UCLA

Health Policy Research Brief

August 2006

Less Than One-Quarter of California Adults Walk Regularly

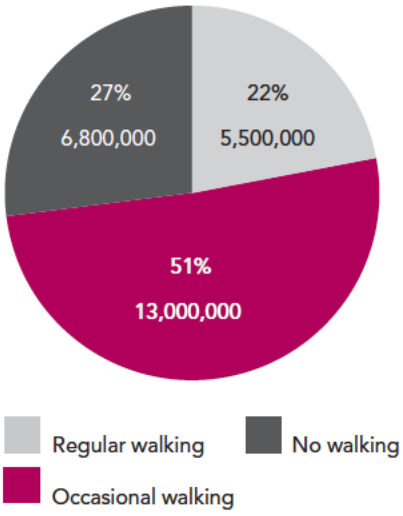
Allison L. Diamant, Susan H. Babey, Theresa A. Hastert and E. Richard Brown

In an average week, only one in five California adults—5.5 million in all—walk on a regular basis, while over one-quarter—6.8 million adults—do not walk at all (Exhibit 1). Walking behavior varies by socio-demographic factors as well as neighborhood characteristics.

Physical activity in any form is important for both maintaining an appropriate weight and preventing or ameliorating chronic medical conditions such as diabetes, heart disease, osteoarthritis, osteoporosis and certain cancers. While high-intensity aerobic activity produces the best cardiovascular results, moderate physical activity provides important benefits as well.

Exhibit 1

Prevalence of Walking, Adults Age 18 and Over, California, 2003



Source: 2003 California Health Interview Survey

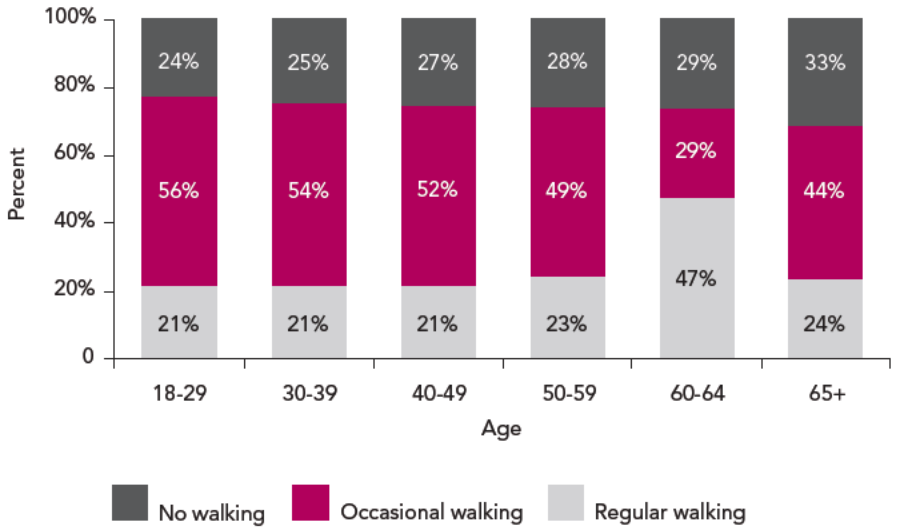
Walking is a moderate-intensity physical activity that can be done for transportation (to get from place to place) or for leisure (fun, relaxation or exercise). Walking is the most common form of physical activity among adults—more than half of adults report walking as their only physical activity—and it is an important component in overall levels of physical activity.[1]

This policy brief presents information about the walking habits of California adults based on data from the 2003 California Health Interview Survey (CHIS 2003). We examine the prevalence of regular walking and no walking by socio-demographic and neighborhood characteristics. Regular walking is defined as walking on at least five separate occasions for a combined total of at least 150 minutes in the previous

The California Endowment

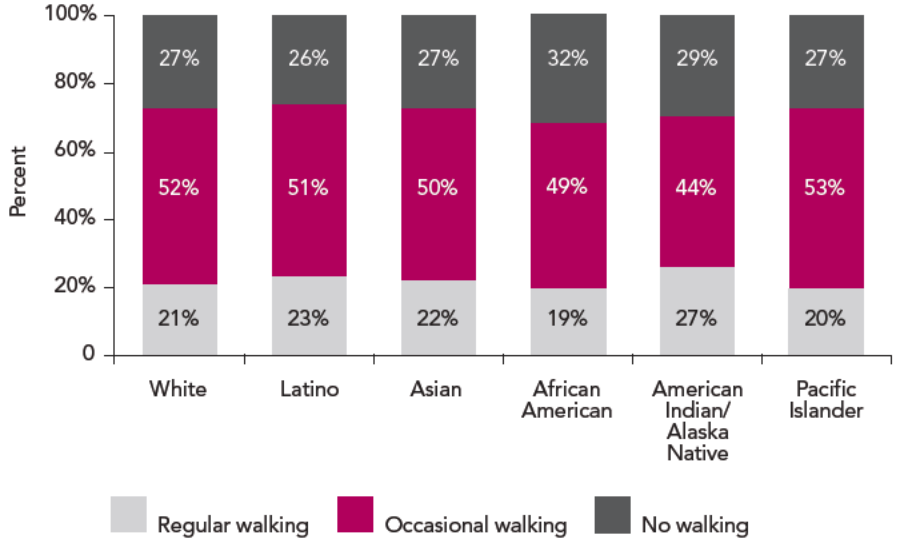
Support for this policy brief was provided by a grant from The California Endowment.

Exhibit 2 Prevalence of Walking by Age, Adults Age 18 and Over, California, 2003



Source: 2003 California Health Interview Survey

Exhibit 3 Prevalence of Walking by Race/Ethnicity, Adults Age 18 and Over, California, 2003



Source: 2003 California Health Interview Survey

seven days. This definition is based on the recommendation that adults engage in moderate physical activity for at least 30 minutes on five or more days of the week.[2] Occasional walking is defined as walking at least once for 10 or more minutes in the previous seven days. No walking is defined as not walking at least once for 10 or more minutes in the previous seven days.

Socio-Demographic Variation in Regular and No Walking

Walking varies by socio-demographic factors such as age, race/ethnicity, income and length of residence in the United States. The prevalence of regular walking increases with age from 21% among 18-29 year olds to 47% among 60-64 year olds (Exhibit 2). This increase in the prevalence of regular walking with age could be due in part to an increase in leisure time. People may also replace higher-intensity activities with more moderate activities—such as walking—as their health status changes with age.

The percentage of adults who do not participate in any walking also increases with age from 24% for 18-29 year olds up to 33% for adults age 65 and older. Changes in health status may account for some of the increase in the prevalence of no walking with age.

Walking also varies by race and ethnicity. American Indian/Alaska Natives (AI/ANs) have the highest prevalence of regular walking (27%), and African Americans have the lowest (19%; Exhibit 3). A greater percentage of Latinos (23%) are regular walkers compared to whites (21%) or African

Americans (19%), while both Asians and whites have higher rates of regular walking than African Americans (22% and 21% vs. 19%). Almost one-third of African Americans (32%) do not walk at all compared to just over one-quarter of Asians (27%), whites (27%) and Latinos (26%).

Differences in walking behavior by race and ethnicity are due in part to differences in the amount of time spent walking for transportation versus leisure among these groups. Latinos spend more time walking for transportation than other racial/ethnic groups, and AI/ANs spend more time walking for leisure, whereas African Americans spend less time doing either type of walking.[3]

Rates of regular and no walking vary for Latino and Asian ethnic groups. Among Latinos, Guatemalans report the highest prevalence of regular walking (25%), followed by South Americans (24%), Mexicans and Salvadorans (both 23%), and Puerto Ricans and Central Americans (both 22%). None of these differences are statistically significant.

South Americans report the highest prevalence of no walking (31%), followed by Mexicans and Central Americans (both 26%), Salvadorans (25%), Puerto Ricans (22%), and Guatemalans (20%). However, only the difference between Guatemalans and South Americans is statistically significant.

Among Asian ethnic groups, Chinese report the highest prevalence of regular walking (26%), followed by South Asians (25%), Vietnamese (24%), Japanese and Koreans (both 20%), and Filipinos (18%). The prevalence of regular walking for Chinese is significantly higher than for Filipinos or

Prevalence of Walking by Income and Length of Residence in the U.S., Adults Age 18 and Over, California, 2003 **Exhibit 4**

	Regular Walking %	No Walking %
Family Income as Percent of Federal Poverty Level		
Below 100% FPL	27	23
100% – 199% FPL	21	30
200% – 299% FPL	21	32
300% FPL and above	21	26
Length of Residence in the U.S.		
Less than two years	33	14
2-4 years	26	17
5-9 years	26	22
10-14 years	26	23
15 years or more	24	27

Note: In 2003 the Federal Poverty Level was $12,384 for a family of two; $14,680 for a family of three; $18,810 for a family of four; *http://www.census.gov/hhes/poverty/threshld/thresh03.html* (accessed May 25, 2006).

Source: 2003 California Health Interview Survey

Koreans, and the prevalence of regular walking for South Asians is significantly higher than for Filipinos.

Japanese report the highest prevalence of no walking (37%), significantly higher than Koreans (28%), Filipinos (26%), Chinese (25%), and South Asians (24%). The rate of no walking for Vietnamese is 31%.

Among foreign-born adults, the prevalence of regular walking varies inversely with length of residence in the United States (Exhibit 4). One-third of the newest immigrants—those here for less than two years—walk regularly (33%) compared to approximately one-quarter of immigrants living in the U.S. for two or more years (24-26%). The newest immigrants also have rates of not walking (14%) that are almost half that of people living in the U.S. for 15 years or more (27%).

Regular walking is inversely related to income. The highest prevalence of regular walking (27%) is found among

Exhibit 5

Prevalence of Walking by County or County Group, Adults Age 18 and Over, California, 2003

	Regular Walking % (95% CI)	No Walking % (95% CI)
Northern and Sierra Counties	**22 (20, 23)**	**29 (28, 31)**
Butte	19 (15, 23)	30 (26, 35)
Shasta	22 (17, 26)	34 (29, 38)
Humboldt, Del Norte	23 (18, 27)	30 (26, 35)
Siskiyou, Lassen, Trinity, Modoc	25 (20, 30)	29 (24, 34)
Mendocino, Lake	26 (21, 31)	28 (23, 33)
Tehama, Glenn, Colusa	18 (14, 23)	29 (24, 35)
Sutter, Yuba	21 (17, 26)	32 (27, 37)
Nevada, Plumas, Sierra	22 (17, 27)	23 (18, 27)
Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine	20 (16, 25)	27 (22, 33)
Greater Bay Area	**24 (23, 26)**	**24 (23, 25)**
Santa Clara	21 (19, 24)	27 (24, 30)
Alameda	24 (22, 26)	24 (22, 26)
Contra Costa	19 (16, 22)	29 (25, 33)
San Francisco	38 (34, 42)	13 (10, 15)
San Mateo	23 (19, 27)	21 (17, 25)
Sonoma	24 (19, 28)	27 (22, 31)
Solano	23 (19, 28)	30 (25, 35)
Marin	26 (22, 30)	16 (13, 20)
Napa	24 (19, 29)	26 (20, 31)
Sacramento	**21 (19, 24)**	**28 (25, 30)**
Sacramento	21 (18, 25)	29 (25, 32)
Placer	20 (16, 24)	29 (24, 34)
Yolo	21 (17, 26)	20 (16, 24)
El Dorado	22 (18, 26)	27 (23, 32)

those from the lowest-income households (less than 100% FPL), compared to approximately 21% of those from higher-income households (Exhibit 4). In addition, the lowest prevalence of non-walking (23%) is among those with incomes below the poverty line, compared to 26%-32% for higher income groups. It is important to note, however, that these income groups differ in the types of walking they do. Adults from low-income households spend significantly more time walking for transportation than more affluent adults, which partially accounts for the inverse relationship between walking and income.[4]

Regional Variation in Walking

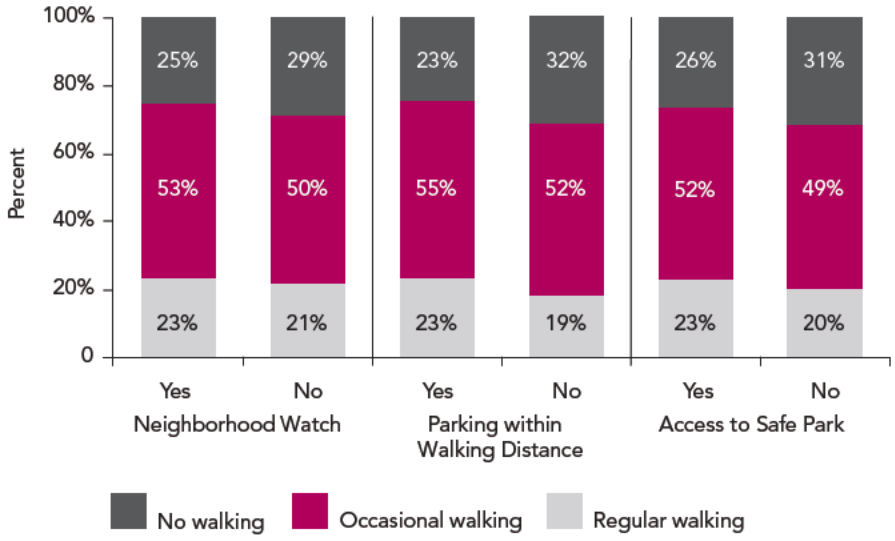
Walking behavior varies considerably across California counties. The prevalence of regular walking is nearly three times as high in San Francisco County (38%) as in Stanislaus County (13%; Exhibit 5). The highest proportions of non-walkers are found in San Joaquin and San Bernardino Counties where over one-third of the population (34%) do not walk for at least 10 minutes in a week.

Prevalence of Walking by County or County Group, Adults Age 18 and Over, California, 2003 (continued) **Exhibit 5**

	Regular Walking % (95% CI)	No Walking % (95% CI)
San Joaquin Valley	**18 (17, 20)**	**32 (30, 33)**
Fresno	19 (16, 23)	29 (25, 34)
Kern	20 (15, 24)	31 (26, 36)
San Joaquin	18 (14, 23)	34 (29, 40)
Stanislaus	13 (9, 16)	33 (28, 38)
Tulare	20 (16, 24)	31 (27, 36)
Merced	22 (17, 27)	29 (25, 34)
Kings	19 (15, 24)	31 (26, 35)
Madera	19 (15, 24)	32 (27, 37)
Central Coast	**26 (24, 29)**	**25 (22, 27)**
Ventura	29 (24, 34)	23 (19, 27)
Santa Barbara	25 (20, 31)	25 (20, 29)
Santa Cruz	27 (22, 31)	22 (17, 26)
San Luis Obispo	20 (16, 24)	29 (24, 34)
Monterey, San Benito	26 (21, 31)	26 (22, 30)
Los Angeles	**23 (22, 24)**	**26 (25, 27)**
Los Angeles	23 (22, 24)	26 (25, 27)
Other Southern California	**20 (19, 21)**	**29 (28, 31)**
Orange	21 (19, 23)	27 (25, 30)
San Diego	20 (18, 22)	27 (24, 29)
San Bernardino	9 (6, 11)	34 (31, 38)
Riverside	6 (5, 8)	32 (29, 36)
Imperial	11 (7, 15)	33 (28, 38)
California	**22 (21, 22)**	**27 (26, 28)**

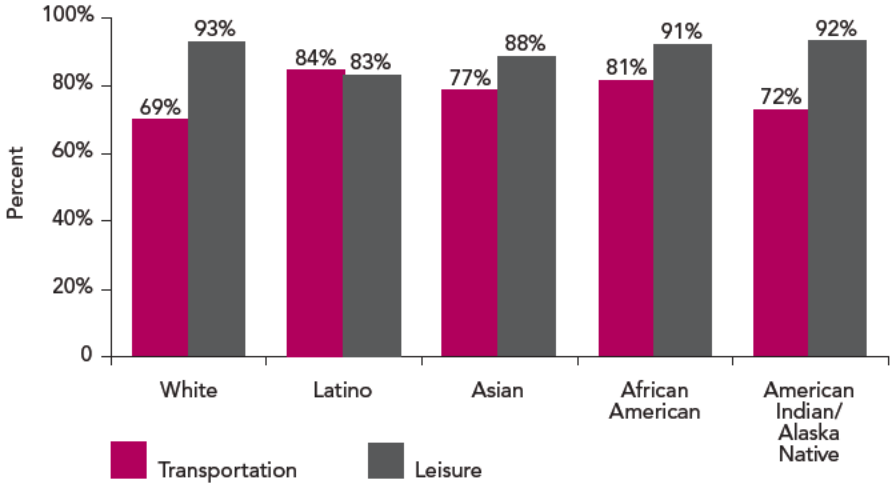
Source: 2003 California Health Interview Survey

Exhibit 6 Prevalence of Walking by Neighborhood Factors, Adults Age 18 and Over, California, 2003



Source: 2003 California Health Interview Survey

Exhibit 7 Prevalence of Walking for Transportation and for Leisure by Race/Ethnicity Among Regular Walkers, Adults Age 18 and Over, California, 2003



Note: Estimates for Pacific Islanders were not statistically reliable.
Source: 2003 California Health Interview Survey

By contrast, only 13% of adults in San Francisco County reported not walking.

Regionally, the variation in walking behavior is not as dramatic. Over one-quarter of the population in the Central Coast region (26%) walks regularly, compared to 18% of those in the San Joaquin Valley. Additionally, nearly one-third of adults in the San Joaquin Valley are non-walkers (32%) compared to approximately one-fourth of those in the Greater Bay Area (24%).

California is heterogeneous and differences in neighborhood characteristics, regional geography and socio-demographic characteristics of the population likely contribute to the county-level variation in walking. For example, the proximity of walking destinations is very different in San Francisco and San Bernardino Counties. In addition, variations in weather may also contribute to differences in walking.

Neighborhood Environment and Walking

The neighborhood environment influences individual health behaviors. Perceived neighborhood safety and availability of parks are associated with increased rates of regular walking among California adults. Adults with a neighborhood watch have higher rates of regular walking (23% vs. 21%) as well as lower rates of no walking (25% vs. 29%) than those without a neighborhood watch (Exhibit 6). Among adults who live near

a park, particularly a safe park, a larger percentage are regular walkers (23% vs. 20%) and a smaller percentage are non-walkers (26% vs. 31%) than among adults with no access to a park. These findings suggest that perceived neighborhood safety and the availability of parks or other spaces for physical activity may be important contributors to adult walking behavior.

Types of Walking Among Regular Walkers

Walking can be done for transportation (to get from place to place) or leisure (fun, relaxation or exercise). Among adults in California who walk regularly, 75% walk for transportation and almost 90% walk for leisure. Whether someone who walks regularly does so for transportation or leisure is related to socio-demographic characteristics—such as race and income—as well as to neighborhood characteristics, such as accessibility of safe parks and perceived neighborhood safety.

Among regular walkers, whites have the lowest prevalence of walking for transportation—significantly lower than Latinos, African Americans or Asians. Latinos have the highest prevalence of walking for transportation (84%), significantly higher than whites (69%) or Asians (77%; Exhibit 7).

By contrast, Latinos have the lowest prevalence of walking for leisure (83%), significantly lower than whites (93%),

Prevalence of Walking for Transportation and for Leisure by Income and Years Lived in the U.S. Among Regular Walkers, Adults Age 18 and Over, California, 2003

Exhibit 8

	Walking for Transportation %	Walking for Leisure %
Family Income as Percent of Federal Poverty Level		
Below 100% FPL	86	83
100% – 199% FPL	79	86
200% – 299% FPL	75	88
300% FPL and above	70	94
Length of Residence in the U.S.		
Less than five years	92	85
5-9 years	87	84
10-14 years	88	82
15 years or more	74	86

Note: In 2003 the Federal Poverty Level was $12,384 for a family of two; $14,680 for a family of three; $18,810 for a family of four; *http://www.census.gov/hhes/poverty/threshld/thresh03.html* (accessed May 25, 2006).

Source: 2003 California Health Interview Survey

Exhibit 9

Prevalence of Walking for Transportation and for Leisure by Neighborhood Factors Among Regular Walkers, Adults Age 18 and Over, California, 2003

	Walking for Transportation %	Walking for Leisure %
Neighborhood Watch		
Yes	73	91
No	77	88
Park within Walking Distance		
Yes	76	90
No	71	88
Access to a Safe Park		
Yes	76	90
No	72	87

Source: 2003 California Health Interview Survey

Asians (88%) or African Americans (91%; Exhibit 7). Whites have the highest prevalence of walking for leisure (93%), significantly higher than Latinos (83%) or Asians (88%).

Among adults who walk regularly, the purpose of walking is related to both income and length of residence in the United States. Walking for transportation is inversely related to income, with the highest prevalence among the poorest adults (86%) and the lowest prevalence among those from the most affluent households (70%; Exhibit 8). Conversely, prevalence of walking for leisure increases with income (from 83% to 94%).

Prevalence of walking for transportation decreases as time in the U.S. increases (Exhibit 8). Over 90% of those in the U.S. less than five years walk for transportation compared to 74% of those here fifteen years or more. By contrast, rates of walking for leisure remain essentially stable with longer residence in the U.S.

As with the prevalence of regular walking, walking purpose is related to neighborhood characteristics among regular walkers. Adults who live in a neighborhood with a neighborhood watch program have a lower prevalence of walking for transportation, but a higher prevalence of walking for leisure than those with no neighborhood watch

(Exhibit 9). In addition, those with access to a safe park have a higher prevalence of both walking for transportation and for leisure than those with no access to a safe park.

Conclusions and Policy Recommendations

In California, only one in five adults (22% or 5.5 million) walk regularly and over one-quarter (27% or 6.8 million) do not walk at all. Although some of these non-walkers engage in other forms of physical activity, many are not getting any activity at all. Physical activity in any form is important for adults, and walking may be especially important because it is available to most people. Taking action to increase walking among those who currently do not walk regularly is one way to increase overall levels of physical activity.

Identifying the groups with highest prevalence of regular walking as well as not walking can inform the development of policies and programs to encourage walking, and help target them to groups most likely to benefit. For example, African Americans report the lowest prevalence of regular walking and the highest prevalence of no walking. African Americans also suffer disproportionately from chronic medical conditions that may be prevented or alleviated by the benefits of regular physical activity. Therefore, interventions targeted at increasing walking among African Americans are likely to yield health benefits for that population.

Walking for transportation is an important factor in whether respondents meet regular activity guidelines through walking. Whites, persons from the highest income categories, and foreign-born adults who have been in the United States the longest are the least likely to walk for transportation. Efforts to make walking a more attractive form of transportation for these groups could yield a significant improvement in their overall levels of walking.

Socio-economic disparities in walking behavior may be closely tied to the significant variation in regular walking due to neighborhood environmental factors, such as presence of a neighborhood watch or crime prevention program, access to a park, playground or open space, and self-perceived safety of available parks.

Improving the characteristics of the places where people live can help increase physical activity. We can learn what community characteristics are associated with walking by studying cities and counties with particularly high rates of walking. San Francisco's high walking rate is probably due, at least in part, to a combination of good public transportation and an extensive network of parks and recreation facilities.

The San Francisco example suggests that planning, recreation and transportation policies should be a part of strategies to encourage and support walking.

The findings in this policy brief indicate that walking is related to neighborhood factors such as perceived safety and availability of parks. Community leaders and local governments can develop neighborhood crime prevention programs, such as a neighborhood watch. In addition, community organizations in conjunction with state and local governments can work toward increasing the availability and safety of parks and other places for physical activity, particularly in areas without access to such facilities.

Strategies to encourage and support walking and other forms of physical activity could include: 1) making school facilities available to the community for use after school and on the weekends; 2) improving the quality of existing recreational facilities, particularly in low-income and urban neighborhoods; 3) increasing the number and proximity of parks and other green areas; 4) providing support for improved operations and maintenance of parks and recreation facilities; 5) engaging residents of low-income communities in civic efforts to create or improve local parks; and 6) improving and coordinating neighborhood watch groups.

Data Source

All statements in this report that compare rates for one group with another group reflect statistically significant differences ($p<0.05$) unless otherwise noted. The findings in this brief are based on data from the 2003 California Health Interview Survey (CHIS 2003). CHIS 2003 completed interviews with over 42,000 adults drawn from every county in the state. Interviews were conducted in English, Spanish, Chinese (both Mandarin and Cantonese), Vietnamese and Korean.

CHIS is a collaboration of the UCLA Center for Health Policy Research, the California Department of Health Services, and the Public Health Institute. Funding for CHIS 2003 was provided by the California Department of Health Services, The California Endowment, the National Cancer Institute, the Centers for Disease Control and Prevention (CDC), the Robert Wood Johnson Foundation, the California Office of the Patient Advocate, Kaiser Permanente, L.A. Care Health Plan, and the Alameda County Health Care Agency. For more information on CHIS, visit *www.chis.ucla.edu.*

Author Information

Allison L. Diamant, MD, MSHS, is an associate professor in the Division of General Internal Medicine and Health Services Research at the David Geffen School of Medicine at UCLA. Susan H. Babey, PhD, is a research scientist at the UCLA Center for Health Policy Research. Theresa A. Hastert, MPP, is a senior research associate at the UCLA Center for Health Policy Research. E. Richard Brown, PhD, is the director of the UCLA Center for Health Policy Research and a professor in the UCLA School of Public Health.

Acknowledgements

The authors wish to thank Lida Becerra, MS; Jenny Chia, PhD; Winnie Huang; Sungching Glenn; Hongian Yu, PhD; Garrison Frost, Celeste Maglan and Sheri Penney for their assistance. The authors would also like to thank the following individuals for their helpful comments: Elva Yañez, Director, Center for Parks and Health, Trust for Public Land; and Antronette Yancey, MD, MPH, Associate Professor, UCLA School of Public Health.

Suggested Citation

Diamant AL, Babey SH, Hastert TH and Brown ER. *Less Than One-Quarter of California Adults Walk Regularly.* Los Angeles: UCLA Center for Health Policy Research, 2006.

Notes

1 Rafferty AP, Reeves MJ, McGee HB, Pivarnik JM. Physical activity patterns among walkers and compliance with public health recommendations. Medicine and Science in Sports and Exercise. 2002;34:1255-1261.

2 Centers for Disease Control and Prevention. Physical Activity for Everyone: Recommendations. [cited June 28, 2006]. Available from: *http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/index.htm.*

3 Brown ER, Babey SH, Hastert TA and Diamant AL. Half of California Adults Walk Less Than One Hour Each Week. Los Angeles: UCLA Center for Health Policy Research, 2005.

4 Ibid.

UCLA CENTER FOR HEALTH POLICY RESEARCH

The UCLA Center
for Health Policy Research
is affiliated with the
UCLA School of Public Health
and the UCLA School of Public Affairs.

PB2006-4

Editor-in-Chief: E. Richard Brown, PhD
Director of Communications: Garrison Frost
Communications Assistant: Celeste Maglan
Editing Services: Sheri Penney
Design/Production: Ikkanda Design Group

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

UCLA Center for Health Policy Research

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

First Class
Mail
U.S. Postage
PAID
UCLA