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L.A. HEALTH Trends

County of Los Angeles Public Health

THE SILENT KILLER: HYPERTENSION IN LOS ANGELES COUNTY ADULTS

Introduction

Hypertension (or high blood pressure) is often called "the silent killer" because many people have the disease but do not develop symptoms until complications occur. Hypertension increases a person's risk for having a heart attack, heart failure, or stroke, and can also lead to kidney failure, vision loss, and dementia. Although nationally 28% of adults have been diagnosed with hypertension, an estimated one-third of people with high blood pressure are unaware they have the condition.[1,2] Nonetheless, hypertension accounts for over 10 million doctor visits in the U.S. annually.[1]

- The 2005 Los Angeles County Health Survey (LACHS) found that 1 in 4 adults in the county (1,700,000 adults 18 years or older) reported being diagnosed with hypertension (Table 1).[3]

Classification of Blood Pressure for Adults[1]

Blood Pressure Classification	Systolic blood pressure (mm Hg)		Diastolic blood pressure (mm Hg)
Normal	Less than 120	and	Less than 80
Pre-hypertension	120-139	or	80-89
Hypertension	Greater than or equal to 140	or	Greater than or equal to 90

Since an individual's blood pressure varies from day to day and even within a day, a diagnosis of hypertension is usually made by a doctor only after taking careful measurements during 3 separate visits.

People diagnosed with pre-hypertension are considered high risk for becoming hypertensive, but may avoid developing high blood pressure by adopting a healthy lifestyle.

TABLE 1 Trends in the Prevalence‡ of Hypertension, 1997-2005

	1997(%)	1999-00(%)	2002-03(%)	2005(%)
Los Angeles County	18.4	21.2	21.6	24.8
Gender				
Male	17.0	20.3	21.7	25.6
Female	19.6	21.9	21.5	24.0
Race/Ethnicity				
Latino	18.5	20.5	21.4	25.9
White	15.2	20.3	18.9	22.8
African American	30.0	30.8	35.7	37.0
Asian/Pacific Islander	17.9	17.1	19.3	19.6
Age Group				
18-39	5.4	7.6	6.7	9.9
40-49	14.2	17.4	16.4	17.4
50-59	31.1	31.4	29.5	34.3
60-64	36.8	40.0	45.3	43.3
65 and over	38.9	44.9	50.7	56.9
Federal Poverty Level$				
0-99% FPL	22.8	24.2	25.4	30.3
100-199% FPL	21.3	22.8	24.4	26.9
200% or above FPL	16.3	19.9	19.5	22.4

‡ Age-adjusted percentage according to the 2000 U.S. standard population aged 18 years and older.
$ Based on U.S. Census 2003 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of $18,700 (100% FPL), $37,300 (200% FPL) and $56,500 (300% FPL).

- The prevalence of diagnosed hypertension in the county has increased from 18% in 1997 to 25% in 2005.
- Although the prevalence of hypertension increased among all racial/ethnic groups, African Americans continue to have the highest rate (37% in 2005).
- Each year, the percentage of hypertension increased with age and was highest among adults 65 years or older (57% in 2005).

1. National High Blood Pressure Education Program. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VII). 2003. U.S. Department of Health and Human Services; National Institutes of Health; National Heart, Lung, and Blood Institute. NIH Publication No. 03-5233.

2. Fields LE, Burt VL, Cutler JA, et al. The burden of adult hypertension in the United States 1999 to 2000: a rising tide. Hypertension 2004; 44:398-04.

3. Certain population sub-groups can have different age distributions, so age-adjustment allows for comparisons of a condition between groups while controlling for such age differences. Results are age-adjusted and, therefore, may differ from statistics presented in other reports.

TABLE 2 **Percent of Adults‡ who Reported being Diagnosed with Hypertension by Service Planning Area (SPA), 2005**

Service Planning Area	Percent	Estimated #
Antelope Valley	27.8%	60,000
San Fernando	22.5%	330,000
San Gabriel	24.4%	325,000
Metro	25.7%	202,000
West	17.4%	89,000
South	33.3%	192,000
East	25.9%	223,000
South Bay	25.2%	278,000

‡ Age-adjusted percentage according to the 2000 U.S. standard population aged 18 years and older.

- As household income increased, the prevalence of hypertension decreased.
- The percent of hypertensive adults in 2005 ranged from 17% in the West Service Planning Area (SPA) to 33% in the South SPA (Table 2).
- The prevalence of hypertension has increased in all SPAs from 1997 to 2005.

Modifiable Risk Factors

Inadequate physical activity, obesity, heavy alcohol consumption, and smoking are modifiable factors that increase a person's risk for developing hypertension and can make hypertension harder to control (Figure 1).

- In 2005, 27% of adults who reported minimal to no physical activity (who were sedentary) were diagnosed with hypertension, compared to 21% of adults who met physical activity guidelines.[4]
- 37% of obese adults reported being diagnosed with hypertension compared to 24% of overweight and 17% of normal weight adults.[5]
- 29% of adults who reported chronic alcohol use in the past month said they were diagnosed with hypertension, compared to 20% of those who drank alcohol more modestly.[6]
- The percent of adults who reported being diagnosed with hypertension was similar among smokers and non-smokers (23% for both). However, smoking can damage blood vessel walls and increase risk for hypertension and its complications.

FIGURE 1 **Prevalence of Hypertension According to Physical Activity Level, Weight Status and Alcohol Use, 2005**

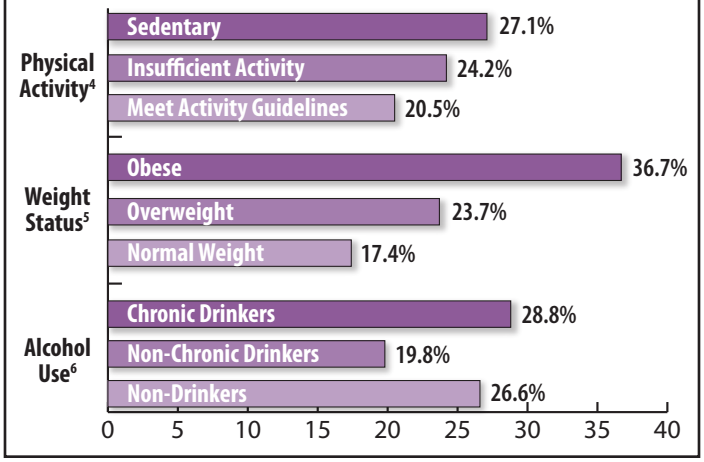
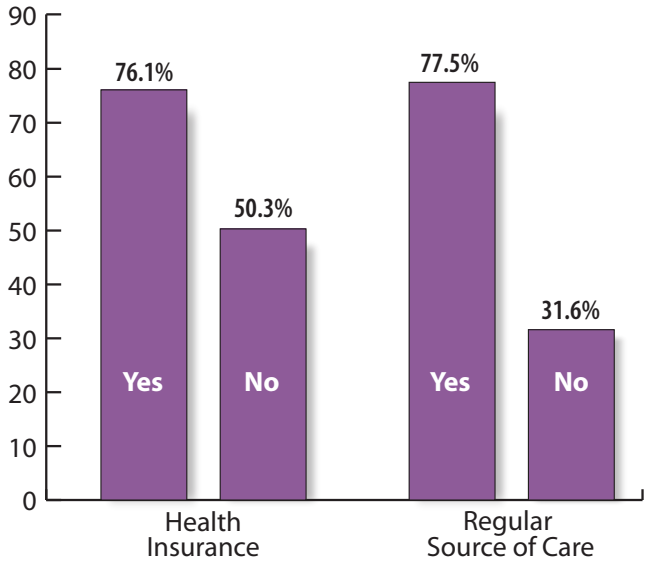


FIGURE 2 **Medication Use Among Adults with Hypertension by Insurance Status and Regular Source of Care, 2005**



Medication Use

Oftentimes hypertension cannot be completely controlled with lifestyle changes alone, and blood pressure medications are necessary.

- In 2005, 73% of adults with hypertension reported taking medication prescribed by a doctor to help control their blood pressure.
- 79% of whites with high blood pressure reported taking medication prescribed by a doctor as compared to 76% of Asians/Pacific Islanders, 70% of African Americans, and 65% of Latinos.

4. Meeting physical activity guidelines: participating in a) vigorous physical activity for at least 20 minutes, 3 or more days/week, b) moderate physical activity for at least 30 minutes, 5 or more days/week, or c) a combination of moderate/vigorous activity 5 or more days/week; Insufficient activity: some physical activity but not meeting guidelines; Sedentary: minimal to no physical activity.

5. Obesity is defined as a body mass index (BMI) of 30 or greater. Overweight is defined as a BMI of 25-29.9. BMI = weight (kg)/height (m)^2 or BMI = 703[weight (lbs)/height^2 (inches)].

6. Chronic drinking was defined as consuming 60 or more drinks in the past month (an average of 2 or more drinks per day). Non-chronic drinkers consumed between 1 and 59 drinks in the past month.

Recommendations for Action

What Individuals Can Do:

- See your healthcare provider regularly and get your blood pressure checked. Ask what your blood pressure numbers mean and what they should be.
- Maintain a healthy body weight. Normal weight is defined as a Body Mass Index of 18.5 - 24.9 kg/m^2.[5]
- Eat a healthy diet that includes at least 4 servings of fruits, 4 servings of vegetables, 2 servings of low fat dairy foods, and 2 servings of whole grains every day. Eat foods that are low in saturated fats, trans fats, and cholesterol.[7] Dietary guidelines are available at http:/www.nhlbi.nih.gov/health/public/heart/hbp/dash/introduction.html.
- Keep salt and sodium intake low. Consume less than 2.4 grams of sodium (about 1 teaspoon of table salt) per day.
- Limit alcohol consumption to no more than two drinks daily for men and no more than one drink daily for women (one drink is 12 oz. of beer, 5 oz. of wine, 1 oz. of liquor).
- Engage in at least 30 minutes of moderate physical activity every day. Ten minutes of brisk walking several times a day is as effective in reducing blood pressure as a long session of continuous walking.[8]
- Stop smoking. Seek counseling services and medications from your healthcare provider or health plan to help you quit.
- Take all medications as prescribed by your doctor. Make sure you understand how and when to take your medications.

What Communities, Cities, and Businesses Can Do:

- Make affordable, healthy foods and snacks more readily available through local markets and food stands.
- Encourage restaurants to provide nutritional information on their menus to enable customers to make healthier eating choices.
- Make communities more walkable by adding sidewalks, jogging trails, and bike paths.
- Encourage shared-use agreements with schools to promote use of school grounds after school hours for physical activity.
- Promote health promotion activities at worksites such as stress management training, weight control programs or after-work sports activities that enhance healthy lifestyle practices.
- Expand community outreach to increase access to healthcare services among those that do not have health insurance. Support healthcare reform efforts that increase access to care.
- Support public policies that encourage businesses to provide employees with health insurance that includes access to high quality preventive services.

- 76% of adults with health insurance reported taking medication to control blood pressure as compared to 50% of those without health insurance (Figure 2).
- 78% of adults with hypertension who have a regular source of care reported taking medication to control blood pressure, compared to only 32% of those without a regular source of care.

Discussion

While family history and genetics contribute to people's risk for developing high blood pressure, lifestyle factors also play an important role. Obesity, physical inactivity, high salt and fat intake, cigarette smoking, and alcohol consumption all affect the health of blood vessels and can cause blood pressure to rise.

The trend of increasing hypertension prevalence among Los Angeles County adults may reflect the lifestyles and health status of the county population. For example, from 1997 to 2005, the prevalence of obesity in LA County adults increased from 14% to 21%, likely contributing to rising hypertension rates. On the other hand, improved survival among hypertensive patients, or improvements in screening and diagnosis, could also have resulted in an observed increase in hypertension prevalence.

Since the LACHS measures self-reported hypertension, only adults with a known diagnosis are included in this report. The number of county residents with high blood pressure may actually be substantially higher, given that hypertension usually does not cause symptoms and often remains

7. Folsom AR, Parker ED, Harnack LJ. Degree of concordance with DASH diet guidelines and incidence of hypertension and fatal cardiovascular disease. Am J Hypertens 2007; 20(3): 225-32.

8. Elley R, Bagrie E, Arroll B. Do snacks of exercise lower blood pressure? A randomised crossover trial. N Z Med J 2006; 119(1235):U1996.

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undetected. Even among adults whose hypertension has been diagnosed, blood pressure frequently remains poorly controlled.

Adopting a healthy lifestyle is essential for the prevention of hypertension, as well as for reducing the risk of complications once hypertension develops.

To encourage and promote healthy living, the Department of Public Health recommends a multi-level strategy that addresses behavioral changes both at the individual and community level (see **RECOMMENDATIONS FOR ACTION**).

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 2005 survey collected information on a random sample of 8,648 adults and 6,032 children. The survey was conducted for the Los Angeles County Department of Public Health by Field Research Corporation and was supported by grants from First 5 LA, Tobacco Control and Prevention Program, the Emergency Response and Bioterrorism Preparedness Program and various Department of Public Health programs.

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For additional information about the L.A. County Health Survey, visit: www.lapublichealth.org/ha

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