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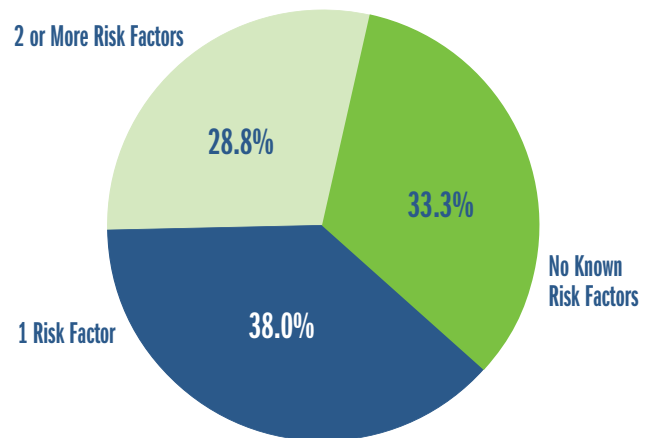
MANY COUNTY ADULTS ARE AT RISK FOR HEART DISEASE AND STROKE

Heart disease and stroke (together referred to as cardiovascular disease) are the first and third leading causes of death, respectively, both in Los Angeles County and the United States. Cardiovascular disease is also a leading cause of chronic illness and disability in the adult population. In addition to the tremendous personal toll, cardiovascular disease has a substantial economic impact. Nationwide in 2004, medical costs related to cardiovascular disease were estimated to be \$242 billion and economic costs associated with lost productivity were approximately \$152 billion.¹ Extrapolation from these national figures suggests that the medical and lost productivity costs associated with cardiovascular disease in Los Angeles County are likely to be in the range of \$10-15 billion annually.

Cardiovascular disease is to a large degree preventable. Modifiable personal risk factors include high blood pressure (hypertension), high cholesterol, obesity, diabetes, tobacco use, and lack of exercise. Persons with multiple risk factors are at even greater risk of disease and represent an important target population for prevention efforts.

To estimate the number and percentage of adults in Los Angeles County with multiple (two or more) risk factors for cardiovascular disease, and to examine variation in the percentage with multiple risk factors by race/ethnicity and other demographic factors, data were analyzed from the 2002-03 Los Angeles County Health Survey (LACHS). The survey collected information

FIGURE 1 Percent[†] of Adults with Risk Factors^{††} for Cardiovascular Disease, 2002-03



[†] Age-adjusted to the 2000 U.S. standard population aged 18 years and older.
^{††} Risk factors include: hypertension, diabetes, cigarette smoking, obesity and physical inactivity.

from a random sample of 8,167 adults (≥ 18 years old) countywide on the following five modifiable risk factors: hypertension, diabetes, cigarette smoking, obesity, and physical inactivity.²

More than one-in-four adults has multiple risk factors

In 2002-03, 20.4% of adults reported having high blood pressure, 7.2% reported having diabetes, 15.6%

1. American Heart Association. *Heart Disease and Stroke Statistics – 2005 Update*. Dallas, TX: American Heart Association; 2005.
www.americanheart.org/downloadable/heart/1105390918119HDSSStats2005Update.pdf

2. No data were collected on high cholesterol in the 2002-03 LACHS.

TABLE 1

Percent[†] of Adults (18+ years) with Two or More Risk Factors^{††} for Cardiovascular Disease, 2002-03

	≥ 2 Risk Factors Age-Adjusted Percent	Estimated Number
Los Angeles County	28.8%	1,692,000
Gender		
Male	29.0%	842,000
Female	28.5%	850,000
Age Group		
18-29	12.8%	189,000
30-49	23.9%	609,000
50-64	41.0%	477,000
65 or over	45.4%	417,000
Race/Ethnicity		
Latino	32.1%	601,000
White	25.1%	638,000
African-American	44.3%	273,000
Asian/Pacific Islander	20.8%	173,000
Education		
Less than high school	35.9%	469,000
High school	30.8%	401,000
Some college or trade school	30.7%	495,000
College or post graduate degree	19.7%	323,000
Federal Poverty Level[‡]		
0-99% FPL	39.0%	396,000
100%-199% FPL	32.9%	455,000
200%-299% FPL	25.2%	314,000
300% or above FPL	23.6%	528,000

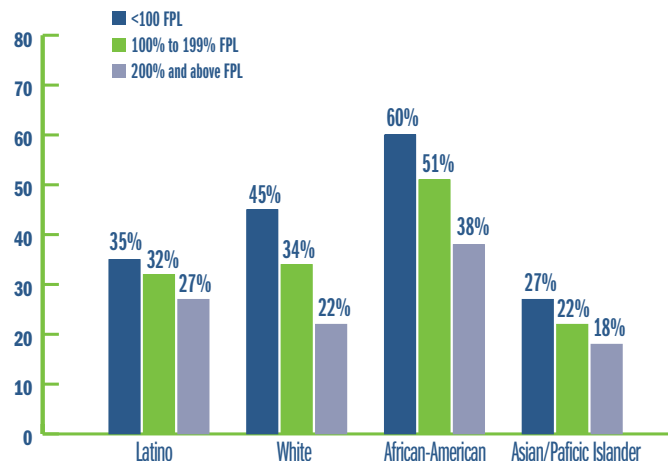
† Age-adjusted to the 2000 U.S. standard population aged 18 years and older.
 †† Risk factors include: hypertension, diabetes, cigarette smoking, obesity and physical inactivity.
 ‡ Based on 2002 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$18,859 (100% FPL), \$37,718 (200% FPL), and \$56,557 (300% FPL).

reported current smoking, 19.3% were obese based on self-reported height and weight, and 42.6% reported little or no physical activity. Overall, 33.3% of adults reported none of the five risk factors, 38.0% reported one risk factor, and 28.8% (representing 1.69 million adults in the county) reported two or more risk factors for cardiovascular disease (Figure 1).

The percentage with two or more risk factors increased with age, from 12.8% among those 18-29 years of age to 45.4% among those 65 years and older (Table 1). The percentage with two or more risk factors was similar in men (29.0%) and women (28.5%) but varied significantly by race/ethnicity. The

FIGURE 2

Percent[†] of Adults (18+ years) with Two or More Risk Factors^{††} for Cardiovascular Disease by Federal Poverty Level[‡], 2002-2003



† Age-adjusted to the 2000 U.S. standard population aged 18 years and older.
 †† Risk factors include: hypertension, diabetes, cigarette smoking, obesity and physical inactivity.
 ‡ Based on 2002 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$18,859 (100% FPL), \$37,718 (200% FPL), and \$56,557 (300% FPL).

percentage was highest among African-Americans (44.3%), followed by Latinos (32.1%), Whites (25.1%), and Asians/Pacific Islanders (20.8%).

The percentage with two or more risk factors was inversely related to socioeconomic status (SES) as measured by education level and household income (Table 1). For example, 39.0% of adults living below the federal poverty level (FPL)³ reported multiple risk factors compared to 23.6% among those living at or above 300% of the FPL. This pattern was present in each racial/ethnic group (Figure 2).

TABLE 2

Percent[†] of Adults (18+ years) with Two or More Risk Factors^{††} for Cardiovascular Disease by Service Planning Area, 2002-03

	≥ 2 Risk Factors Age-Adjusted Percent	Estimated Number
Los Angeles County	28.8%	1,692,000
Service Planning Area		
Antelope Valley	37.2%	72,000
San Fernando Valley	24.6%	312,000
San Gabriel Valley	27.0%	293,000
Metro	26.6%	178,000
West	19.2%	87,000
South	38.3%	183,000
East	33.1%	247,000
South Bay	32.7%	320,000

† Age-adjusted to the 2000 U.S. standard population aged 18 years and older.
 †† Risk factors include: hypertension, diabetes, cigarette smoking, obesity and physical inactivity.

3. Based on 2002 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$18,859 (100% FPL), \$37,718 (200% FPL), and \$56,557 (300% FPL).

TABLE
3

Barriers Accessing Health Care for Adults (18+ years) with Two or More Risk Factors†† for Cardiovascular Disease, 2002-03

	Uninsured		No Regular Source of Care		Difficulty Accessing Care		No Health Care Visit Within The Past Year	
	Percent	95% CI	Percent	95% CI	Percent	95% CI	Percent	95% CI
Los Angeles County	18%	± 2	12%	± 2	27%	± 2	16%	± 2
Race/Ethnicity								
Latino	29%	± 4	20%	± 3	37%	± 4	21%	± 4
White	9%	± 2	7%	± 2	17%	± 3	13%	± 3
African-American	10%	± 4	6%*	± 4	27%	± 6	11%	± 4
Asian/Pacific Islander	21%	± 8	13%*	± 6	29%	± 8	20%	± 7
Gender								
Male	16%	± 3	14%	± 3	24%	± 3	22%	± 3
Female	19%	± 3	10%	± 2	29%	± 3	11%	± 2
Education								
Less than high school	28%	± 5	22%	± 4	39%	± 5	19%	± 4
High school	18%	± 4	11%	± 3	26%	± 4	16%	± 4
Some college or trade school	14%	± 3	6%	± 2	22%	± 4	14%	± 3
College or post graduate degree	8%	± 3	8%	± 3	18%	± 4	15%	± 4
Federal Poverty Level*								
0-99% FPL	33%	± 5	21%	± 5	45%	± 5	19%	± 4
100%-199% FPL	21%	± 4	14%	± 4	30%	± 5	16%	± 4
200%-299% FPL	12%	± 4	6%	± 3	21%	± 5	12%	± 4
300% or above FPL	7%	± 3	8%	± 3	13%	± 3	16%	± 3
Service Planning Area								
Antelope Valley	13%*	± 6	12%*	± 6	31%	± 8	11%*	± 6
San Fernando	19%	± 5	16%	± 5	28%	± 5	17%	± 4
San Gabriel	15%	± 5	11%	± 4	24%	± 5	17%	± 5
Metro	28%	± 8	17%	± 6	29%	± 7	17%	± 6
West	6%*	± 6	—	—	22%	± 9	16%*	± 8
South	19%	± 6	11%	± 5	29%	± 7	16%	± 6
East	16%	± 5	12%	± 4	26%	± 6	16%	± 5
South Bay	18%	± 5	10%	± 4	27%	± 5	17%	± 5

†† Risk factors include: hypertension, diabetes, cigarette smoking, obesity and physical inactivity.

*Estimate should be viewed with caution because of the small sample size.

—Not reported for purposes of confidentiality.

+ Based on 2002 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$18,859 (100% FPL), \$37,718 (200% FPL), and \$56,557 (300% FPL).

The percentage with two or more risk factors for cardiovascular disease was highest in the South Service Planning Area (SPA) (38.3%) and the Antelope Valley SPA (37.2%), and was lowest in the West SPA (19.2%) (Table 2). However, the largest numbers of adults with two or more risk factors were in the South Bay SPA (320,000), the San Fernando Valley SPA (312,000), and the San Gabriel Valley SPA (293,000).

Many with multiple risk factors report difficulty accessing needed services

Among adults with two or more risk factors for cardiovascular disease, 16% had not been to a health care provider in the past year. Eighteen percent reported having no health insurance, and 12% did not have a regular source of health care. Latinos with two

on the web



or more risk factors were more likely to be uninsured (29%) and not have a regular source of health (20%) than were other groups (Table 3).

Overall, 27% of adults with two or more cardiovascular disease risk factors reported difficulty accessing medical care when needed. Latinos were more likely than other racial/ethnic groups to report difficulty accessing needed services (Table 3).

Implications

The large number of adults with multiple risk factors for cardiovascular disease in the county suggests that heart disease and stroke are likely to remain among the leading causes of premature death and disability over the next several decades without major efforts to reduce these risk factors. In addition, the disproportionately high percentage with risk factors among African-Americans and the socioeconomically disadvantaged in all racial/ethnic groups suggests that large disparities in disease burden are likely to continue without specific interventions to address these disparities. Although Latinos have historically had lower mortality associated with heart disease and stroke compared to Whites and African-Americans, this advantage is likely to diminish over the coming years without targeted efforts to address the high percentage with cardiovascular disease risk factors in this population.

The numbers and percentages of adults with cardiovascular disease risk factors presented in this report should be considered minimum estimates given that they are based on self-reported data. National studies have found that as many as a third of adults with diabetes are undiagnosed and, therefore, remain unaware of their condition.⁴ Hypertension is referred to as the “silent killer” because it often does not cause symptoms and also may be unrecognized for long periods. Estimates of obesity prevalence based on self-reported data may be falsely low because of the tendency for persons to under-report weight and over-report height.⁵

The findings are also limited because the survey did not ask about high cholesterol, a well-recognized risk factor for cardiovascular disease. In addition, the analysis focused only on individual-level risk factors for cardiovascular disease. There is a rapidly growing body of research that highlights the importance of the community environment (i.e., the physical and social environments) on cardiovascular disease risk. For

American Heart Association is a national voluntary health agency whose mission is to reduce disability and death from cardiovascular diseases and stroke. www.americanheart.org

The California Heart Disease and Stroke Prevention Program provides information on cardiovascular disease and its mission is to reduce premature death and disability from heart disease and stroke among Californians. www.dhs.ca.gov/ps/cdic/chdsp/default.htm

CDC's Nutrition and Physical Activity Program (DNPA) takes a public health approach to address the role of nutrition and physical activity in improving the public's health and preventing and controlling chronic diseases. www.cdc.gov/nccdp/dnpa/about.htm

You Can Quit Smoking Consumer Guide This booklet tells about ways you can get help to quit smoking. It explains the best ways for you to quit, and quit for good. All the information in this booklet is based on scientific research about what will give you the best chances of quitting. www.cdc.gov/tobacco/quit/smconsumr.pdf

Office on Smoking and Health (OSH) is responsible for leading and coordinating strategic efforts aimed at preventing tobacco use among youth, promoting smoking cessation among youth and adults, protecting non-smokers from environmental tobacco smoke (ETS), and eliminating tobacco-related health disparities. www.cdc.gov/tobacco

The American Diabetes Association is the nation's leading nonprofit health organization providing diabetes research, information and advocacy. The mission of the Association is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. www.diabetes.org

Prevent and Control High Blood Pressure: Mission Possible is an initiative of the National High Blood Pressure Education Program (NHBPEP) at the National Heart, Lung, and Blood Institute (NHLBI). It is designed to mobilize all Americans in the fight against high blood pressure and reduce the more than 1 million heart attacks, strokes, and kidney failure cases caused annually by high blood pressure. <http://hin.nhlbi.nih.gov/mission/aboutmp/aboutmp.htm>

example, a recent study found that residence in socioeconomically disadvantaged neighborhoods was associated with an increased incidence of coronary heart disease, even after accounting for individual-level risk factors such as smoking and physical inactivity.⁶ This finding could reflect a lack of access to healthy foods, reduced opportunities for physical activity, and the chronic stress associated with living in these disadvantaged neighborhoods.

4. Centers for Disease Control and Prevention. Prevalence of diabetes and impaired fasting glucose in adults—United States, 1999–2000. *MMWR* 2003;52:833–837.

5. Flood V, Webb K, Lazarus R, Pang G. Use of self-report to monitor overweight and obesity in populations: some issues for consideration. *Aust N Z Public Health*. 2000 Feb;24(1):96–99.

6. Diez Roux AV, Stein Merkin S, Arnett D, et al. Neighborhood of residence and incidence of coronary heart disease. *N Engl J Med* 2001;345:99–106.

7. Coffield AB, Maciosek MV, McGinnis JM, et al. Priorities among recommended clinical preventive services. *Am J Prev Med* 2001;21(1):1–9.

What can be done?

Interventions to reduce cardiovascular disease risk factors are needed at multiple levels. Efforts are needed to expand access to high quality primary health care services, especially in low income adult populations where many lack health insurance and experience difficulty accessing health care. These services should include routine measurement of blood pressure, periodic cholesterol screenings, determination of body mass index based on measured height and weight, nutrition counseling and physical activity promotion and, when indicated, screening for diabetes. Among persons with hypertension or high cholesterol, aggressive management with lifestyle changes and medications has been shown to greatly reduce the risk of heart disease and stroke. In addition, tobacco cessation services for those who smoke, including counseling, nicotine replacement therapy, and anti-depressant medication have together been shown to be among the most cost-effective of all the currently recommended clinical preventive services.⁷

More broadly, efforts are needed in multiple sectors to increase access to healthy foods and opportunities for physical activity. For example, large employers can provide healthy foods in cafeterias and vending machines, and can provide work-site wellness programs that encourage regular physical activity. City governments can create economic incentives for restaurants and other food establishments to offer healthier menu items, promote and help support farmer's markets to increase access to fresh produce, create jogging trails and other recreational outlets, and design walking-friendly commercial centers and neighborhoods. Transportation officials can promote and expand public transit systems. In addition to the public health benefits that can be achieved through reduced traffic congestion and improved air quality, research studies have shown that use of public transportation is associated with increased walking and decreased time in cars.⁸

Public education efforts around the important health benefits of reducing cardiovascular disease risks are needed, especially in disproportionately impacted communities, so that individuals and families will be more motivated to prioritize healthful eating and regular physical activity in their daily lives. Many adults and their families do not have the time or

TIPS FOR CARDIOVASCULAR HEALTH

Be Active. Physical activity can help lower your risk for heart disease, high blood pressure, diabetes, and obesity. Walk, dance, or do some other physical activity that you enjoy for at least 30 minutes every day.

Eat Smart. Eat plenty of fruits and vegetables, whole grains, fat-free and low-fat milk products, legumes (beans), fish, skinless poultry and lean meats. Avoid foods high in saturated fat or cholesterol, salt and sugars, partially hydrogenated vegetable oils (trans fat), and highly processed convenience foods (fast foods).

Quit Smoking. If you currently smoke, talk to your health care provider about ways to quit.

Get Check-ups. Talk to your doctor about your blood pressure, blood sugar and cholesterol, body weight, nutrition, and exercise so that you can improve your health. Getting checked regularly can help prevent disease or find it early.

Everyone can reduce their risk of heart disease by being active, eating smart, quitting smoking, and having regular check-ups. If you are at an increased risk of heart disease, these preventive actions can be especially important.

motivation to engage in vigorous exercise regimens or the money to invest in private health clubs. Fortunately, research has shown that substantial health benefits can be achieved with as little as 30 minutes of walking each day, which can be divided into three 10-minute sessions.⁹ This activity can be incorporated into one's daily routine as, for example, by walking during lunch hour at work or by walking one's child to and from school each day.

Though the rate of smoking has declined substantially over the past 30 years, tobacco use remains the single leading preventable cause of death in the United States and in Los Angeles County. In California, aggressive tobacco control policies have resulted in impressive reductions in smoking and associated illness beyond

8. Litman T. *Rail Transit In America: A Comprehensive Evaluation of Benefits*. Victoria Transport Policy Institute & American Public Transportation Association. October 25, 2004. http://www.apta.com/research/info/online/documents/rail_transit.pdf

9. U.S. Department of Health and Human Services, Office of the Assistant of Secretary for Planning and Evaluation. *Physical Activity Fundamental to Preventing Disease*. Atlanta: U.S.

Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, June 20, 2002. <http://aspe.hhs.gov/health/reports/physicalactivity/physicalactivity.pdf>



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those seen nationally. The success of these policies as well as the counter-tobacco advertising campaigns highlight the importance of continued investment in tobacco control efforts in the county.

Finally, though this report has focused on cardiovascular disease risks in adults, it is clear that patterns of adult behavior often begin in childhood. This connection highlights the importance of including schools as essential partners in promoting

healthy diets and physically active lifestyles. School districts have an important responsibility to protect children from cardiovascular disease risks by offering only healthy foods at breakfasts and lunches, eliminating soda and junk foods from vending machines on school campuses, and expanding physical education classes as mandated by state law. In addition, schools can serve as a resource within communities for broader health education efforts and recreational programs.

The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The most recent survey, conducted between October 2002 and April 2003, collected information on a random sample of 8,167 adults and 5,995 children. Interviews were offered in English, Spanish, Cantonese, Mandarin, Korean, and Vietnamese. The 2002-03 survey was supported by First 5 LA, the California Department of Services (through grants to the Maternal, Child and Adolescent Health Program, the Tobacco Control and Prevention Program, and the Alcohol and Drug Program Administration) and the Public Health Response and Bioterrorism Preparedness federal grant. The survey was conducted for the Los Angeles County Department of Health Services by Field Research Corporation.

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**For additional information about the
L.A. Survey: www.lapublichealth.org/ha**