or produce vendor around Californians' homes, there are more than four fast-food restaurants and convenience stores.

FIGURE 1

Obesity Prevalence by Retail Food Environment Index, Adults Age 18 and Over, California, 2005

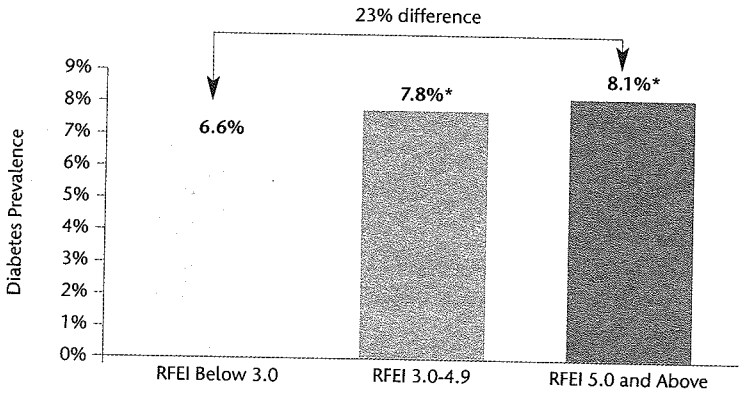


**Significantly different from "RFEI Below 3.0"; p<0.05. RFEI was calculated using buffers of 0.5 mile for respondents in urban areas, 1 mile for respondents in smaller cities and suburban areas and 5 miles for respondents in rural areas. Obesity is defined as having a body mass index of 30.0 kg/m² or greater.*

Source: 2005 California Health Interview Survey and 2005 InfoUSA Business File

FIGURE 2

Diabetes Prevalence by Retail Food Environment Index, Adults Age 18 and Over, California, 2005



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Source: 2005 California Health Interview Survey and 2005 InfoUSA Business File

FINDINGS

The average Retail Food Environment Index (RFEI) for California adults included in this study is 4.5, meaning that the average California adult has more than four times as many fast-food restaurants and convenience stores near home as they do grocery stores and produce vendors.[39] For 25 percent of California adults the RFEI is 5.0 and above; for 21 percent, it is between 3.0 and 4.9; and for 26 percent it is below 3.0. An additional 28 percent of California adults have no grocery stores or produce vendors within the buffer around their homes. The RFEI cannot be calculated for these individuals; therefore they were not included in the analyses for this study.

Higher RFEIs Are Associated with Higher Prevalence of Obesity and Diabetes

Obesity

Obesity prevalence is highest for California adults who have the most fast-food restaurants and convenience stores near their homes relative to grocery stores and produce vendors. Nearly one in four adults with local RFEIs of 5.0 and above is obese, compared to one in five adults with local RFEIs below 3.0, representing a 20 percent difference between the lowest and highest RFEI groups presented here (Figure 1).

Diabetes

Similarly, California adults with the most fast-food restaurants and convenience stores near their homes relative to grocery stores and produce vendors have the highest prevalence of diabetes. Approximately 8 percent of adults with local RFEIs of 5.0 and above have been diagnosed with diabetes, compared to 6.6 percent of those with RFEIs below 3.0, representing a 23 percent difference between the lowest and highest RFEI groups presented here (Figure 2).

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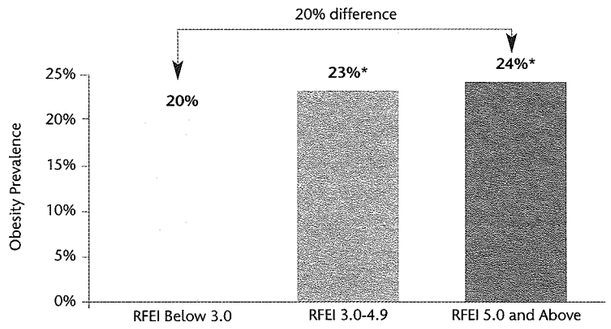
Obesity Prevalence by Retail Food Environment Index, Adults Age 18 and Over, California, 2005



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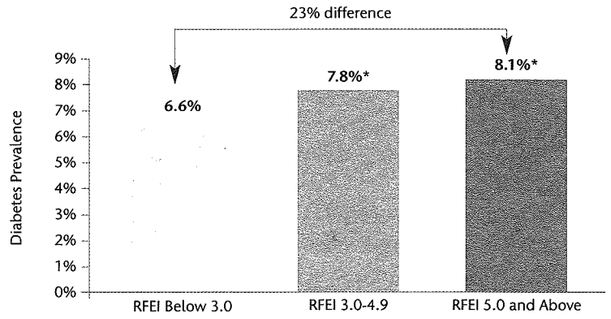

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Residents of Lower-Income Neighborhoods Have Higher Local RFEIs

The RFEI is related to community income. Statewide, the average RFEI is 20 percent higher for people living in lower-income communities (average RFEI of 4.9) compared to those in higher-income areas (average RFEI of 4.1) (Figure 3).

Obesity and Diabetes Prevalence Are Highest for Adults with Higher Local RFEIs Who Live in Lower-Income Communities

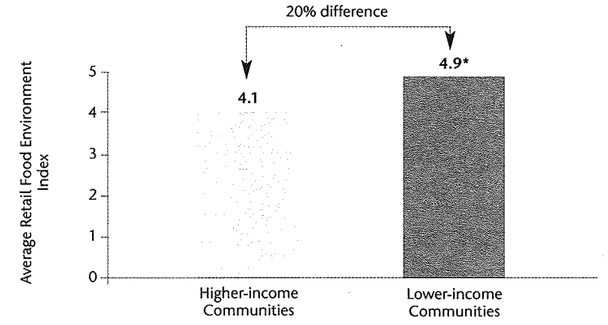
As with having higher local RFEIs, living in lower-income communities is associated with higher rates of obesity and diabetes.[40] However, obesity and diabetes prevalence are highest among adults who live in lower-income communities and who *also* have local RFEIs of 5.0 or greater.

Obesity

In lower-income communities, obesity prevalence is 17 percent higher among adults whose local RFEI is 5.0 or greater compared to those whose local RFEI is below 3.0 (28 percent vs. 24 percent) (Figure 4). Similarly, in higher-income communities, obesity prevalence is 19 percent higher among adults whose local RFEI is 5.0 or greater compared to those whose local RFEI is below 3.0 (19 percent vs. 16 percent). Although the relationship between RFEI and obesity is consistent in lower-income and higher-income communities, obesity prevalence is highest for those who live in lower-income communities *and* have RFEIs of 5.0 or greater (28 percent).

FIGURE 3

Average Retail Food Environment Index by Community Income, Adults Age 18 and Over, California, 2005

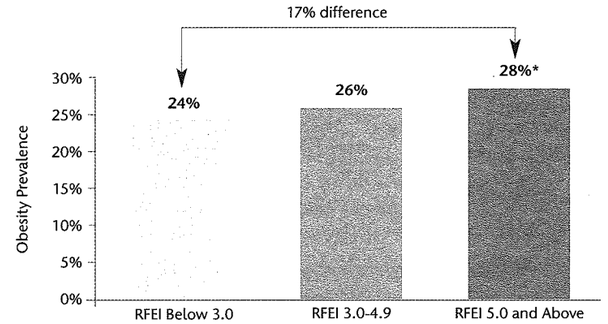


** Significantly different from "Higher-Income Communities"; p<0.05. RFEI was calculated using buffers of 0.5 mile for respondents in urban areas, 1 mile for respondents in smaller cities and suburban areas and 5 miles for respondents in rural areas. Survey respondents were characterized as living in lower-income communities if more than 30% of households in their census tract had incomes below 200% of the federal poverty level.*

Source: 2005 California Health Interview Survey, 2000 Census, and 2005 InfoUSA Business File

FIGURE 4

Obesity Prevalence by Retail Food Environment Index, Adults Age 18 and Over Living in Lower-Income Communities, California, 2005

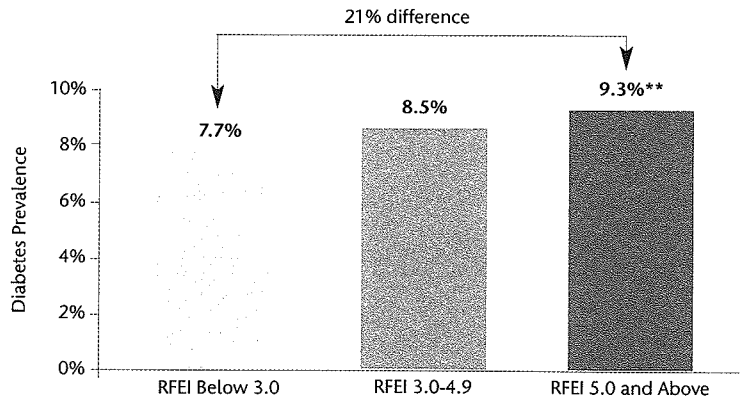


** Significantly different from "RFEI Below 3.0 "; p<0.05. RFEI was calculated using buffers of 0.5 mile for respondents in urban areas, 1 mile for respondents in smaller cities and suburban areas and 5 miles for respondents in rural areas. Obesity is defined as having a body mass index of 30.0 kg/m² or greater. Survey respondents were characterized as living in lower-income communities if more than 30% of households in their census tract had incomes below 200% of the federal poverty level.*

Source: 2005 California Health Interview Survey, 2000 Census, and 2005 InfoUSA Business File

FIGURE 5

Diabetes Prevalence by Retail Food Environment Index, Adults Age 18 and Over Living in Lower-Income Communities, California, 2005



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Source: 2005 California Health Interview Survey, 2000 Census, and 2005 InfoUSA Business File

Even after accounting for individual characteristics and community income, adults with a higher Retail Food Environment Index (RFEI) are more likely to be obese and to have diabetes than those with lower local RFEIs.

Diabetes

As with obesity, higher local RFEIs are associated with higher diabetes prevalence in both higher-income and lower-income communities; however, diabetes prevalence is highest among adults who live in lower-income communities and also have the highest RFEIs.

In lower-income communities, diabetes prevalence is 21 percent higher among adults with a local RFEI of 5.0 and above compared to those with a local RFEI below 3.0 (9.3 percent vs. 7.7 percent; $p<0.10$) (Figure 5). Similarly, in higher-income communities, diabetes prevalence is higher among individuals with RFEIs above 5.0 compared to those with RFEIs below 3.0 (6.8 percent vs. 5.8 percent), although this difference is not statistically significant.

Again, although the association between RFEI and diabetes is consistent for Californians living in lower-income and higher-income communities, diabetes prevalence is highest among those who live in lower-income communities *and* have RFEIs of 5.0 or greater (9.3 percent).

The Association Between RFEI and Health Outcomes Remains Even After Controlling for Individual Characteristics and Community Income

People of color and lower-income individuals have higher local RFEIs. A greater proportion of African Americans (30 percent), Latinos (29 percent), and people of mixed race/ethnicity (31 percent) have RFEIs of 5.0 or greater compared to Caucasians (23 percent). In addition, a greater proportion (30 percent) of adults from lower-income households have RFEIs of 5.0 or greater compared with those from higher-income households (23 percent). However, the Retail Food Environment Index remains associated with both obesity and diabetes after accounting for these individual characteristics (race/ethnicity and household income) as well as for age, gender, physical activity, and community income. After controlling for these factors, adults with local RFEIs of 5.0 and above are 18 percent more likely to be obese and 24 percent more likely to have been diagnosed with diabetes than adults with local RFEIs below 3.0.

CONCLUSIONS

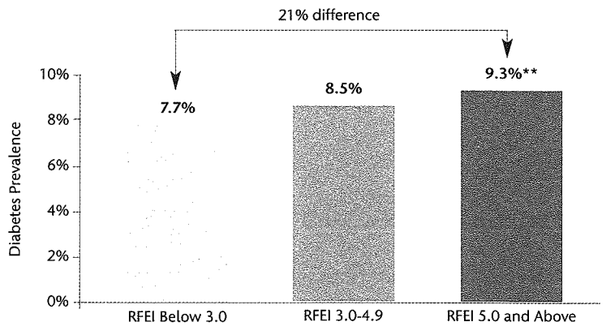
This study demonstrates a link between the retail food environment and the prevalence of obesity and diabetes in California adults. Even after accounting for individual characteristics and community income, adults with a higher Retail Food Environment Index (RFEI)—that is, with greater availability of fast-food restaurants and convenience stores relative to grocery stores and produce vendors near their homes—are more likely to be obese and to have diabetes than those with lower local RFEIs.

The highest prevalence of both obesity and diabetes is among adults who have higher local RFEIs and live in lower-income communities. However, for people living in lower-income and higher-income communities alike, the higher the ratio of fast-food restaurants and convenience stores to grocery stores and produce vendors near home, the greater the prevalence of obesity and diabetes.

These findings suggest that improving the retail food environment—in both lower- and higher-income California communities—may be a promising strategy for decreasing the prevalence of obesity and diabetes in California adults.

FIGURE 5

Diabetes Prevalence by Retail Food Environment Index, Adults Age 18 and Over Living in Lower-Income Communities, California, 2005



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Source: 2005 California Health Interview Survey, 2000 Census, and 2005 InfoUSA Business File

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These findings suggest that improving the retail food environment—in both lower- and higher-income California communities—may be a promising strategy for decreasing the prevalence of obesity and diabetes in California adults.

Policy Recommendations

To date, many efforts to reduce obesity and diabetes have focused on encouraging individuals to change their eating habits. However, given the association shown in this study between the retail food environment and health outcomes, additional measures should be aimed at improving the retail food environment to support individuals in making such changes.

Although healthy eating habits are ultimately a matter of individual choice, local food environments influence those choices. It is difficult to follow recommended dietary guidelines in a food environment characterized by an abundance of fast-food restaurants and few grocery stores—a situation faced by many Californians, particularly those in lower-income communities. Reversing obesity and diabetes trends in California requires a range of interventions, including a systematic approach to improving local food environments.

Environmental and policy interventions can improve conditions for large numbers of people. Directing resources toward communities most in need, such as lower-income communities, can maximize the impact of such interventions.

Food environments can be made healthier by increasing the availability of grocery stores and produce vendors relative to fast-food restaurants and convenience stores, by improving the availability of healthy foods relative to unhealthy foods in existing retail outlets, and by increasing consumer awareness of the nutritional content of restaurant food. Based on the findings presented in this brief, insights gained from the national Scientific Advisory Panel convened for this study, and existing policy initiatives in other parts of the country,[41] policymakers are urged to consider the following strategies for improving local food environments:

- **Increase access to healthy foods by providing incentives for retail store development and improvement.** Because grocery chains have historically been less likely to locate in lower-income communities and communities of color,[42] new policies and market-based incentives are needed to reverse these trends. New funding could be used to stimulate development of retail projects by offering technical assistance and financing options, such as low-interest loans or seed grants for the purchase of refrigeration equipment and other supplies necessary to store and preserve fresh fruits and vegetables.
- **Promote retail innovations, including smaller-scale markets selling healthy foods.** Attention should be given to smaller-scale community innovations, such as mobile vendors, vending machines, farmers' markets, cooperatives, community-supported agriculture, and improved transportation to existing retailers. For example, farmers' markets and mobile vendors typically need less time to transition from vision to operation and can produce added benefits by supporting local farmers.
- **Maximize the opportunities presented by the changes in the WIC food package.** The inclusion of fresh fruits and vegetables, whole grains, and low-fat dairy products in the updated WIC food package is expected to increase demand for these healthy foods. Policymakers should adopt measures to ensure that the expanded food package is accessible in lower-income communities by building the capacities of existing WIC-authorized stores, expanding the number of authorized WIC vendors, and facilitating grocery store expansion.
- **Implement zoning designed to limit fast-food restaurants in overburdened communities.** The health implications of fast-food restaurants should be considered in the community planning and development permitting process. Local governments should strive to achieve a balance of retailers that supports community health.
- **Require menu labeling.** Restaurants should be required to provide consumers with nutritional information on in-store menus and menu boards for all standard menu items. Given the proliferation of fast-food restaurants and the high fat and calorie content of many items on their menus, prominent posting of the nutrient content of items for sale can help consumers make healthier choices.

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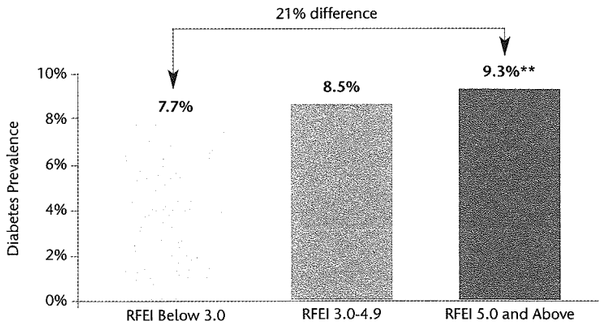
FIGURE 5

Diabetes Prevalence by Retail Food Environment Index, Adults Age 18 and Over Living in Lower-Income Communities, California, 2005



*** Significantly different from "RFEI Below 3.0"; p<0.10. RFEI was calculated using buffers of 0.5 mile for respondents in urban areas, 1 mile for respondents in smaller cities and suburban areas and 5 miles for respondents in rural areas. Survey respondents were characterized as living in lower-income communities if more than 30% of households in their census tract had incomes below 200% of the federal poverty level.*

Source: 2005 California Health Interview Survey, 2000 Census, and 2005 InfoUSA Business File

Diabetes

As with obesity, higher local RFEIs are associated with higher diabetes prevalence in both higher-income and lower-income communities; however, diabetes prevalence is highest among adults who live in lower-income communities and also have the highest RFEIs.

Even after accounting for individual characteristics and community income, adults with a higher Retail Food Environment Index (RFEI) are more likely to be obese and to have diabetes than those with lower local RFEIs.

In lower-income communities, diabetes prevalence is 21 percent higher among adults with a local RFEI of 5.0 and above compared to those with a local RFEI below 3.0 (9.3 percent vs. 7.7 percent; $p<0.10$) (Figure 5). Similarly, in higher-income communities, diabetes prevalence is higher among individuals with RFEIs above 5.0 compared to those with RFEIs below 3.0 (6.8 percent vs. 5.8 percent), although this difference is not statistically significant.

Again, although the association between RFEI and diabetes is consistent for Californians living in lower-income and higher-income communities, diabetes prevalence is highest among those who live in lower-income communities *and* have RFEIs of 5.0 or greater (9.3 percent).

The Association Between RFEI and Health Outcomes Remains Even After Controlling for Individual Characteristics and Community Income

People of color and lower-income individuals have higher local RFEIs. A greater proportion of African Americans (30 percent), Latinos (29 percent), and people of mixed race/ethnicity (31 percent) have RFEIs of 5.0 or greater compared to Caucasians (23 percent). In addition, a greater proportion (30 percent) of adults from lower-income households have RFEIs of 5.0 or greater compared with those from higher-income households (23 percent). However, the Retail Food Environment Index remains associated with both obesity and diabetes after accounting for these individual characteristics (race/ethnicity and household income) as well as for age, gender, physical activity, and community income. After controlling for these factors, adults with local RFEIs of 5.0 and above are 18 percent more likely to be obese and 24 percent more likely to have been diagnosed with diabetes than adults with local RFEIs below 3.0.

CONCLUSIONS

This study demonstrates a link between the retail food environment and the prevalence of obesity and diabetes in California adults. Even after accounting for individual characteristics and community income, adults with a higher Retail Food Environment Index (RFEI)—that is, with greater availability of fast-food restaurants and convenience stores relative to grocery stores and produce vendors near their homes—are more likely to be obese and to have diabetes than those with lower local RFEIs.

The highest prevalence of both obesity and diabetes is among adults who have higher local RFEIs and live in lower-income communities. However, for people living in lower-income and higher-income communities alike, the higher the ratio of fast-food restaurants and convenience stores to grocery stores and produce vendors near home, the greater the prevalence of obesity and diabetes.

These findings suggest that improving the retail food environment—in both lower- and higher-income California communities—may be a promising strategy for decreasing the prevalence of obesity and diabetes in California adults.

35. Fast-food restaurants were defined following the National Restaurant Association's distinction between "table service" and "quick service (fast-food)" restaurants. In addition to counter service, fast-food restaurants are characterized by meal service (vs. snacks, dessert, coffee) and lower price (less than $7/meal). We began with businesses with a North American Industry Classification System (NAICS) code for restaurants (72211002, 72211011, 72211012, 72211013, 72211016, 72211020, 72221101, 72221103, 72221104, and 72221105). From these businesses, we selected restaurants with five or more locations with the same name and that provided counter-service meals. Major fast-food chains were included (e.g., McDonald's, Taco Bell, Carl's Jr.), as were smaller, regional, or locally owned chains. Convenience stores were defined as businesses with NAICS code 44512001 that do not sell gasoline or other fuel. This list includes primarily 7-Elevens and other chains. In order to include smaller chains and family-owned convenience stores, we included businesses with NAICS codes for supermarkets and grocery stores (44511001, 44511002, 44511003, 44511004, and 44511005) that had two or fewer employees. Supermarkets and grocery stores (referred to collectively as grocery stores in this study) were identified based on a modification of the Food Marketing Institute (FMI) definition of a supermarket. FMI defines supermarkets and grocery stores as businesses that earn annual revenues of $2 million or more each year; however, in this study, we defined supermarkets and grocery stores as those that earn annual revenues of $1 million. We made this modification to include smaller markets that sometimes play an important role in urban communities. Members of a chain (either a national chain, such as Safeway, Albertsons, Trader Joe's, or a regional chain, such as La Superior, Nugget, Henry's, and Ranch 99) or stores with the word "supermarket" in the business name were included. NAICS codes included 44511001, 44511002, 44511003, 44511004, and 44511005. Produce vendors were defined as produce stores and farmers' markets. Produce stores included all businesses with NAICS codes 44523001 and 44523003. Farmers' markets included all certified farmers' markets listed on the website of the California Federation of Certified Farmers' Markets (*www.cafarmersmarkets.com*). We adjusted the number of farmers' markets to include only markets in unique places. For example, the Davis Farmers' Market is held both Wednesdays and Saturdays; we included only a single location record for this market. This information was then geocoded in ArcGIS 9. Actual physical locations (which were provided in downloadable files from the website) were used instead of mailing addresses.

36. Claritas, a marketing information resources company, assigns ZIP codes to urbanization categories based on the analysis of population density grids of 1990 geoboundaries, 2000 redistricting updates, and 2001 population estimates. The following four classes were identified: 1) Urban areas have population density scores mostly between 85 and 99. They include both the downtowns of major cities and surrounding neighborhoods. Households within this classification live within the classic high-density neighborhoods found in the heart of America's largest cities. While almost always anchored by the downtown central business district, these areas often extend beyond city limits and into surrounding jurisdictions to encompass most of America's earliest suburban expansions. 2) Smaller cities are less densely populated than urban areas, with population density scores typically between 40 and 85, and are the population centers of their surrounding communities. This category also includes thousands of satellite cities—higher-density suburbs encircling major metropolitan centers. 3) Suburbs have population density scores between 40 and 90. Unlike smaller cities, they are not the population center of their surrounding community, but rather a continuation of the density decline moving out from the city center. 4) Rural areas, collapsed into a single urbanization category, have population density scores under 40. This category includes exurbs, towns, farming communities, and other sparsely populated portions of the state.

37. Bishaw A, Iceland J. *Poverty: 1999*. U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau; 2003.

38. Analysts have used cutoffs of 20, 30, and 40 percent to determine whether or not a given neighborhood is low-income. See Jargowsky PA. *Stunning progress, hidden problems: The dramatic decline of concentrated poverty in the 1990s*. The Brookings Institution Center on Urban and Metropolitan Policy, 2003; Kingsley GT, Pettit KLS. *Concentrated poverty: A change in course*. Urban Institute, 2003; and Bishaw A. *Areas with concentrated poverty: 1999*. U.S. Census Bureau, 2005.

39. In its 2007 study, CCPHA reported a statewide RFEI of 4.18, calculated by dividing the total number of fast-food restaurants and convenience stores in California by the total number of grocery stores and produce vendors in California. In the current study, the average RFEI of 4.48 was calculated by taking an average of all RFEIs for CHIS respondents for whom an RFEI could be calculated, based on the number of fast-food restaurants, convenience stores, grocery stores, and produce vendors within the appropriate buffer around their home addresses.

40. Obesity prevalence is 25 percent among adults living in lower-income communities compared to 18 percent among adults in higher-income communities. Diabetes prevalence is 8.4 percent among adults living in lower-income communities compared to 5.8 percent among adults in higher-income communities. Source: 2005 California Health Interview Survey and 2000 Census.

41. Examples include menu labeling legislation passed in New York City and under consideration in a number of additional cities and states nationwide, and The Food Trust's Supermarket Campaign, which seeks to improve access to supermarkets in underserved communities through leveraging economic development resources, active public/private partnerships, research, and policy advocacy to address the negative impacts related to the lack of food retail choices in communities across the country. More information about the Supermarket Campaign can be found at *www.thefoodtrust.org/php/programs/super.market.campaign.php*. Retrieved March 27, 2008.

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Collaborating Organizations and Authors

The following individuals (listed alphabetically by affiliation) contributed to the conceptualization, development, and writing of this brief:

California Center for Public Health Advocacy
www.publichealthadvocacy.org

Harold Goldstein, DrPH, Executive Director
Stefan Harvey, Assistant Director

PolicyLink
www.policylink.org

Rajni Banthia, PhD, Program Associate
Rebecca Flournoy, MPH, Associate Director
Victor Rubin, PhD, Vice President of Research
Sarah Treuhaft, MCP, Senior Associate

UCLA Center for Health Policy Research
www.healthpolicy.ucla.edu

Susan H. Babey, PhD, Senior Research Scientist
Allison L. Diamant, MD, MSHS, Associate Professor, Division of General Internal Medicine, David Geffen School of Medicine at UCLA
Theresa A. Hastert, MPP, Senior Research Associate

California Center for Public Health Advocacy is an independent, nonpartisan, non-profit organization that raises awareness about public health issues and mobilizes communities to promote the establishment of effective health policies.

PolicyLink is a national research and action institute advancing economic and social equity. The PolicyLink Center for Health and Place conducts research, builds the capacity of local leaders, and develops policy alternatives to eliminate disparities and promote healthy communities.

UCLA Center for Health Policy Research serves to improve the public's health by advancing health policy through research, public service, community partnership, and education. Established in 1994, the UCLA Center for Health Policy Research is based in the School of Public Health and affiliated with the School of Public Affairs.

Scientific Advisory Panel

The Scientific Advisory Panel (listed alphabetically) included: Hannah Burton Laurison, MA, Public Health Law and Policy; Diana Cassady, DrPH, University of California, Davis; Catherine Cubbin, PhD, University of California, San Francisco and University of Texas, Austin; Ana Diez Roux, MD, PhD, MPH, University of Michigan, Ann Arbor; Calvin Freeman, MA, Calvin Freeman and Associates; Susan Handy, PhD, University of California, Davis; Shiriki Kumanyika, PhD, MPH, University of Pennsylvania School of Medicine; Gilbert Liu, MD, Indiana University School of Medicine; Kevin Rafter, PhD, James Irvine Foundation; and John Talmage, Social Compact. Affiliations are listed for identification only.

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Cities' Role in Reversing the Obesity Epidemic

Due to the rapid rise in obesity, today's youth may—for the first time in modern history—live shorter lives than their parents.[1]

Cities and their residents are facing increased health care costs and diminished quality of life due to the epidemic of obesity and overweight. City leaders across California are stepping up to help stem the obesity epidemic in their communities. This fact sheet is intended to help city council members and executive city staff see how municipalities can help reduce obesity and overweight through policies that advance healthy eating and active living.

Obesity and Overweight Cost Cities in Health Care, Preventable Disease, and Lost Productivity

California's children are suffering from overweight and its effects:

- On average, one in four California youth between the ages of 9 and 16 is overweight; in many California cities, that statistic is one in three
- More children are being diagnosed with diseases linked to overweight and obesity previously seen only in adults, such as Type 2 diabetes and heart disease
- Overweight children are far more likely to be obese as adults[2]

California's adults face serious problems from obesity:

- More than half of California's adults are overweight or obese: 23 percent are obese and another 35 percent are overweight[3]
- Obese adults face increased risks for many chronic conditions: diabetes, heart disease, cancer, arthritis, stroke, and hypertension[4]
- Each year in California, obesity is directly or indirectly responsible for hundreds of deaths and thousands of hospitalizations[5]
- In 2006, the annual cost to California—in medical bills, workers compensation and lost productivity—for overweight, obesity, and physical inactivity was $41 billion[6]

HEALTHY EATING ACTIVE LIVING CITIES CAMPAIGN

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The Campaign, funded by Kaiser Permanente and the Vitamin Cases Consumer Settlement Fund, is a partnership of the League of California Cities, the California Center for Public Health Advocacy, and the Cities Counties and Schools Partnership.

This fact sheet is one in a series providing background and policy ideas for healthy cities.

www.HealCitiesCampaign.org

Low-Income Communities Fare Worst

Rates of obesity are highest and have risen most rapidly among people of color and in low-income communities, where choices for healthy eating and physical activity are limited.[7] Even after accounting for individual risk factors such as socioeconomic status and race/ethnicity, living in a community that has a lot more unhealthy food outlets is associated with significantly higher rates of obesity and diabetes than living in a community with more opportunities to buy healthy food.[4]

Cities Have an Important Role in Obesity Prevention

Increasingly, policymakers, advocates, and health care providers are recognizing the influence of community factors on health,[8] including the following:

- Local access to healthy foods
- Safe places to play and be active
- Opportunities for people to walk and bike within their neighborhoods

City councils can improve the physical activity and food environments in their cities and contribute to preventing obesity among their employees and residents through:

- Internal personnel policies
- Land use decisions
- Redevelopment priorities
- Community and economic development plans

In conjunction with leaders from 100 California Cities, the Healthy Eating Active Living Cities Campaign has developed policy recommendations that could improve the food and physical activity environments in communities, available at **www.HealCitiesCampaign.org.**

The Benefits to Your City

By adopting one or more of the policies described at www.HealCitiesCampaign.org, your city could see these benefits:

- Cost savings through employee wellness policies and health incentives
- Improved quality of life for residents through active lifestyles
- Improved community connections and civic life through community interactions in parks and public places, slowing people down to see and talk with one another
- Improved public safety and reduced crime by ensuring more "eyes on the street" when residents walk, bike, or run
- Neighborhood recreation options that help keep kids out of the street
- Better-performing kids: healthy kids do better in school, giving them a greater chance to contribute eventually to the region's economic vitality
- Greater life expectancy for the next generation than predicted under current circumstances
- Creation of attractive destinations that offer good food, multiple activities, and places where people want to spend time and money
- Less traffic congestion and cleaner air as folks leave their cars to ride bicycles and walk
- Contribution to AB 32 and SB 375 goals by increasing walkability and biking and decreasing vehicle miles traveled

Join the Healthy Eating Active Living Cities Campaign

Go to **www.HealCitiesCampaign.org** and let us know what you are doing, or contact the campaign:

Charlotte Dickson, Campaign Director
Healthy Eating Active Living Cities Campaign
cd@PublicHealthAdvocacy.org
(510) 302-3387

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Get Moving!

Whether your city has been a leader in combating obesity or this is a new issue for your municipality, you can establish a healthier future for your city and its residents.

Take these three steps and you're on your way to supporting healthy eating and active living.

Your city can support the health of its residents and workers through policies that create a healthy eating and active living city.

1 Recognize the Problem

Has your city recognized the importance of addressing the obesity epidemic with policies, resolutions or programs?

☐ **YES!** Proceed to step two.

☐ **NO**

1. Learn whether there is a collaborative already working on the issue. If so, designate staff to attend their meetings and report back regularly to the council.
2. Consult with likely city and other partners in addressing the problem, such as other city council members, the community services and human resources directors, school board members, planning commissioners, and your public health director.
3. Identify local data to build your case with the council. Many communities have assessed such parameters as walkability, bikeability, and healthy food retail in their communities.

Visit **www.HealCitiesCampaign.org** to get local data and find others who are addressing the problem.

2 Clarify Your City's Role

Has your city stated a vision or adopted a policy to support healthy, active living?

☐ **YES!** Proceed to step three.

☐ **NO**

Join the Healthy Eating Active Living Cities Campaign by adopting a policy to increase physical activity and access to healthy food for your employees and residents.

Visit **www.HealCitiesCampaign.org** to see sample resolutions and policies.

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3 Consider Healthy Eating Active Living Policy Options

Is your city working to increase health and wellness through specific policies? Consider the following policy options:

☐ **Update your general plan**

Establishing goals and policies in your general plan that address the built environment is a powerful and enduring way to increase resident access to healthy food and routine physical activity.

See the HEAL Cities Campaign's Fact Sheet on *Land Use* for specific ideas and examples of general plan updates from California cities.

☐ **Adopt zoning ordinances**

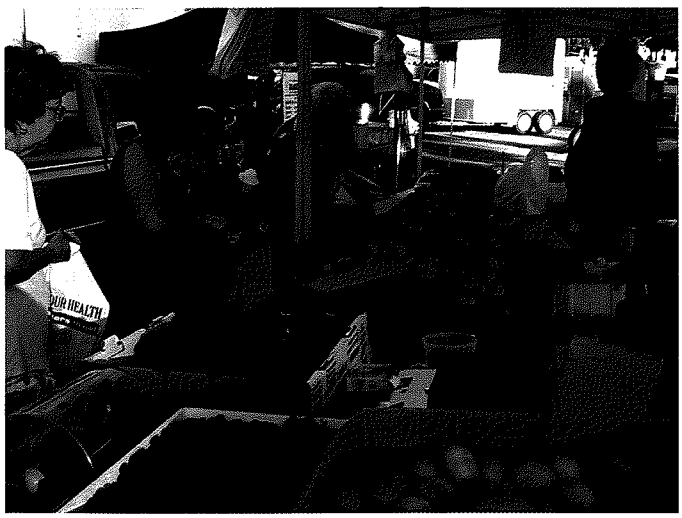
Adopting zoning ordinances can assure venues for produce sales in underserved neighborhoods, promote walking and biking, and create lively destinations within your city.

See the HEAL Cities Campaign's Fact Sheet on *Land Use* for specific ideas and examples from California cities.

☐ **Create incentives to increase the availability of healthy food in all your city neighborhoods**

Cities have powerful planning and economic development tools that can be directed toward grocery store development, corner store conversion, farmers markets and community gardens.

See the HEAL Cities Campaign's Fact Sheet on *Healthy Food Choices* for specific ideas and examples from California cities. The Campaign also has marketing materials for retailers who make healthy choices accessible to customers.



The City of Chino sponsors a weekly certified farmers market at City Hall that attracts residents downtown to shop for healthier foods, participate in family activities, and take in a variety of entertainment—from salsa-making contests to dancing and listening to local bands.

Allen Rossum of the San Francisco 49ers and Jerry Stackhouse of the Dallas Mavericks lead a group of youth in a 10-minute activity break. Instant Recess!

☐ **Address the health of your city workforce**

Keeping your workforce and their families healthy can increase productivity and decrease chronic disease and its attendant costs.

See the HEAL Cities Campaign's Fact Sheet on *Employee Wellness* for specific ideas and examples from California cities.

☐ **Choose one or more areas on which to focus**

Direct appropriate staff to contact the HEAL Cities Campaign for assistance.

BONUS! Get Credit

When you register your city's policies with HEAL Cities Campaign, we will provide recognition, including:

- The HEAL Cities Campaign logo for your city's website
- A tailored press release that we will distribute to local media outlets and the League of California Cities
- Recognition at the HEAL Cities Campaign breakfast at the League's Annual Conference
- Free HEAL Cities Campaign bumper stickers and eligibility to purchase Campaign promotional materials at cost

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Be a City with Healthy Land Use Policies

Many people believe that dealing with overweight and obesity is a personal responsibility. To some degree they are right, but it is also a community responsibility. When there are no safe, accessible places for children to play or adults to walk, jog, or ride a bike, that is a community responsibility.[1]

—U.S. Surgeon General

Think of a city where you love walking. Are there safe sidewalks, grocery stores or restaurants, and other people out walking? Are children and families relaxed and playing in well-maintained parks? It's not an accident that some neighborhoods attract pedestrians and that some communities have parks while others do not. What gets built in a city reflects that city's policies and goals for improving the health and activity of their residents and workers.

Cities can help improve residents' health with general plan and zoning policies. Photo by Visions LLC/Photolibrary.

In much of California, housing, schools, retail, worksites and parks are separated from each other by roads that discourage walking and biking and make people dependent on cars. In an effort to improve the health of their residents, some cities are promoting physical activity, particularly walking and biking, through their general plans and zoning codes. These strategies address both the obesity epidemic—rates of obesity increase in proportion to vehicular miles traveled[2]—and state mandates to reduce greenhouse gasses.[3]

Access to healthy food can likewise be enhanced through land use strategies. Adding measurable goals regarding access to grocery stores, farmers' markets and community gardens to a city's general plan can establish the foundation for zoning ordinances, permitting processes and business incentives to bring produce and other healthy items into underserved neighborhoods.

The co-benefits of using your city's general plan, zoning code and infrastructure investments to promote safe, active transportation, increase open space and support nutritious food are a healthy population and a healthy environment.

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Healthy Eating Active Living City Policies

This fact sheet explores policies that cities can adopt to create a healthy built environment through three land use mechanisms:

1. The city's planning process
2. Zoning regulations
3. Infrastructure investments

Cities can use these land use mechanisms to become more healthy and sustainable.

See the HEAL Cities Campaign website (www.HealCities Campaign.org) for more resources.

The City of Anderson's River Park provides multiple recreation areas for residents of all ages. Picture by Jeri Butler, Shasta County Public Health.

1 Healthy Planning

Cities throughout California are using their planning processes to address the obesity epidemic. Approximately 30 cities are using the general plan update to articulate measurable goals and policies that will enhance residents' physical activity and access to healthy food. Some cities are including a separate health element in their general plan; others are adding health goals and policies in various general plan elements.

For example, the **City of Richmond** drafted the Community Health and Wellness Element in its general plan update to formulate 10 goals that set the stage for policies to improve residents' proximity to open space, parks and produce markets; increase access to federal food programs such as WIC and the USDA lunch program; and implement joint use agreements with the school district.

Many are including a focus on smart growth principles. The term "smart growth" refers to developing healthy, vibrant communities where homes, jobs, schools and places for play are nearby each other and linked by walking, biking, and transit. The smart growth approach is gaining ground as climate change mandates shape transportation and housing planning. Smart growth principles can be included in the general plan and implemented through the zoning code.

Many cities are promoting bicycling for fun, fitness and transportation. Photo by Monique Rodriguez.

The **City of Chula Vista**'s general plan update incorporates health-related goals and policies throughout the elements, including a focus on smart growth principles and walking and biking systems. The **City of South Gate**'s general plan update encompasses safe routes to school, community gardens and attention to the concentration of unhealthy foods, particularly around schools.

- **Increase Park and Open Space Acreage Through the General Plan**

  Cities can set goals to increase parklands in their general plan and aim to increase the acreage of total recreational areas by looking at public easements, old railroad rights-of-way and vacant city-owned land. The **City of Santa Rosa** prioritizes funding for park development and maintenance in "park-poor" and low-income neighborhoods in its general plan.

Cities' master plans and specific plans offer additional avenues for incorporating access to physical activity and healthy food into the planning process. Many cities are using their bike and pedestrian master plans to shape zoning regulations and infrastructure investment to build sidewalks, crosswalks, bike lanes and other elements to increase active transportation.

2 Healthy Zoning Regulations

Zoning regulations are another powerful land use tool for promoting healthy eating and active living. The Healthy Eating Active Living Cities Campaign recommends the following zoning strategies to improve your residents' health.

- **Promote Compact, Mixed-Use and Transit-Oriented Development**

  Cities can support increased daily physical activity among residents by adopting high-density mixed-use zoning. A mix of residential, commercial and office uses in a particular zone can create a neighborhood where people can walk and bike to meet their daily needs. Establishing a minimum—rather than a maximum—density in these zones assures there are enough people and development to support a lively, interactive destination.

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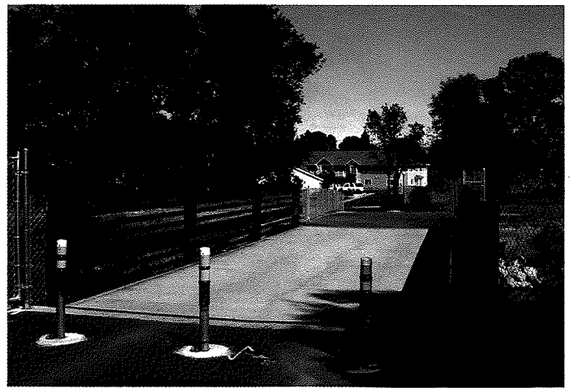

Pedestrian bridges can link residents to nearby commerce. Photo byJeri Butler, Shasta County Public Health.

The **City of Walnut Creek** has been a smart growth city since the early 1980s. The highest residential densities are downtown and near the BART station, allowing more compact development close to activity and providing good access to regional transit. The city promotes this increased density in conjunction with other important goals of the general plan, including provision of additional housing, preservation of neighborhood scale, an emphasis on retail development, and expansion of the park and open space system.[4]

- **Increase Walking and Biking Through Street Design**

  Cities can establish design guidelines and standards for pedestrian corridors and roadways that support walking and biking. Guidelines can include the following:

  - Using universal design and "complete streets" principles to accommodate pedestrians, bicyclists, skaters and wheelchairs along with motor vehicles in transportation corridors
  - Enhancing the connectivity between streets, trails and other pedestrian thoroughfares
  - Calming traffic to slow down vehicles
  - Installing streetscaping such as vegetation, trees and art installations to enhance the aesthetics of walking and biking throughways

The "complete streets" movement embodies these guidelines for enhancing walking and biking. The complete streets approach can be included in the zoning code as well as the general plan, the bike and pedestrian master and specific plans, and redevelopment plans and financing. The **City of Sacramento**'s Pedestrian-Friendly Street Standards exemplify this approach.

Bikable Cities

The **City of Davis** is known as one of the most bikable cities in California, with about 25% of all trips made by bicycle. Davis provides more than 100 miles of bike lanes, trails and other bicycle routes within its 10.5 square miles. The city has prioritized pedestrian and bicycle safety with highway underpasses and overpasses and traffic-light sensors for bike crossing. The current general plan states, "The keys to Davis' successful bike system are its linkage of key origins and destinations and its connections across physical barriers such as freeways, creeks, and major streets." The city has a bicycle advisory committee and a full-time pedestrian and bike coordinator.

- **Support Existing and Create New Farmers' Markets**

  Farmers' markets provide access to fresh fruits and vegetables and serve as an economic and social hub in a community. They are often an important source of produce in underserved neighborhoods. Defining farmers' markets as an allowable use within the municipal code and designating appropriate locations is an important step cities can take to protect existing markets and create new ones. Encouraging farmers' markets to accept federal food subsidies makes their produce accessible to low-income residents.

  Community members, the planning department and elected officials of the **City of Fresno** worked together to amend its zoning code to define farmers' markets as an allowed use.[5] The Cities of **Fresno** and **Ceres,** and the San Diego neighborhood of **La Jolla** are partnering with schools to host farmers' markets on school grounds. The **City of San Francisco** requires its farmers' markets to accept Electronic Benefits cards (EBT) and WIC and Senior Farmers' Market Program vouchers.[6]

Cities can increase places for youth to be physically active. Photo by Tim Wagner for HEAC.

Be a City with Healthy Land Use Policies

Many people believe that dealing with overweight and obesity is a personal responsibility. To some degree they are right, but it is also a community responsibility. When there are no safe, accessible places for children to play or adults to walk, jog, or ride a bike, that is a community responsibility.[1]

—U.S. Surgeon General

Think of a city where you love walking. Are there safe sidewalks, grocery stores or restaurants, and other people out walking? Are children and families relaxed and playing in well-maintained parks? It's not an accident that some neighborhoods attract pedestrians and that some communities have parks while others do not. What gets built in a city reflects that city's policies and goals for improving the health and activity of their residents and workers.

Cities can help improve residents' health with general plan and zoning policies. Photo by Visions LLC/Photolibrary.

In much of California, housing, schools, retail, worksites and parks are separated from each other by roads that discourage walking and biking and make people dependent on cars. In an effort to improve the health of their residents, some cities are promoting physical activity, particularly walking and biking, through their general plans and zoning codes. These strategies address both the obesity epidemic—rates of obesity increase in proportion to vehicular miles traveled[2]—and state mandates to reduce greenhouse gasses.[3]

Access to healthy food can likewise be enhanced through land use strategies. Adding measurable goals regarding access to grocery stores, farmers' markets and community gardens to a city's general plan can establish the foundation for zoning ordinances, permitting processes and business incentives to bring produce and other healthy items into underserved neighborhoods.

The co-benefits of using your city's general plan, zoning code and infrastructure investments to promote safe, active transportation, increase open space and support nutritious food are a healthy population and a healthy environment.

HEALTHY EATING ACTIVE LIVING CITIES CAMPAIGN

The Healthy Eating Active Living Cities Campaign provides training and technical assistance to help city officials adopt policies that improve their communities' physical activity and retail food environments. Supporting healthy choices is essential to address the obesity epidemic among California's children and adults, currently costing the state more than $41 billion annually in healthcare and lost productivity.

The Campaign, funded by Kaiser Permanente and the Vitamin Cases Consumer Settlement Fund, is a partnership of the League of California Cities, the California Center for Public Health Advocacy, and the Cities Counties and Schools Partnership.

This fact sheet is one in a series providing background and policy ideas for healthy cities.

www.HealCitiesCampaign.org

- **Support Existing and Create New Community Gardens**

Community gardens are a potential source of produce, whether they are located on school grounds, on easements and rights of way, in new housing developments or on vacant city land. Cities can include language in their general plans to protect existing and create new community gardens. The zoning code can be amended to define community gardens as a sub-use within designated open spaces and as an approved use within designated districts, such as residential, multi-family, industrial or other zones. The **City of Escondido** adopted a zoning amendment to make vacant land available for community gardens.[7] The **City of Sacramento** adopted the Front Yard Landscape Ordinance to allow diversified urban landscapes, including fruit and vegetable gardens, in front yards.[8]

- **Limit Unhealthy Food Retail**

A number of cities have modified their municipal codes to restrict the number of fast-food restaurants.

The Institute for Local Self Reliance offers many national examples, among them these California cities:

- **Carmel-by-the-Sea** prohibits fast food, drive-in and chain restaurants.
- The **City of Arcata**'s Formula Business Restrictions ordinance limits the number of chain restaurants in the city to no more than nine at any one time.
- The **Calistoga** city council passed a city ordinance prohibiting fast-food restaurants as necessary to preserve the unique character of Calistoga's downtown commercial district.
- The **City of Los Angeles** passed a moratorium on fast-food in South LA, along with a package of incentives to support healthy food retail.

Community gardens encourage exercise and neighbor interactions and provide affordable food. Photo by the City of Chino.

Farmers' markets increase the availability of fruits and vegetables. Photo by Rhonda Winter.

3 Healthy Infrastructure Investment

Cities can focus infrastructure investments on walking, biking and access to recreation.

- **Target infrastructure investments on walking and biking**

One vehicle for increasing walking and biking is the city's Capital Improvements Program (CIP), which can prioritize projects to build sidewalks, crosswalks and bike lanes. An annual review can judge how well CIP infrastructure projects match general plan policies.

The **City of La Mesa** created a prioritized list for adding sidewalks along routes to schools and recreational facilities as part of a Walkability Plan in 2005. A youth-led survey subsequently identified walkability as a priority for high school students. With the students' input, the city obtained grants to improve sidewalks at a high school and at all of the elementary and middle schools in the City.

- **Utilize joint use agreements to increase recreational opportunities**

Cities can partner with school districts to share the costs and responsibilities of building and maintaining park and recreation facilities and making school grounds available to city residents during non-school hours. Built-out cities can utilize joint use agreements to increase resident access to open space and recreational facilities. The **Cities of Richmond** and **Berkeley** include joint use goals and policies in their general plans. The **Cities of Fresno, Pixley, Chula Vista** and **Baldwin Park**, among others, have strong joint use agreements in place.

Cities can consider vacant city-owned land, public easements, and old railroad rights-of-way to increase parklands. Photo by richreidphotography.com.

Resources—Organizations and Toolkits

Institute for Local Government (ILG), www.ca-ilg.org, is the nonprofit research and education affiliate of the League of California Cities and the California State Association of Counties. ILG provides tools and resources for city and county officials and community leaders on a range of topics, including intergovernmental collaboration, climate change and land use planning. ILG's Healthy Neighborhoods Project focuses on the intersection between land use and health. Their *Guide to Creating Healthy Neighborhoods* will be part of a new series on *Understanding the Basics of Land Use*.

Planning for Healthy Places, www.healthyplanning.org, a program of Public Health Law and Policy, offers multiple resources on land use, including the following:

- *How to Create and Implement Healthy General Plans*—A primer on how the general plan can advance health; includes sample language and case studies.
- *Economic Development and Redevelopment: A Toolkit on Land Use and Health*—An introduction to available economic development and redevelopment tools and resources that can improve access to healthy food in low-income neighborhoods.
- *Establishing Land Use Protection for Community Gardens*—A brief that includes general plan and model zoning language to protect and expand community gardens.
- *Establishing Land Use Protection for Farmers' Markets*—A brief that includes model general plan language to protect and expand farmers' markets.

Policy Link, www.policylink.org, has a report, *The Impact of the Built Environment on Health*, that provides case studies of California cities that are incorporating health into planning and development (see especially pages 23–29).

Local Government Commission (LGC), www.lgc.org, is a nonprofit, nonpartisan membership organization that provides technical assistance and networking to local elected officials and community leaders. LGC fact sheets in English and Spanish provide excellent information on smart growth, walkability and bikability, community gardens and a host of other topics related to planning and health.

Among their many useful tools:

- *Smart Growth Zoning Codes: A Resource Guide*
- *Street Design Guidelines for Healthy Neighborhoods*

The City Project, www.cityprojectca.org, uses GIS mapping to analyze the ratio of residents to open space and parks in the Los Angeles and San Diego regions. Its report, *Healthy Parks, Schools and Communities for All: Park Development and Community Revitalization*, outlines guidelines for allocating park resources.

The League of American Bicyclists, www.bikeleague.org, promotes bicycling for fun, fitness and transportation and advocates for a bicycle-friendly America. Their website includes local resources.

California's **Joint Use Statewide Task Force (JUST),** www.jointuse.org, offers resources for cities interested in pursuing effective joint use policies and agreements.

Resources continue on next page.

Resources—City Policies

City of Chula Vista, www.chulavistaca.gov

Chula Vista's general plan update includes health goals, smart growth principles, and bikeways, sidewalks, paths and trails.

City of Davis, www.cityofdavis.org/bicycles

The City of Davis website provides information about its bicycle advisory committee, maps, bike safety, bike history and forthcoming national bike museum.

City of South Gate

www.raimiassociates.com/db_files/calapa2008healthysgraimi-compatibilitymode.pdf.

This document presents the rationale for the new health element of the City of South Gate's general plan, provides health data and delineates health-related goals and objectives.

City of Richmond, www.cityofrichmondgeneralplan.org

This draft health element has 10 goals that include proximity to open space, parks and produce markets; increased access to federal food programs, such as food stamps and the subsidized lunch program; and joint use with the school district.

City of La Mesa, www.cityoflamesa.com

The city's Wellness Program has produced guidelines for increasing walking and biking.

City of Fresno

http://www.fresno.gov/NR/exeres/02461475-5097-41A4-948E-271C55377056.htm

This article under "green enterprise" outlines the background and gives the details of the city's new zoning language amending its municipal code to define farmers' markets as an allowable use.

City of Berkeley, www.ci.berkeley.ca.us

The expanded open space and recreation element of the city's general plan includes policies for community gardens, highlighting locations and potential partners.

With a mix of residential, commercial and office uses people can walk or bike to most activities. Photo Rhonda Winter.

Join the Healthy Eating Active Living Cities Campaign

Go to **www.HealCitiesCampaign.org** and let us know what you are doing, or contact the campaign:

Charlotte Dickson, Campaign Director
Healthy Eating Active Living Cities Campaign
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8. http://www.qcode.us/codes/sacramento/view.php?topic=17-iii-17_68-17_68_010&frames=on.

Be a City with Healthy Food Choices

People living in neighborhoods crowded with fast-food and convenience stores but relatively few grocery or produce outlets are at significantly higher risk of...obesity and diabetes.[1]

You are what you eat turns out to be true when it comes to health. The food that city residents and workers can buy near work or home does make a difference to their well-being.

People who live near grocery stores and produce vendors are less likely to be obese or have diabetes. Photo by John MacKenzie.

Proximity and Balanced Choices Matter

The typical California community has four times as many retail outlets offering unhealthy food as outlets with healthy choices. In other words, most Californians are four times as likely to encounter fast food or a snack shop when looking for something to eat as they are to come across fresh fruits and vegetables.[2]

Moreover, people who live in neighborhoods where fast-food restaurants and convenience stores are more numerous than grocery stores and produce vendors are more likely to have diabetes and be obese.[3]

Regardless of individual or community income, proximity and balanced choices matter.

City Policies Can Encourage Healthy Eating

Cities have powerful planning, economic development and public relations tools that can be used to attract healthy food retail. This fact sheet details ways cities can create a healthier food environment. The HEAL Cities Campaign website (www.HealCitiesCampaign.org) offers resources for each of the following policies:

1. Create a vision and challenge for health with a HEAL City Resolution or Mayor's Challenge
2. Attract healthy food retail options
3. Let residents know which local businesses promote healthy choices

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1 Pass a Resolution to Be a Healthy Eating Active Living City

The first step for many cities is to acknowledge the obesity epidemic along with its human and economic costs and to set a vision and directive to commit the city to healthier eating and more active living. This commitment can take the form of a city resolution or mayor's initiative.

In **San Francisco**, for example, the "Shape Up San Francisco" mayor's initiative seeks "to increase the awareness of and opportunities for increased physical activity and improved nutrition where people live, play, work and learn."[4]

2 Attract Healthy Food Options

There are a number of ways that cities can support and attract more retailers of healthy foods:

- **Promote Farmers' Markets**

  These lively retail options create a destination, promote social interaction, support local agriculture and bring healthy food to residents. Cities can support and promote local farmers' markets by defining them in the general plan and zoning code and encouraging them to accept the electronic benefit transfer card (EBT—formerly food stamps) and WIC coupons. Cities typically seek locations with adequate parking and attractive adjacent property uses, such as parks and retail. With many shopping centers closing and school wellness policies in force, some cities are passing ordinances to allow farmers' markets in previously off-bounds places, such as schools and parks. **Fresno, Ceres** and **La Jolla** have thriving farmers' markets at schools, and **Petaluma** has at least one in a neighborhood park. The county agriculture commissioner can provide guidance on the formation and certification of farmers' markets.

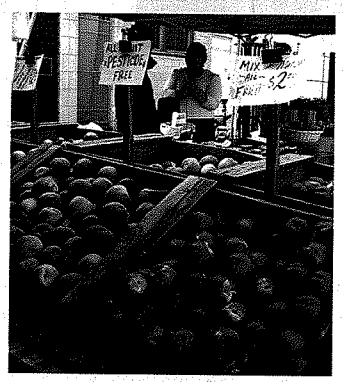
Developing new grocery stores and cooperatives, creating farmers' markets, and improving the quality of food sold at convenience stores are all ways to increase a community's access to healthy foods.[5]

- **Promote Community Gardens**

  Community gardens can provide affordable produce to residents as well as neighborhood green space and places for community-building and physical activity. Many families who farmed or gardened in their countries of origin are eager to get involved in community gardening in their neighborhoods and schools. Cities can support and promote community gardens by defining them in the general plan and zoning code and outlining a process for creating an inventory of appropriate sites, such as parks or vacant land. A community garden ordinance can also address such issues as access to water, liability insurance, contracts with private landowners and other maintenance needs. See the HEAL Cities Campaign land use fact sheet for related information.

SHAPE UP SAN FRANCISCO

The "Shape Up San Francisco" mayor's initiative seeks "to increase the awareness of and opportunities for increased physical activity and improved nutrition where people live, play, work and learn."[4] A multidisciplinary Shape Up Coalition includes representation from city government, community-based organizations, businesses, schools, healthcare providers and others. The coalition is working in four strategic locations: worksites; neighborhoods; schools, after school programs and childcare programs; and healthcare providers.



Farmers' markets in low-income neighborhoods can be encouraged to accept EBT and WIC coupons. Photo by Rhonda Winter.

In one activity, staff from the city's Office of Economic Development and Workforce participate in a coalition working to bring healthy and affordable produce to residents of some of the city's poorest neighborhoods. Through this city-community collaboration, city staff have attracted an expert grocery consultant to help a failing small grocer redesign his store to provide the healthier food options residents are asking for.

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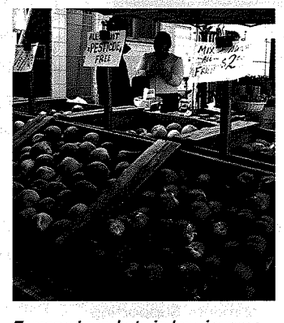

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Community gardens provide affordable food and physical activity while building community among residents. Photo by richreidphotography.com.

- **Promote Healthy Food Retail**
  Attracting retailers who stock healthy food—including grocery stores, produce markets, and corner stores with fruits and vegetables—is a complex endeavor that requires collaboration with community partners.

  The city's role in this partnership is to coordinate and focus its economic development, planning, financing, permitting and, if applicable, redevelopment tools and assets to attract and support healthy food retail. For example, a city can direct tax breaks, grants and loans, land assembly, conditional use zoning, dedicated assistance for infrastructure such as refrigeration and signage, technical assistance with business planning and marketing, and fast track and/or streamlined permitting for grocery stores in underserved areas.

  In 2006 the **Los Angeles City Council** created a working group led by the Redevelopment Agency and including the Departments of Planning, Water and Power along with the Mayor's Office to develop a package of incentives for full-service grocery stores and healthy sit-down restaurants. None of the incentives were new—they had all been offered previously—but they were presented in a more attractive and actionable way. Several healthy food retail projects are now in the pipeline.

- **Prioritize Health Goals in Redevelopment Areas**
  Redevelopment agencies can include health goals—including access to healthy foods and physical activity—as a matter of general agency policy or on a project-by-project basis. The Project Area Committee or Community Advisory Committee can include access to healthy food in the community benefits agreement for each proposed development project.[6]

As part of a community project, a high school student in Southern California works with corner store owners to improve signage pointing to healthier options. Photo by Tim Wagner.

- **Increase Access for Low-Income Populations.** Federal food assistance programs are vital to increasing low-income residents' access to healthy food. Increasing the number of locations that accept EBT can provide more access to fruits and vegetables. For example, using the zoning code to encourage or require farmers' markets to accept EBT and the WIC and Senior Farmers' Market Program vouchers benefits both customers and farmers.

3 Recognize Businesses That Offer Healthy Choices

The HEAL campaign has public awareness materials—including sample city resolutions and press packets—that cities can use to recognize businesses that offer and promote healthy eating. Signage is also available for stores and restaurants that institute "healthy check-out lanes" or post calories on menus and menu boards prior to the January 1, 2011 implementation date for the state's menu-labeling law.

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(510) 302-3387

La Loma Mercado y Carniceria on 23rd Street in San Pablo prominently features fresh produce that is culturally familiar.

Resources

American Community Gardening Association offers tips on elements to include in a community garden ordinance. **www.communitygarden.org.**

Local Government Commission has an excellent fact sheet on community gardens, with specific recommendations for city policy makers. **www.lgc.org.**

Los Angeles Community Redevelopment Agency's *Market Opportunities* document describes LA's coordinated approach to attract healthy food retail to South LA. **www.crala.org/internet-site/Development/upload/Market_Opportunities_08.pdf.**

Planning for Healthy Places, a program of Public Health Law and Policy, offers multiple resources on healthy retail. **www.healthyplanning.org.**

- *How to Use Economic Development Resources to Improve Access to Healthy Food*
  www.healthyplanning.org/factsheets/PHLP_EconDev_factsheet.pdf.
- *How to Use Redevelopment to Create Healthier Communities*
  www.healthyplanning.org/factsheets/PHLP_Redev_factsheet.pdf.
- *Funding Sources for Healthy Food Retail: A Guide to Federal and California Economic Development Resources.* **www.healthyplanning.org/FoodRetailPrograms.pdf.**
- *Healthy Planning Redevelopment Agency Resolution*: sample language that prioritizes obesity prevention as the redevelopment agency strategy. **www.healthyplanning.org/ecdev_toolkit/ed_appendix2.pdf.**

Policy Link highlights promising strategies to develop grocery stores, improve the selection and quality of food in existing smaller stores, and start and sustain farmers' markets in the report, *Healthy Food, Healthy Communities: Improving Access and Opportunities Through Food Retailing.* A second helpful report is *Grocery Store Attraction Strategies: A Resource Guide for Community Activists and Local Governments.* **www.policylink.org.**

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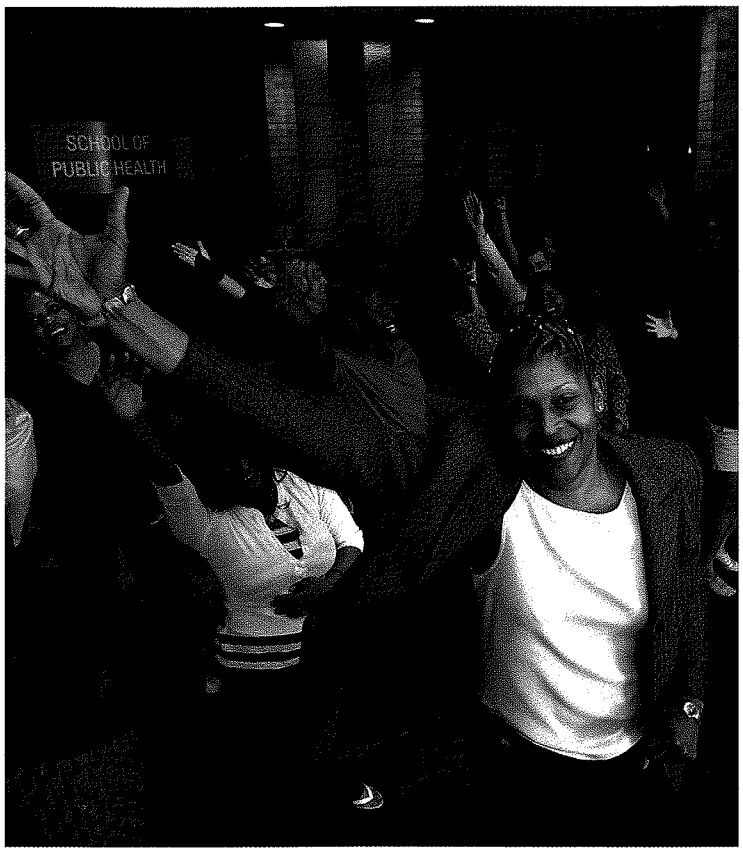
Be a City with a Healthy Workforce

For every dollar invested by employers in workplace wellness programs, there was an average savings of more than $3.00. In business terms, that's a 3:1 return on investment.[1]

Healthcare costs are an increasing burden on city budgets. Yet those costs could be reduced if fewer employees suffered from the chronic diseases related to obesity and overweight.



City policies can help city workers feel better and stay healthy. Photo by Reed Hutchinson.

Preventable chronic diseases account for more than 75% of all healthcare expenditures.[2] Health care and lost productivity from overweight, obesity, and physical inactivity cost California more than $41 billion in 2006.[3]

To stem their costs from healthcare utilization, injury and lost productivity and to increase staff morale, many cities are implementing employee wellness policies and no-cost and low-cost health incentives.

This fact sheet offers ideas for policies that cities can adopt to create healthier food and physical activity environments for their employees. The HEAL Cities Campaign website (www.HealCities Campaign.org) offers resources for each of the following Healthy Eating Active Living city policies:

1. Pass an employee wellness resolution
2. Create policies to include health breaks during the work day
3. Institute healthy snack choices
4. Improve breastfeeding accommodations for employees

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1 Pass an Employee Wellness Resolution

Address employee wellness with a city council resolution, a mayor's executive order or a city manager's administrative policy. For example, the Mayor of **San Francisco** issued an executive order mandating a timeline for all city departments to incorporate strategies for enhancing employee wellness into departmental mission and values statements and for implementing workplace wellness policies and programs.

2 Create Policies to Include Health Breaks During the Work Day

One step toward improving employee health is creating policies that build health breaks or healthy behaviors into the work day.

- **10-Minute Physical Activity Opportunities**
  Employees can reap meaningful health benefits from even a single 10-minute physical activity break each day. Benefits include improvements in blood pressure, waist circumference, mood states, cumulative trauma disorders, attention span and other clinical measures.[4] Cities can establish a policy to adopt UCLA's Lift Off! program to introduce short exercise breaks throughout the work week at a set time each day and at meetings lasting more than one hour. **Orange County's Public Health Department** adopted the Lift Off! program, giving employees 10 minutes of paid time to participate if they choose. Employees who choose not participate do not receive the extra paid break.

Cities can partner with local organizations to run exercise classes. Photo courtesy of Thousand Oaks Wellnes Program.

ESTABLISH A WORKSITE WELLNESS COMMITTEE

The role of the Worksite Wellness Committee is to assess the nutrition and physical activity environment within the workplace, survey employees about their needs and interests, implement programs and recommend policy changes.

In the **City of Stockton**, the Parks and Recreation and Human Resources departments have initiated an employee wellness program by establishing a committee with representatives from all city departments. The **City of Seaside** maintains a six-member wellness committee that includes management and non-management employees.

- **Active Stairwell Policies**
  Walking one flight up or two flights down is an effective and inexpensive way to add physical activity into the daily routine. Cities can set standards for stairwell safety—including unlocked doors into stairwells and adequate lighting—and encourage employees to use stairwells whenever possible. The **City of Chino**'s award-winning stairwell program includes a local art exhibit in city stairwells to heighten their aesthetics and a competition regarding stair use with low-cost and donated prizes.

- **Stretch Warm-Ups**
  The **San Francisco Public Works Department** maintains an award-winning program of stretching for general services employees at their work sites each morning. The decentralized, employee-led program has resulted in a significant reduction in the rates of employee injury and illness, reductions in lost work days, and an increase in productivity.[5]

- **Stress Management and Wellness Workshops**
  To provide workshops in stress reduction and other health-related topics to employees, cities can partner with local health organizations that have ready-made programs. The American Cancer Society and American Heart Association offer free and low-cost employee wellness programs. The **City of Thousand Oaks** partners with local health care providers to offer free lunchtime classes and campaigns on specific health topics. The **City of Paradise** offers the CHIP (Coronary Health Improvement Project) to its employees.

1 Pass an Employee Wellness Resolution

Address employee wellness with a city council resolution, a mayor's executive order or a city manager's administrative policy. For example, the Mayor of **San Francisco** issued an executive order mandating a timeline for all city departments to incorporate strategies for enhancing employee wellness into departmental mission and values statements and for implementing workplace wellness policies and programs.

2 Create Policies to Include Health Breaks During the Work Day

One step toward improving employee health is creating policies that build health breaks or healthy behaviors into the work day.

- **10-Minute Physical Activity Opportunities**
  Employees can reap meaningful health benefits from even a single 10-minute physical activity break each day. Benefits include improvements in blood pressure, waist circumference, mood states, cumulative trauma disorders, attention span and other clinical measures.[4] Cities can establish a policy to adopt UCLA's Lift Off! program to introduce short exercise breaks throughout the work week at a set time each day and at meetings lasting more than one hour. **Orange County's Public Health Department** adopted the Lift Off! program, giving employees 10 minutes of paid time to participate if they choose. Employees who choose not participate do not receive the extra paid break.

Cities can partner with local organizations to run exercise classes. Photo courtesy of Thousand Oaks Wellnes Program.

ESTABLISH A WORKSITE WELLNESS COMMITTEE

The role of the Worksite Wellness Committee is to assess the nutrition and physical activity environment within the workplace, survey employees about their needs and interests, implement programs and recommend policy changes.

In the **City of Stockton**, the Parks and Recreation and Human Resources departments have initiated an employee wellness program by establishing a committee with representatives from all city departments. The **City of Seaside** maintains a six-member wellness committee that includes management and non-management employees.

- **Active Stairwell Policies**
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3 Institute Healthy Snack Choices

Many workers consume a significant portion of their daily food while on the job. Foods consumed from vending machines, through concessions, in meetings and at other public food-service establishments are often higher in calories, fat, sugar and salt than are foods prepared at home. Making healthy food available at work is one way to address obesity and overweight by enabling employees to eat a healthy diet. Offering healthy choices in public areas can also benefit residents who use city facilities and programs.

- **Healthier Vending Machines**
  A vending machine policy can require that a certain percentage of items—typically 50% to 100%—meet standards set forth by state legislation governing school vending. **The City of San Jose**'s vending policy for libraries requires 100% of items to meet State standards for school vending. Machines located in other city-owned facilities are required to have at least 50% of their items meet the State standards.
- **Healthier Food at City-Sponsored Meetings, Events and Programs**
  Policies that require healthier foods at city-sponsored meetings and events is another way cities can support employee and resident health.

  The **City of San Leandro**'s Recreation and Human Services Department established a wellness policy that sets nutritional guidelines for meals and snacks at its youth and senior programs. Recommended snacks include fresh fruits and vegetables; nuts and dried fruits; multi-grain breads, tortillas and crackers; and low-fat and no-sugar spreads. **Brentwood's City Council** adopted a wellness policy whose nutritional guidelines ensure that staff and residents have healthy choices among items sold at public facilities.

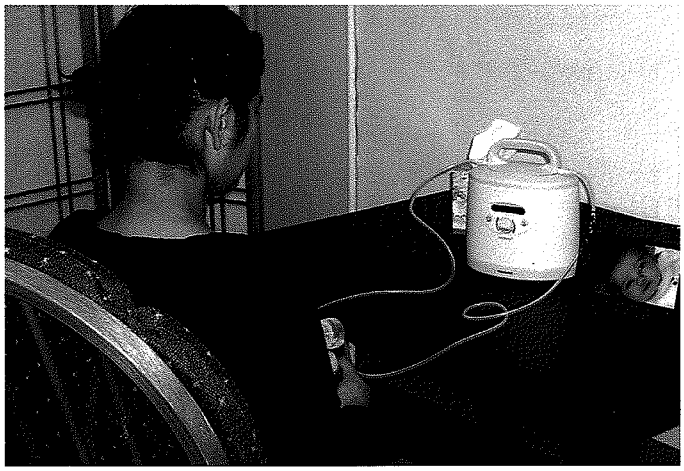
Healthy food choices on the job help workers stay more alert and focused. Photo courtesy of Thousand Oaks Wellnes Program.

Cities that include fruit and vegetable options at meetings and events help employees stay healthy. Photo by Judy Rabbani, CCPHA.

HEALTHY MEETING POLICY

Meetings are a major part of the workday for city employees in administrative, program and management positions. Oftentimes, meetings include food and beverages along with long periods of sitting. A healthy meeting policy that provides guidelines for food and beverages and prescribes activity breaks for longer meetings can help employees stay alert, focused and healthy. The University of California has an excellent online guide to healthy meetings and events:

www.uhs.berkeley.edu/facstaff/healthmatters/healthymeetings.shtml



Providing lactation rooms helps mothers maintain breastfeeding when they return to work.

4 Improve Breastfeeding Accommodations for Employees

Breastfeeding is the first line of prevention for childhood obesity and provides a host of additional health benefits for mother and child.[6]

Because breastfed babies have less illness, support for breastfeeding mothers results in reduced employee absenteeism to care for ill children, along with improved employee productivity and higher morale.[7] While state law mandates a baseline of accommodation measures for breastfeeding in government worksites, local breastfeeding policies can enhance accommodations so that mothers are more supported to pump their milk at work.

The **City of Walnut Creek** allows breastfeeding mothers a flexible schedule to pump their milk during the day. The **Cities of Baldwin Park** and **Chula Vista** adopted policies that include educating managers about lactation accommodation and informing employees about the city's lactation accommodation policies before and after maternity leave.

Join the Healthy Eating Active Living Cities Campaign

Go to **www.HealCitiesCampaign.org** and let us know what you are doing, or contact the campaign:

Charlotte Dickson, Campaign Director
Healthy Eating Active Living Cities Campaign
cd@PublicHealthAdvocacy.org
(510) 302-3387

Resources

California Fit Business Toolkit, www.takeactionca.com/california-fit-business-kit-tools.asp.

Online toolkit with guidelines for starting a wellness committee, conducting an assessment of workplace physical activity and nutrition environments, and implementing policies and programs.

American Cancer Society Workplace Solutions, Building a Healthy Workplace, www.cancer.org/downloads/COM/Employer_Wellness_Final.pdf.

A brochure for businesses about partnering with the ACS to improve the workplace environment and help workers practice healthy behaviors.

The American Heart Association—Start! Program mystartonline.org/home.jsp.

This program focuses on walking and nutrition for fitness and heart health.

The Centers for Disease Control and Prevention—LEANWorks, www.cdc.gov/leanworks/

A free, web-based program that helps employers calculate how much obesity costs their company and how much the company could save by implementing an obesity prevention program in the workplace. It also provides guidelines for adopting effective policies and creating programs.

UCLA School of Public Health. Lift Off!
Two useful documents about these 10-minute, structured group-based exercise breaks:

- *Lift Off! 10-Minute physical activity breaks* www.ph.ucla.edu/cehd/Documents/ALR_Lift_OffsAre.pdf
- *Lift Offs work!: The rapidly growing evidence base* www.ph.ucla.edu/cehd/Documents/ALR_Lift_Off_Evidence.pdf.

The Bay Area Physical Activity and Nutrition Collaborative www.banpac.org/healthy_vending_machine_toolkit.htm.

BANPAC's online toolkit guides cities and counties to establish a vending machine policy. Includes examples from the cities of San Jose and Berkeley.

U.S Health Resources and Services Administration Breastfeeding Toolkit,
ask.hrsa.gov/detail.cfm?PubID=MCH00250

A free publication makes the business case for breastfeeding and includes hands-on materials to enable management to implement breastfeeding accommodation policies.

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HEALTHY EATING
ACTIVE LIVING
CITIES
CAMPAIGN

Kanat Tibet
Local Policy Specialist
(530) 297-6000 (office)
(916) 213-6380 (cell)
kt@publichealthadvocacy.org

2201 Broadway, Suite 502
Oakland, CA 94612
www.healcitiescampaign.org

Promoting physical activity and nutrition policies in California cities