

Obesity in Latino Communities



Prevention, Principles, and Action

December 2006





Credits

This monograph was written by **Gail Woodward-Lopez**, MPH, RD, Associate Director, Center for Weight and Health, University of California Berkeley, and **George R. Flores**, MD, MPH, Board of Directors, Latino Coalition for a Healthy California.

Contributions were also made by: **Alvaro Garza**, MD, MPH, Health and Policy Research Director, Latino Center for Medical Education and Research, UCSF-Fresno; **Fernando Mendoza**, MD, MPH, Professor and Chief of Pediatrics, Stanford University School of Medicine; **Lupe Alonzo-Diaz**, MPAff, Executive Director, Latino Coalition for a Healthy California; **Eddy Jara** and **Anne Sunderland**, Graduate Student Researchers, Center for Weight and Health; **Rita Nguyen**, Gardner Public Service Fellow, The California Endowment; **Joanne Ikeda**, MA, RD, Nutrition Specialist, UC Berkeley; and **Karen Scheuner**, MA, RD, Consultant, Center for Weight and Health.

Copyright © 2006 by Latino Coalition for a Healthy California
All Rights Reserved, Sacramento, CA

Short sections of text, not to exceed three paragraphs, may be quoted without written permission provided that full attribution is given to the source and the above copyright notice is included.

Introduction

The obesity epidemic has been termed a “national crisis” by Surgeon General Richard Carmona (Carmona, 2003). The growing prevalence of obesity and overweight in all age groups is recognized not only as a threat to health, employment, and longevity, but also as an economic burden. In the year 2000, obesity, overweight, and physical inactivity cost California an estimated \$21.7 billion (California Department of Health Services, 2005). Among children and youth, obesity may affect academic performance and emotional health, as well as lead to diabetes and other serious complications later in life (Koplan, 2005). While the rising trend in obesity rates cuts across all social classes, the prevalence of obesity is higher and the severity of consequences from obesity-related diseases, such as diabetes, is greater in certain places and among particular populations. California’s Latinos are disproportionately affected by obesity and its complications. Furthermore, Latinos are the fastest growing population group in California. One out of three Californians is Latino, comprising over one half of children born in California, and constitute 47% of children attending public school in California (LCHC, 2005). Therefore, any efforts to stem the rising rates of obesity in California must address the needs of the Latino community.

The proximate cause of the obesity epidemic is consumption of excess calories characterized by unhealthy eating habits and insufficient physical activity (Surgeon General’s Call to Action, 2001). These individual eating and activity behaviors and choices, however, are shaped by factors in the social and physical environments of communities (Hill, 2003). Latinos disproportionately live in communities that encourage unhealthy food choices and discourage physical activity, such as places with many fast food outlets, small grocery and convenience stores with limited fresh produce and an ample variety of sweets and other snack items, and few well-equipped and safe areas for children to play and be active.

Addressing obesity among Latinos requires an understanding not only of the biological causes of obesity, but also of the culture, values, resources, and environments that influence eating and physical activity behaviors and choices in Latino communities. Rather than placing blame on lack of self-control, and seeking remedies in weight-loss diets, costly pills, or dangerous surgery, the greatest opportunity to halt the obesity epidemic lies in working with the entire population to promote the social and environmental conditions that favor healthy eating and physical activity and that prevent overweight from occurring in the first place. Latino communities must be involved in a collaborative and comprehensive effort to improve eating and activity behaviors and environments. Education for children and their families is needed as well as stronger policies to ensure healthy school nutrition and physical activity environments, safe communities with ample recreational spaces and affordable healthy foods, and an end to the marketing of unhealthy products to children.

The Latino Coalition for a Healthy California (LCHC) is working through regional networks across the state to build advocacy for policies and practices that aim to prevent obesity among Latinos. To frame the issue and to guide efforts to improve Latino health, this LCHC monograph presents a set of principles and action steps for preventing obesity and overweight among the state’s 11 million Latinos.

...any efforts to stem the rising rates of obesity in California must address the needs of the Latino community.

About the Epidemic

OBESITY IS INCREASING AMONG LATINOS OF ALL AGES

Compared to other races and ethnic groups in California, Latino males and females of all ages have among the highest rates of obesity, overweight, and one of the most severe consequences of obesity: type 2 diabetes. Nearly seven out of ten California Latino adults are overweight or obese (California Department of Health Services, 2005). Among California adolescents age 12 to 17, Latinos are the most likely to be overweight or at risk for overweight. Also, the prevalence of overweight among Latino adolescents who are US born (20%) is nearly twice as high as among non-US born Latino adolescents (Exhibits 1 and 2, below) (California Health Interview Survey, 2003). These statistics contribute to the extremely high prevalence of heart disease, cancer, stroke, and diabetes, all of which have obesity as a risk factor, and account for nearly 60% of all deaths among Latinos (Center for Health Statistics, 2003).

Because of the growth in childhood obesity, the risk for diabetes is becoming so great that it is projected that half of Latino newborns will likely develop diabetes during their lifetime (Exhibit 3).

OBESITY AND OVERWEIGHT STEM FROM UNHEALTHY EATING AND INACTIVITY

Obesity is associated with the consumption of high calorie, nutrient-poor foods such as high fat and high sugar snack foods, fast foods, soda and other sweetened beverages. Whereas, the consumption of fresh fruits and vegetables, whole grain products, and low fat dairy and protein are associated with healthier weights (Woodward-Lopez, 2006). Although most children in the US are not consuming diets that correspond to dietary guidelines, the diets of Latino children put them at a particularly high risk for obesity. Compared to other ethnic groups the diets of Latino children are higher in dietary fat, sweetened beverages, and lower in fruits and vegetables (Troiano, 2000; Giammattei, 2003; Neumark-Sztainer, 1996).

Lack of physical activity also contributes to obesity. The Center for Disease Control (CDC) recommends a minimum of 30 minutes of moderate physical

activity at least five days per week or a minimum of 20 minutes of vigorous activity three days per week (CDC, 2006), yet few Latinos are meeting these goals. In Los Angeles County, Latino adult males have the highest rate of being sedentary (46%) for any racial/ethnic group (Los Angeles County Health Survey, 2002-2003). Less than one in four Latino adults engages in even 20 minutes of physical activity three times a week (California Behavioral Risk Factor Survey, 2001). Only about one in five Latino children and youth in grades five, seven, and nine meet all six fitness standards in the statewide fitness test (California Department of Education, 2005). This suggests that low levels of physical activity are affecting the health status of Latino youth as well as putting them at risk for obesity. Nearly 10% of Latino adolescents engage in little to no moderate or vigorous physical activity at all (Babey, 2005).

TV viewing has been shown to have a strong association with obesity not only because it generally precludes physical activity but it is also frequently accompanied by high calorie snacking and aggressive advertising of calorie rich, nutrient-poor foods and beverages (Samuels, 2003; Rideout, 1999). Children in the US spend an average of 5-1/2 hours per day using media (TV, video games, and computers) and are exposed to about 40,000 ads per year on TV alone (Rideout, 1999).

MANY LATINO COMMUNITIES HAVE BARRIERS TO HEALTHY EATING AND ACTIVITY

Underlying inequities in socioeconomic status have led to an overrepresentation of Latinos in low-income neighborhoods that tend to promote unhealthy diets and sedentary lifestyles. Due to economic constraints, many Latinos settle in low-income neighborhoods that have limited access to affordable healthy food options available in produce markets, well-stocked discount supermarkets, and other outlets that offer healthy ready-to-eat foods. Instead, these "healthy food deserts" have a plethora of liquor stores and mini markets that offer primarily calorie rich, nutrient-poor snacks and convenience foods. In California only 52% of residents in low-income areas live within one-half mile walking distance of a supermarket (California

“Because of the growth in childhood obesity, it is projected that half of Latino newborns will develop diabetes in their lifetimes.”

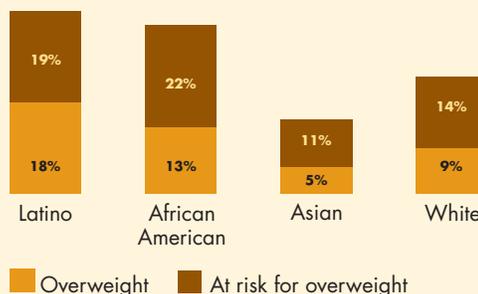
Narayan, 2003

Nutrition Network, 2005). For residents without a private vehicle, public transportation may be the only option, and can be an impractical, time consuming and costly means of accessing a supermarket that is not within walking distance. Fast food restaurants, taco wagons, and street vendors tend to cluster in areas where people have fewer options to obtain healthy food. Sixty-four percent of Latinos agree “it’s too hard to get fruits and vegetables at work,” 54% agree that it is hard to get fruits and vegetables at restaurants and 70% report that fruits and vegetables are hard to get at fast food restaurants (California Nutrition Network, 2005).

Low income neighborhoods also may have fewer well-equipped playgrounds, parks and recreational facilities, pedestrian and bike-friendly streets, and other safe and affordable places to exercise, play and be active. Park space in Los Angeles County is disproportionately concentrated in wealthy neighborhoods. Latinos are less likely than their White counterparts to enjoy access to parks and playgrounds (Trust for Public Land, 2004). Twenty-nine percent of Latino adolescents have no access to safe parks or open spaces, compared with 22% of White adolescents (Babey, 2005). Latinas cite inadequate facilities, cost, and neighborhood safety as barriers to physical activity (Evenson, 2002). It is also commonly observed that schools in low-income areas tend to have poorer Physical Education (PE) facilities, more dependence on the sale of junk food to support athletics and other student programs, and less time devoted to PE and health education, than schools in affluent areas. Documentation of these inequities however is lacking and merits further study.

Unsafe neighborhoods, limited resources for recreation, and a lack of quality childcare increase the reliance of Latino families on TV. In addition to decreasing physical activity time, TV viewing results in increased exposure to commercials that teach even very young children to demand the high sugar, high fat snack and convenience foods that are most frequently advertised. In 2004, the food and beverage industry spent over \$260 million to advertise their products on Latino-oriented TV, magazines and radio (CPEHN, 2005).

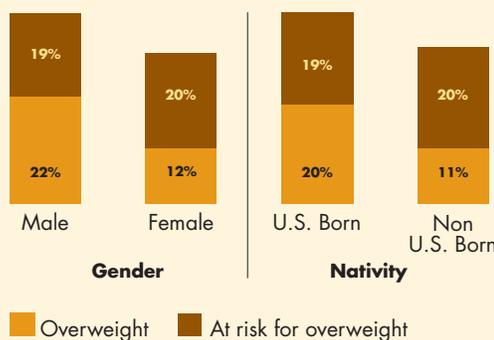
EXHIBIT 1.
Prevalence of Overweight and at Risk for Overweight by Race/Ethnicity. Adolescents (Ages 12-17), California 2003



NOTE: Race/Ethnicity is based on single race or race/ethnicity with which respondent most identifies. Body mass index (BMI) was calculated based on respondent reports of weight and height. A gender appropriate growth chart was used to compare reported BMI for age. Adolescents in the 85th - 94th percentile are considered at risk for being overweight and adolescents in the 95th percentile and higher are considered overweight.

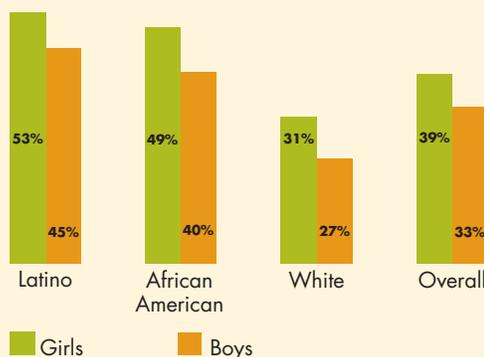
Source: 2003 California Health Interview Survey

EXHIBIT 2.
Prevalence of Overweight and at Risk for Overweight by Gender/Nativity. Latino Adolescents (Ages 12-17), California 2003



Source: 2003 California Health Interview Survey

EXHIBIT 3.
Estimated Lifetime Risk of Developing Diabetes for Children Born in 2000



Source: Adapted from Narayan, 2003

The environments in low-income communities tend to encourage unhealthy eating and discourage physical activity.

GENETIC, SOCIOECONOMIC, AND CULTURAL FACTORS NEED TO BE CONSIDERED

The contribution of genetics to obesity is estimated to be between 40-70% (National Heart Lung and Blood Institute, 2004). Genetics should not, however, be confused with destiny. Genetics determines one's susceptibility to obesity but does not determine the actual weight that one will attain. Latinos appear to be one of the ethnic groups with a greater genetic *susceptibility* to obesity, such that given an "obesigenic"¹ environment this susceptibility is more likely to be expressed. Individuals without the genetic susceptibility will be less likely to become obese in the same "obesigenic" environment. This genetic susceptibility was protective over most of the history of humankind when food was scarce and high levels of energy expenditure were required to attain food. Those that tended to eat more, utilize their nutrients efficiently and conserve energy were more likely to survive. In the current environment of abundant, cheap calories and limited opportunities for physical activity these "thrifty genes" have become a liability. Awareness of the genetic aspects of obesity help us understand that differences in body fatness are not the result of differences in will-power, self-control or emotional stability but rather have a physiologic basis that is in no way pathological or abnormal. This genetic risk is amplified by the fact that Latinos, especially low-income Latinos, tend to live in communities where environmental risk is concentrated (Yancey, 2004) therefore genetic susceptibility is more likely to be expressed.

Socioeconomics play a major role in the etiology of obesity. As described above, the environments in low-income communities tend to encourage unhealthy eating and discourage physical activity. Beyond predicting one's place of residence, poverty also increases the risk for obesity in other ways. Limited purchasing power makes it more difficult to buy lower calorie, nutrient-rich foods which tend to be more expensive

than their high calorie, nutrient-poor counterparts even when they are "available" (Drewnowski, 2005a, 2005b). A 2003 survey found that 41% of Latinos agree that fruits and vegetables are too expensive (California Nutrition Network, 2005). Long work hours limit the time available for food preparation, shopping and leisure-time physical activity. Parents who work long hours, have long commutes and/or work two jobs have limited time to encourage and support their children to be physically active and eat well. Added to that is the lack of transportation and money to support their children's participation in extramural sports, youth programs and other recreational activities. There is also evidence that stress and lack of sleep increase the risk of obesity in children and adults (Agras, 2004; Bjorntorp, 2001). Poverty not only increases stress levels but also compels one to focus on more immediate concerns than the long-term risk of chronic disease.

Immigration, acculturation, and conditions in countries of origin are factors relevant to Latino obesity. Of California's 11 million Latinos, 8.5 million are Mexican-origin; of these, 3.8 million are Mexico-born, and 3 million are non-citizens (California State Data Center, 2006). The rise in obesity and diabetes is occurring in Mexico as well as the United States (Martorell, 2005). The highest rates of obesity in Mexico tend to occur in those states with closer proximity to the border (ENSA, 2000), suggesting an influence of exposure to US culture. Mexican health authorities indicate that obesity is on the rise among all age groups and both genders, and is accompanied by an increase in persons diagnosed with the metabolic syndrome, a strong risk factor for type 2 diabetes (Martorell, 2005). Mexico is the world's leading per-capita consumer of Coca-Cola, according to the World Health Organization. A government study of income and spending showed Mexicans spent 29.3% less on fruits and vegetables in 1998 than in 1984, while during the same period, purchases of soft drinks increased 37.2%. Mexico is instituting new programs and policies to address diabetes and obesity, giving rise to opportunities for collaboration with California counterparts (Philadelphia Inquirer, 2005).

Efforts to prevent obesity among Latino immigrants therefore would be well-advised to protect and support healthy traditional dietary practices and physical activity patterns while reinforcing cultural identification and pride.

Latino immigrants face both unique risks and protective influences. Traditional culture appears to be protective. Less acculturation (i.e. slower adoption of typical US lifestyle and behaviors) in Latino immigrants is associated with healthier dietary habits, more physical activity and lower rates of obesity (Ravussin, 1994; Unger, 2004). Latino immigrant families are more likely to prepare meals at home and have family meals together. Mexican-American youth with fewer generations in the US also tend to watch less TV (Gordon-Larsen, 2003). It appears that limited acculturation partially ameliorates the negative association between poverty and dietary intake among Latino youths. This culture-based protection or buffering has also been shown for other risk behaviors (Mazur, 2003). Efforts to prevent obesity among Latino immigrants therefore would be well-advised to protect and support healthy traditional dietary practices and physical activity patterns while reinforcing cultural identification and pride. Increasing access to traditional foods and identifying appropriate and affordable replacements for traditional ingredients that are not readily available in the US are important strategies for supporting healthy eating among recent immigrants as well as subsequent generations that could also benefit from a return to healthy traditional eating patterns (Brown, 2005).

Acculturation also appears to increase the risk for distorted body image and disordered eating (Chamorro, 2000; Joiner, 1996; Fitzgibbon, 1998; Pumariega, 1986). Although Latinas have a greater tendency to rate themselves as attractive and have more positive attitudes towards overweight and obesity than Whites, they experience similar levels of body dissatisfaction and disordered eating compared to Whites and much greater levels compared to African Americans (Altabe, 1998). Studies have found healthier eating and weight attitudes among families in which there is greater closeness, more time spent together, greater expression of feelings, higher perceived maternal caring, and a secure attachment style; again pointing to the value of strengthening traditional Latino family values (Hahn-Smith, 2001).

Latinos tend to place family concerns and social cohesiveness above individual achievement. Consequently, efforts that put primary emphasis on discipline, self-control, and individual actions may have limited impact. Social isolation can be an important influence on eating and activity behavior, especially so for recent immigrants. For example, social support from friends and family is correlated with physical activity in Latinos as well as in the general population (Hovell, 1991; Wilcox, 2000). Unfortunately, the loss of social capital upon immigration combined with high levels of mobility in immigrant communities tend to weaken social support and leave these communities more vulnerable.

Undocumented status, limited English capabilities and distrust of government may exacerbate the marginalization of Latinos. Also, recent immigrant Latinos are the least likely population to have health insurance (Brown, 2003). These factors could limit ability and confidence to participate in organized efforts to prevent obesity that call for civic involvement or access to preventive health services. Many immigrants are reluctant to apply for food assistance programs such as food stamps and related nutrition services because they fear it may affect their immigration status (California Nutrition Network, 2005).

Therefore, health promotion efforts in Latino communities will likely benefit from a focus on family involvement, strengthening of social networks, and development of social support (UCCE DANR, 2003). The creation of social networks is particularly important among immigrants who may otherwise be marginalized and disengaged from civic action.



Prevention

Particularly important for Latinos are prevention strategies that strengthen families and communities and emphasize broad concepts of social and physical health rather than focusing on BMI.

PREVENTION OF OBESITY IS MORE EFFICIENT AND ECONOMICAL THAN TREATMENT ALONE

The Institute of Medicine in its recent report, *Preventing Childhood Obesity: Health in the Balance*, determined that the obesity epidemic is a serious public health problem calling for immediate reductions in obesity prevalence and the health and social consequences (Koplan, 2005). In other circles, despite lip service to prevention, discussions of efforts to prevent obesity often drift toward treatment strategies. Weight loss programs are seductive because dramatic results may be achieved over a relatively short period of time. It is easy to lose sight of the fact that very few of these diets are effective in the long term, seriously limiting their applicability to prevention. Rather than weight loss, our greatest challenge – and our greatest opportunity – is prevention of excess weight gain. Research has shown that in a five year period up to 7% of the population may move into the overweight category (Woodward-Lopez, 2006). Stemming the obesity epidemic in the U.S. will require that many individuals slow their rate of weight gain or that a substantial number of obese individuals lose weight. This former strategy has two advantages: improving the health of a greater segment of the population and providing sustainable change. Even a small decline in the number of new cases of obesity has the potential to dramatically shift the Body Mass Index (BMI) distribution. If adults are able to maintain their current weights and if children are able to maintain an appropriate rate of weight gain, society could reverse the obesity epidemic in just a few generations.

A prevention approach is particularly important for Latinos whose cultural values and perspectives, as described above, lend themselves more easily to preventive strategies that strengthen families and communities and emphasize broad concepts of social and physical health rather than relying on more narrowly defined concepts such as BMI. Furthermore, Latinos may not view healthy weight in terms of BMI or growth chart curves. It has been shown that Latina mothers view their children's health more in terms of energy level, happiness, healthy looking skin and hair, and family bonding rather than weight per se. A focus on these benefits of healthy eating and active living is likely to be more effective than a focus on individual weight loss or a sole reliance on BMI as the outcome of interest (Crawford, 2004b).

Effective and sustainable prevention of obesity across the population will therefore require increased daily access to high quality nutritious foods and beverages that include plenty of fresh fruit and vegetables, whole grain products, and low fat dairy and protein foods, along with comparatively less access to high calorie, nutrient-poor foods like high fat and/or sugar snack foods, high calorie/high fat fast foods, soda, and other sweetened beverages (Woodward-Lopez, 2006). Prevention of obesity also requires adequate amounts of physical activity in the form of walking, biking, recreational sports and active play as well as a reduction in sedentary activity, principally television viewing.

APPROACHES

An environmental approach requires multi-sectoral involvement and community engagement

In order to improve community food and activity environments we must involve not only the nutrition, public health and physical activity professionals that have traditionally been involved in the promotion of healthy lifestyles, but we must also step into less familiar territory that includes, for example, the world of urban planners, housing developers, and transportation designers; food and beverage producers, vendors and marketers; advocates and policy makers; advertisers and the entertainment media. The multi-sectoral approach is outlined in Exhibit 4. Given that changes in these sectors represent a relatively new approach to obesity prevention, the evidence base is limited for any population group, much less for Latinos. Nevertheless, communities across California, and the Latino community in particular, are taking action and creating promising models for replication.

Food and Beverage Industry

The food and beverage industry is large and complex and has a major influence on what we eat by the nature of the products they produce as well as their pricing and marketing. There are, therefore, many possible points of intervention, from local grassroots efforts to national and even global trade and agricultural policy. Latinos are not only consumers but also comprise a large portion of the workforce in many levels of the food supply system including street vendors, restaurants, food packing plants, and farms.

Local governments and community groups have combined forces to obtain land, financing, facilities and other incentives to attract restaurants, supermarkets, farmer's markets and other purveyors of healthy foods to their neighborhoods.

Grassroots efforts to bring healthy products to low-income communities of color have included establishing outlets for the sale of fresh fruits and vegetables in convenient locations such as day-care centers, and mobile markets that bring fresh produce and other healthy foods to the community in the form of a converted postal truck.² Local governments and community groups have combined forces to obtain land, financing, facilities and otherwise provide incentives to attract restaurants, supermarkets, farmer's markets and other purveyors of healthy foods to their neighborhoods (Bolen, 2003; Flournoy, 2005). Liquor stores have been converted to mini-grocery stores and convenience stores have been cajoled and supported to offer more healthy options (Bolen, 2003; Flournoy, 2005). Efforts that facilitate the use of WIC and food stamp vouchers at farmer's markets or other purveyors of healthy options through electronic benefit transfer and on-site voucher redemption can also increase access to healthy foods for low-income consumers (California Nutrition Network, 2005)

In communities where many residents do not own vehicles, grocery shuttle programs can help residents access supermarkets. Successful programs operated by Ralph's and Numero Uno markets have been implemented in Los Angeles and a study conducted by UC Davis suggests that such programs can be self-supporting (California Nutrition Network, 2005; Flournoy, 2005).

Community gardens have been particularly popular in Latino communities and provide for physical activity as well as increased access to fresh produce. Gardens have also served to improve the appeal of blighted neighborhoods and build a sense of community (Jara, 2002; Jones, 2005).

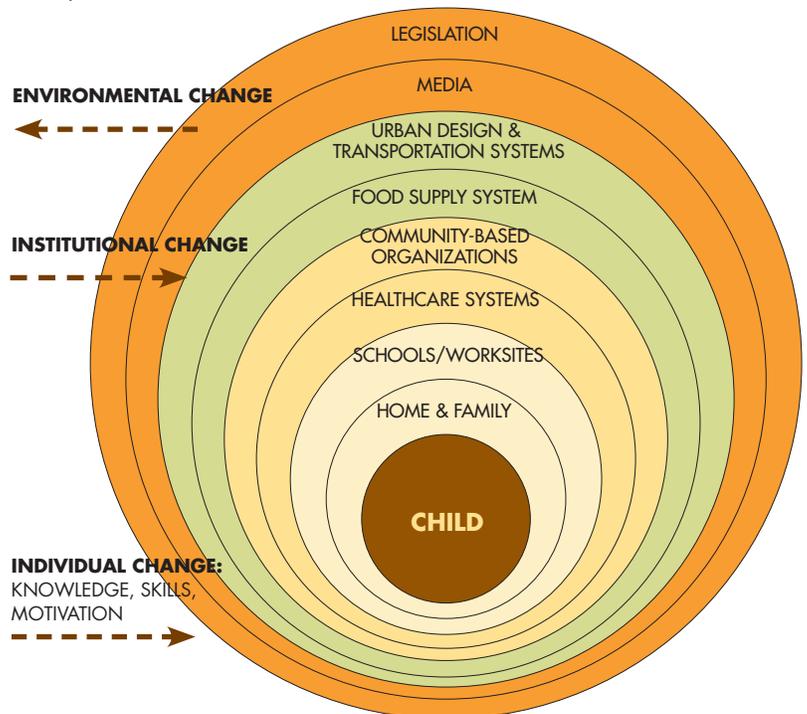
Large restaurant and convenience store chains that reach significant portions of the Latino population are also important targets for change and several have begun taking action. Many fast food chains are offering premium salads and healthy alternatives to the traditional fries and soda that are included in most meal combinations. El Pollo Loco has agreed to introduce new meal offerings including soup and salad combinations, skinless chicken breast meals with steamed vegetables, and chicken tortilla soup. Brendan Theaters has agreed to introduce a line of healthy options to include bottled water, trail mix, and fruit and salad bowls.³ Although not all of these companies focus

exclusively on the Latino consumer, they reach such large segments of all ethnic groups that their potential impact is substantial.

In San Diego, the Nutrition Network has successfully worked with local restaurants (including chains and family owned establishments) such as Sammy's Woodfired Pizza, Pat and Oscar's, Chili's and Miguel's Cocina Mexican Food to offer more healthy, competitively priced options including leaner entrees, healthy side dishes (salads, fruit, steamed vegetables, black beans and corn on the cob), and healthy beverage options (lowfat milk and 100% juice) with both adult and kids meals (California Nutrition Network, 2005).

Food producers and processors should not be overlooked. Some farmers have successfully developed the capacity to wash, chop, and package their own produce. These healthy "added-value" products not only benefit the consumers in the form of more convenient healthy foods but can also benefit the local farmers, many of whom are Latino, by increasing demand for, and profitability of their products

EXHIBIT 4. The UC Berkeley Center for Weight and Health Framework for Obesity Prevention (Woodward-Lopez, 2001)



**In Santa Ana,
residents rallied
together to
convert an
empty lot into
a park.**

(Harmon, 2003). Farm subsidies and other agricultural policies including appropriations and regulations concerning federal supplemental food programs such as food stamps, WIC and the school meal program also have the potential to influence large segments of the population, a large percentage of who is Latino. Agricultural policies affect both supply and demand by incentivizing production of certain crops and livestock and subsidizing and/or allowing only the purchase of certain types of foods by supplemental food program participants.

Food products from, or served in the style of, Mexico or other Latin American countries, are popular in Latino communities. Some are healthy traditional foods such as fresh fruit and juices, but others are processed low-nutrient, high-calorie foods sold by street vendors, in neighborhood stores, at swap meets, or brought back from trips by family and friends. Not only are these foods of cultural importance to Latinos, their distribution and sales are a source of commercial and social enterprise. Carefully structured and culturally sensitive policies and programs around healthy food importation and marketing in Latino communities deserve consideration. Ultimately, policy measures to control the obesity epidemic that would impact the food industry need to also consider the cultural, employment, and economic impacts on Latino communities.

Physical Activity Environments

Efforts to improve the physical activity environments in Latino communities have included (Economic and Planning Systems, 2005):

- development of bikeways and walking trails
- creation of corridors of open space that can be used for recreation
- creation of trails through neighborhoods that connect homes with schools
- addition of, or improvements in, neighborhood parks
- increases in access to fitness and community centers
- development of mixed use neighborhoods so that commercial outlets, workplaces and school are within walking distance of homes

For example, Lewis Operating Company has committed to creating housing developments that are pedestrian oriented and feature mixed use, compact

forms, strong connectivity of streets and paths, pocket parks and larger parks, housing for a full mix of income levels, community gardens, provisions for public transit and nearby schools that children can walk to safely, and physical structures such as community centers, swimming pools, parks and gymnasiums.⁴

Improving the design of existing low-income neighborhoods remains a challenge, however success stories exist. In Boyle Heights, a primarily Latino neighborhood in Southern California, the residents transformed a cracked sidewalk around a cemetery into a 1.5 mile rubberized jogging path. Daily use increased from 200 to 1000 people who use the path for jogging, walking, and socializing.⁵

In Santa Ana, residents rallied together to convert an empty lot into a park. Although Orange County set aside 32,000 acres for parkland and open space, none are in Santa Ana, a city where 34.8% of children are obese, the highest percentage among California's ten largest cities. By combining efforts with Latino Health Access, a Santa Ana-based non-profit group, residents were able to garner the support of local civil engineers, architects, and contractors who agreed to volunteer their time and develop the park in addition to a jogging trail, exercise stations, and a community center. A small group of mothers also created fliers, knocked on doors, and recruited parents to help convince city officials to approve their plans as well as grant ownership of the park to Latino Health Access. Because the park's creation was community-driven and residents are currently working to have it community-owned, this future park and community center will not only help promote physical activity and healthier eating, but it has also empowered citizens to take control of their communities.⁶

Local government is in a key position to design communities to facilitate active living. In San Fernando, with a 90% Latino population, the city council is implementing a plan to revitalize the community that incorporates key elements of "smart growth" including: mixed use design with a center focus so that transit stops, housing and businesses are within walking distance of each other; filling in older parts of the community before spreading; creating more compact communities; and building infrastructure for walking, bicycling, transit use and active recreation. Streets will be redesigned to be safer, more comfortable, and attractive for pedestrians and unused lands

In the primarily Latino neighborhood of Boyle Heights, residents transformed a cracked sidewalk around a cemetery into a popular rubberized jogging path.

will be converted to community parks. The addition of farmers markets, garden plots, greenways, trails and a new recreation center are just a few examples of the transformation that is taking place in San Fernando. With leadership from the city council, grants from state and county government, and the active involvement of residents, the City of San Fernando plans to transform their community into a model for active living (De La Torre, 2006).

Youth Leadership

Efforts that involve Latino youth have been particularly successful in engaging their neighborhoods in community organizing processes to improve their local food system. The youth sub-committee of the San Gabriel Valley Team of the Grassroots Nutrition and Physical Activity Campaign was instrumental in passing the Baldwin Park Healthy Foods Resolution in 2003 that requires only healthy foods and beverages be sold in city youth facilities.⁷ Youth also participated in efforts in San Francisco's Bayview district to encourage, cajole and compel small restaurants and markets to carry healthy, affordable and fresh foods.⁸ These types of efforts not only help the local communities but also develop youth leadership skills and enable them to become powerful activists and opinion leaders for their generation.

In 2003, the Baldwin Park Teen Center was established to give youth a community center specifically tailored to the needs and desires of Baldwin Park's youth. From its inception, the Teen Center has encouraged youth empowerment by soliciting their opinions at city council meetings about what the youth center should offer. The result was a youth center that models a healthy community: a skate park and a climbing-wall promote physical activity, cooking classes teach students how to prepare healthy meals, soda and candy machines are absent, and civic engagement is a key component of the center's activities. The mission of the Healthy Teens on the Move Advocacy Committee, which holds monthly meetings at the Center, is to improve the health of their communities. Past projects have involved planning a youth fitness carnival, planning a 3 on 3 basketball block party, and meeting with city officials to advocate for the Center's skate park and improved vending machine offerings. By building youth advocacy, the Center helps to insure that future generations will fight for healthy changes in their communities.

School Environments

Schools provide the food and activity environment in which children spend a large portion of their waking hours. School based efforts have included varying combinations of the following approaches:

- Improvements in, and increased access to, the school meal program
- Limits on, or elimination of, competitive foods and beverages (individual items not sold as part of the school meal program) such as fries, chips, pizza, and soda
- Increased time for, and improvements in the quality of PE
- Improvements and increased access to other opportunities for physical activity on campus including recess, classroom activities and extramural sports
- Efforts to support and promote walking and biking to school
- Increases and improvements in the quality of nutrition and health education

Many successful programs have been implemented in schools that serve primarily Latino communities. These include a comprehensive nutrition and physical activity program, CATCH (Coordinated Approach to Child Health), which has been successfully implemented in 108 schools in El Paso, Texas and New Mexico, and SPARK (Sports, Play, and Active Recreation for Kids), a physical activity program that has been successfully and sustainably integrated into many predominately Latino schools across California (Nader, 1999; Dowda, 2005; Sallis, 1993; Luepker, 1996). With regards to nutrition-related improvements, many promising models exist. Los Angeles Unified School District adopted improved nutrition standards for all competitive foods and beverages sold on their campuses; Folsom Cordova Unified eliminated a la carte food sales and increased the variety, healthfulness and appeal of the school lunch; and Vista High School successfully switched to all healthy vending machine items⁹ (Kojima, 2002; Woodward-Lopez, 2005).

An especially promising approach to improving school food environments in California has been to limit access to less nutritious snack foods and beverages and increase access to more balanced meals. The LEAF pilot program, which piloted tested the implementation of the Senate Bill 19 nutrient standards for competitive foods, found that when these competitive snack foods and beverages were limited, participation

Advertising and promotion that is intended to entice Latino children to insist on unhealthy food and beverage choices should be identified and appropriate action be taken for curtailment.

in the school meal program increased and school food service departments benefited financially (Woodward-Lopez, 2005). Students also stand to benefit from the switch from snack foods and sweetened beverages to more balanced meals. Participation in the school meal program has been shown to improve children's dietary intakes (Gordon, 1995). Good nutrition not only protects against obesity but is also essential for optimal cognitive functioning and academic performance (Meyers, 1989; Center on Hunger, Poverty and Nutrition, 1998; Kleinman, 1999). Efforts to promote and increase access to the meal program are therefore key to any school-based efforts to reduce obesity. While 56% of school age Latinos are eligible for the national school lunch program, typically only about half of eligible students participate, so there is ample room for improvement (California Nutrition Network, 2005).

In addition to elementary and secondary schools, preschools and child care facilities are also addressing obesity prevention. Head Start in San Diego and the Hip Hop to Health program are examples of programs that serve Latino youth that have successfully improved structured and unstructured opportunities for physical activity, incorporated fun and interactive nutrition education, and/or adopted and implemented policies to improve the foods and beverages offered to the children and staff (Fitzgibbon, 2004).

These successes at all grade levels (preschool through high school) were made possible by adaptation of program elements to reflect the ethnic heritage of the students (Flores, 1995; Gortmaker, 1999; Lytle, 1996; Trevino, 2004) including:

- Incorporation of culturally meaningful activities, foods and materials
- Student involvement in selecting foods and physical activities
- Interactive education strategies that engage students
- Physical activities that are fun and appropriate for students of various sizes and physical capacities
- A focus on specific dietary changes, physical activities, and reduction in sedentary activities (i.e television viewing reduction) that can have an observable short term impact on weight and fitness.

After-school Programs

After-school programs including Boys and Girls clubs, YMCAs, community centers, and other youth programs are joining the obesity prevention effort in a variety of ways. They are partnering with schools and other agencies to expand their programs and increase accessibility to low-income and high-risk youth. They are also increasing and improving the quality of physical activity options and improving the quality of the food they offer, and they are joining in advocacy efforts to effect changes in their communities that are conducive to healthy eating and active living. The California Adolescent Nutrition and Fitness Program (CANFit)¹⁰ and the Youth Action League (YAL) are two examples of agencies that have successfully integrated nutrition and physical fitness into after-school programs for low-income, minority youth. Activities have included hip-hop and other types of dance; skills-based, hands-on nutrition education activities; gardening; and various service learning projects. Elements of success include a youth development approach, youth leadership, and youth involvement in selecting activities that are culturally meaningful and address youth concerns and priorities (Cox, 2003).

The Media

The media has been shown to have an impact on obesity by nature of its powerful influence over the foods we eat and how we spend our leisure time (Samuels, 2003). Various media-based approaches to preventing obesity have been suggested including: placing limits on the advertising of "junk" foods and beverages to children; promotion of healthy lifestyles through TV programming; education and behavior change programs to reduce TV viewing; and public education campaigns.

Given that it is well established that advertising influences food choices and that TV viewing is associated with overweight (Bell, 2005; Andersen, 1998; Crespo, 2001; Dietz, 1985; Gortmaker, 1999; Hernandez, 1999; Moreno, 1998) there has been much interest and activity concerning legislative and regulatory approaches, although no new regulations or legislation have yet been adopted in this area.

An ethnic-specific approach to responsible advertising is critical given the advertisement of unhealthy

As a result of bills introduced by Latino legislators California has the most progressive school nutrition standards in the nation.

foods and beverages that specifically targets Latinos, and Latino children in particular. Therefore monitoring food and beverage marketing that targets Latino children is needed through both general and Latino-specific media. Advertising and promotion that is intended to entice Latino children to insist on unhealthy food and beverage choices should be identified and appropriate action be taken for curtailment.

TV viewing reduction programs offered in the schools have proven to be effective in reducing obesity among children but not specifically among Latinos (Robinson, 1999; Gortmaker, 1999). Furthermore, these programs have yet to be disseminated on a large scale, although Planet Health in Massachusetts is being adopted in schools across the state. Given the promising findings regarding the favorable impact of reducing TV viewing among children, more research is needed to determine the effectiveness of these programs among Latinos and the feasibility of applying this approach on a larger scale.

There are several promising examples of TV programs and videos that encourage or necessitate that the viewer be physically active. Examples include the enormously popular video game Dance Dance Revolution and PBS shows in which characters encourage children to engage in physical activity while viewing the program.

Public education campaigns have the potential to reach large numbers of individuals and several successful campaigns have targeted the Latino population. These include the Spanish language 1% milk campaign which resulted in sustained increases in purchases of 1% milk (Yancey, 2004); the Spanish language VERB campaign which was associated with increased physical activity among the targeted youth (Huhman, 2005); and the California Latino 5-A-Day Campaign which was associated with increased fruit and vegetable consumption (Blackman, 2003).

Unfortunately, the amount of resources spent on social marketing is dwarfed by commercial advertising of calorie dense, low-nutrient foods and beverages, mostly aimed at children (Nestle, 2002). Evidence also suggests that programs that rely primarily on communications strategies in the absence of complementary environmental changes are unlikely to have a sustained impact on behavior (Ritchie, 2001). Given

the enormous cost involved in media-based education campaigns, such efforts should generally be supported only as a single component of a broader effort to improve policies, community environments, and societal conditions.

There is sound scientific evidence to suggest that the various media-based approaches could have an enormous impact on obesity. Pursuing appropriate regulatory approaches is therefore justified. Consideration should be given to expanding TV viewing reduction programs and adapting them for use with Latino youth. In addition, the production of active TV programming and video games should be encouraged. Public education campaigns designed to reach the Latino community should continue but be carefully considered so as to complement other environmental change efforts to prevent obesity.

Legislation

The legislative process and the passage of legislation have proven to be the driving forces for change in the school nutrition environment in California. Concern raised by, and for, the primarily Latino constituencies of legislators in California gave rise to the first bill (SB 19) to set nutrition standards for competitive foods and beverages sold on school campuses. This eventually resulted in passage of the most progressive school nutrition bills in the nation (SB 12 and SB 965). The legislative process stimulates debate, raises public awareness, and mobilizes both individuals and organizations to action and in this way facilitates change regardless of the outcome of any individual bill. Grassroots advocacy in Latino communities contributed to the passage of the bills described above as well as the local ordinances regarding the provision of healthy foods in public facilities in Baldwin Park and the City of Los Angeles.¹¹ These efforts not only result in policy change but also serve to empower communities that were previously marginalized and disenfranchised. Legislation could potentially impact all of the sectors described above and should be considered as important complement to other types of strategies.

Obesity prevention initiatives for the Latino community would do well to expand the role of promotores as community outreach workers and policy advocates

PROMOTORES AND COMMUNITY COALITIONS

Critical elements for sustainable and coordinated action to improve nutrition and activity environments in Latino communities

Community health workers, often referred to as “promotores,” have been especially effective in Latino communities because they address the issues of social isolation as well as cultural and language barriers. Promotores traditionally play a role in increasing access and utilization of preventive and curative health services but have also been effective at advocating for changes in organizational policies and practices (Aguilar-Gaxiola, 2002; Corkery, 1997; Forst, 2004; Hunter, 2004; Ingram, 2005). Promotores tend to serve the same community they live in and are therefore better able to sustain local changes in public policy and organizational practices (Zarate Macias, personal communication, 2005). Obesity prevention initiatives for the Latino community would do well to expand the role of promotores as community outreach workers and policy advocates.

The Women in Motion/Mujeres en Movimiento (WIM) program aims to increase a woman’s sense of self-value through physical activity, nutrition and health education classes. Frustrated by the health promotion resources available to low-income Latinas, a promotora-designed WIM decided to offer culturally and linguistically appropriate support to low-income Latinas of reproductive age living in the South Central area of Los Angeles. The program’s success rests upon participants’ sense of ownership over the program and their community. For example, participants have designed their own cookbook and have become peer educators and health advocates for their community. WIM plans to expand its services by developing a collaborative to include providers of medical and mental health services. WIM has been successful in promoting movement, through its exercise programs as well as through its cultivation of civic engagement and policy change.

Coalitions focused on the issue of childhood obesity are springing up across California.¹² Community involvement, coalition building and the mobilization of social networks are important components of health promotion efforts in all communities but

are especially important in low-income communities and communities of color where residents are more likely to be disempowered and marginalized (Yancey, 2004). Many of the most active coalitions are in Latino communities and include Latino leadership. These coalitions make it possible for groups to work together to share resources, leverage funding, and coordinate efforts. Many of the efforts described above were made possible as a result of community coalition efforts. Coalitions appear to be a critical element to ensuring coordinated and sustained action across the many sectors that influence food and activity environments. Among Latino communities, especially low-income and immigrant communities, coalitions serve as a vehicle to increase community cohesiveness and to engage residents who might otherwise feel fearful or alienated (UCCE DANR, 2003).

Existing programs that already provide education and support to Latinos should be considered as efficacious means of not only providing education but also for mobilizing community involvement. For example, the California WIC program serves a population that is 70% Latino. The FitWIC program demonstrated that WIC can successfully promote physical activity, healthy eating and breastfeeding promotion in addition to mobilizing community networks (Crawford, 2004a; Crawford, 2005).

MOBILIZATION OF ETHNIC-SPECIFIC NETWORKS CAN PROVIDE GREATER ACCESS TO ETHNIC COMMUNITIES

Mobilization of ethnic-specific networks of organizations and groups working within specific ethnic communities has proven to be very successful for other health promotion efforts such as tobacco control (Tobacco Control Section, 2001). Such networks allow these groups to share ideas, pool resources, develop common solutions and coordinate efforts. The pooling and coordination of the ethnic-specific capacities of these groups is critical in order to:

- build leadership within the Latino community
- assess and coordinate the cultural appropriateness of the health education, promotion and advocacy materials
- provide training and technical assistance
- disseminate messages and strategies.

The Latino Coalition for a Healthy California has made preventing obesity in Latino communities one of its top priorities.

Accessing and mobilizing specific ethnic communities requires an intimate understanding of social structures, community networks, and communication strategies that are specific to the community being served.

A BINATIONAL APPROACH IS LIKELY TO INCREASE THE REACH AND IMPACT OF INTERVENTIONS

Obesity rates are rising rapidly among Latinos on both sides of the US-Mexico Border. Populations on both sides of the border share common roots to the obesity epidemic as well as distinct challenges. Given the high degree of mobility of the Mexican-origin population across the US-Mexico border and the resultant exchange of resources and culture, a binational approach is merited. Effective solutions might be similar and could benefit from a shared understanding of both the similarities and unique issues faced in each country. More culturally appropriate and effective strategies are likely to be developed if perspectives, values and practices from both sides of the border are explored and considered. Furthermore, a combined effort is more likely to result in consistent strategies that are reinforced across the border. (Joint US-Mexico Workshop, 2006)

Research is needed to inform interventions and identify promising approaches

Recent reports that have reviewed the evidence base for obesity prevention recognized serious gaps, especially pertaining to community-based interventions, and recommended more aggressive research agendas (National Heart Lung and Blood Institute, 2004; Koplan, 2005; Kahn, 2002). Of particular importance to Latino communities is research that elucidates the role of genetics, culture, immigration, social and environmental conditions that influence eating and activity behaviors, and culturally congruent interventions that engage communities in solutions. Determining optimal Latino culture-specific approaches to improve behavior and environments that facilitate energy balance and reduce obesity is necessary to inform both program and policy efforts. The research agenda must include identification of promising practices and programs that reflect Latino community engagement with public health departments, schools, and other sectors working to improve nutrition and physical

activity behaviors and environments. Translation of research must be pro-active and include opportunities for early and continuous learning extended to those working with Latino communities.

SUMMARY

The epidemic of obesity is a serious threat to the health, social and economic well-being of Latino communities that calls for immediate and collective action. Confronted with inordinately “obesigenic” environments, Latinos must seek resolution through policies that improve opportunities for healthy eating and physical activity. Unfortunately, restrictive guidelines recently placed on the main federal source of funding for the promotion of healthy eating and physical activity in California limit the state’s ability to use these funds for policy and environmental change and therefore fall short of meeting the needs of the California’s Latino community. These guidelines prohibit work in some key areas such as the marketing of unhealthy food and drinks to children, lack of safe places to walk and play, and insufficient physical activity in schools. Despite the challenges, there is much opportunity. California has taken its place as a national leader by enacting state and local policies to improve nutrition in schools; promoting model programs to improve nutrition and physical activity environments such as the California Endowment’s Healthy Eating Active Communities initiative; and advancing visionary and groundbreaking commitments by the Governor Arnold Schwarzenegger and by private industry to work to prevent obesity. (Governor’s Summit, 2005)

The Latino Coalition for a Healthy California, working through its regional networks and its linkages with the Latino Health Alliance, and the National Association of Latino Elected Officials, has made preventing obesity in Latino communities one of its top priorities. To help guide the efforts, a set of principles and recommendations was developed and are presented here. As we advance this crucial work to rescue our communities from the crushing burden of obesity, we must acknowledge the leadership of Latino legislators, health professionals, and community leaders statewide that have been at the forefront of the march for policies and practices to end the obesity epidemic, beginning with Latino communities. Please join us.



Principles and Actions

PRINCIPLES FOR ACTION TO ADDRESS THE OBESITY EPIDEMIC IN CALIFORNIA'S LATINO COMMUNITIES¹³

1. It is the fundamental responsibility of civil society to provide, for all of its members, protection from harm and a fair and just opportunity for health and well-being.
2. Overweight and obesity increase the risk for developing diabetes, heart disease, physical disability, and other serious threats to health and well-being.
3. Overweight and obesity arise from unhealthy eating and inactivity behaviors that are heavily influenced by lifestyle and environmental factors, including immigration.
4. The health and financial burden of California's obesity epidemic falls inordinately on the Latino community and demands the attention of government and all sectors of society to develop and implement solutions that are applied promptly and equitably.
5. Inequities in the social and physical environments in Latino communities contribute to the obesity epidemic by failing to provide and/or creating barriers to opportunities for healthy eating and physical activity. The greatest opportunities to prevent obesity address these factors.
 - Poverty, low wages, unemployment, poor housing, blighted neighborhoods.
 - Deficit of social cohesion or civic engagement; social isolation.
 - Unsafe neighborhoods, inadequate recreational spaces.
 - Community designs that favor motorized transport.
 - Lack of community planning for healthy activity and access to healthy food.
 - Insufficient opportunities for organized youth activities that involve healthy eating and physical activity.
 - Schools with overburdened staff, inadequate facilities and resources, dependency on the sale of unhealthy snack foods and beverages, insufficient health and physical education, inadequate cafeterias, and inadequate facilities for team sports and active play.
 - Aggressive marketing of unhealthy foods and beverages to the population at large, and Latinos in particular.
 - Absence of incentives to favor the production, manufacture and marketing of healthier foods and beverages.
 - Agricultural policies that favor production that is contrary to dietary guidelines.
6. To curtail the obesity epidemic in Latino communities, BOTH healthier eating and physical activity behaviors, AND improved social and physical environments that support healthy behavior are needed.
7. Despite a paucity of obesity prevention research specific to Latinos, sufficient promising models exist to encourage widespread inter-sector programs that engage community members in a broad range of efforts to prevent obesity, from nutrition education to developing healthier places to live, go to school, work, and play.

13. Expert review and constructive comment on the Principles was gained from participants in the California Program on Access to Care, Childhood Obesity among Latino Immigrant Families: A Consensus Forum on Research, Policy, and Programs, held in San Diego, California, March, 2005.

RECOMMENDATIONS TO PREVENT OBESITY AND TO PROMOTE HEALTHY NUTRITION AND PHYSICAL ACTIVITY IN CALIFORNIA'S LATINO COMMUNITIES

Overall approach

- Ethnic – specific social and cultural experiences influence attitudes and behaviors regarding body image, hunger, nutrition and physical activity and therefore should guide efforts to prevent obesity. Promotion of healthy eating and physical activity needs to capitalize on protective aspects of Latino culture as well as be culturally appropriate and responsive to the Latino population.
- Latino community institutions such as churches, newspapers, radio stations, clubs, and youth groups should be mobilized to increase awareness among the public and institutional leaders regarding the societal factors contributing to obesity and how to positively influence these factors.
- Community organizations, coalitions, peer outreach workers (promotores), and youth and natural leaders play important roles as intermediaries, resources, and advocates for Latino communities and therefore should be mobilized and supported in efforts to prevent obesity by improving nutrition and physical activity environments.
- Services need to be consistent and continuous. To gain trust and understanding, the context of community service efforts must be part of a long-term commitment.
- Priority should be given to efforts that are sustainable in the long term and have the potential to reach large segments of the population. In this context, where possible, bi-national coordination efforts should be considered.
- To ensure sustainability emphasis must be placed on institutionalizing nutrition and physical activity efforts within the context of overall community improvement for health and well-being.
- Trusted community organizations, including community clinics, local public health departments, health care providers, and schools must improve capacity for and institutionalization of this work.
- The primary focus of efforts to stem the rising rates of obesity should be on improving environments to increase access to healthy food and opportunities for physical activity.
- A multi-sector approach that holds all players accountable is needed. The sectors include but are not limited to: food and beverage industry, agriculture, government, community-based organizations, schools, health care, the media, employers/workplaces, housing developers, urban planning and transportation systems.
- Education and communication approaches and efforts to increase awareness should only be considered as complementary to environmental approaches.
- Public policies at the local, state, and national levels should be developed that are strongly informed by local efforts to improve food and physical activity environments.
- Binational collaboration should be pursued in order to more effectively reach the Mexican-origin population with complementary strategies that are reinforced on both sides of the border.

SPECIFIC ACTIONS

Civic action should be taken to *assure that no neighborhood is without access to affordable fresh produce and other healthy foods, and that every neighborhood is safe.*

Retail food environment: Local policies such as zoning, taxes, and other incentives should favor retailers (i.e. restaurants and stores) of fresh produce and other healthy foods.

Local entrepreneurs: Special programs should be established to assist food industry workers and local entrepreneurs in Latino communities to produce and promote healthier food options.

Actions such as *job-retraining and placement* may be necessary to respond to possible job displacement caused by changes in agricultural and food industry-related policies.

Agricultural and food assistance program policies should be consistent with dietary guidelines.

Activity environments: Sufficient resources should be provided and local ordinances should support the provision of safe sidewalks, bike paths, parks and recreation facilities in every community in California. New developments and retrofitting of existing communities should emphasize mixed-use and connectivity as well as safety and attractiveness that is conducive to non-motorized transport and outdoor play.

Schools and educators in all communities should be provided with information and resources to make federally-subsidized nutritious breakfast and lunch available to all students, ensure that foods provided to students are healthy and appealing, provide high-quality nutrition and physical education at all levels, and have well-equipped facilities for PE and for play. Physical activity facilities should be designed and staffed to be open to the neighborhood after school hours.

Health care providers that serve the Latino community should be provided with resources, institutional support and education that enable them to address obesity prevention in a clinical as well as community and advocacy context that is attentive to the cultural, social, and economic context of their patients.

Media exposure: Educational efforts to encourage reduction in TV viewing should be adapted for the Latino population and should be supported by efforts to increase the availability of healthier alternative leisure-time activities.

Marketing: Restrictions should be placed on the marketing of high calorie, nutrient poor foods (such as candies, high fat snack foods, sweetened beverages, and sugary cereals) to children, and on the intensity of such marketing in Latino neighborhoods and the Spanish- and English-language media.

Nutrition information should be evidence-based, designed to be linguistically and culturally accessible to Latinos, and emphasize healthy use of traditional food.

Public Education Campaigns to promote healthy eating and active living should be adequately funded and strategically designed to enhance environmental change efforts. Existing programs that reach large numbers of Latinos, such as the California WIC program should be considered as efficacious vehicles for disseminating information and mobilizing community involvement.

Strengthening families: Livable wages, reasonable working hours, short commutes, affordable housing and safe communities with healthy food and activity promoting environments make it possible for parents to support and encourage their children to eat well and be physically active. Education efforts directed at parents should only be considered as complementary to these more fundamentally enabling factors.

Community design: Buildings and communities should be designed to promote greater social cohesion, less dependence on individual transportation, and greater access to open green space. Efforts should be taken to transform adverse environmental conditions in established Latino neighborhoods.

Research: Biomedical and community level research specific to the Latino population is needed to address the role of genetics, culture, and immigration, social and environmental conditions that influence eating and activity behaviors, and culturally congruent interventions that engage communities. Lack of scientific evidence should not deter action, but instead encourage diffusion of best available information and promising models of community-driven programs.

A mechanism should be established for **collaboration and coordination of local and statewide advocacy efforts** to prevent obesity and obesity-related diseases such as diabetes and heart disease in Latino communities.

A statewide **Latino health clearinghouse** should be established to collect data, identify model programs, produce reports, monitor progress, conduct studies and evaluations, and disseminate information on obesity prevention and the promotion of healthy nutrition and physical activity in Latino communities. Communications, convenings, training, and technical assistance should target workers in, and residents of, Latino communities.

REFERENCES

- Agras WS, Hammer LD, McNicholas F and Kraemer HC (2004).** Risk factors for childhood overweight: a prospective study from birth to 9.5 years. *J Pediatr.* 145(1): 20-5
- Aguiar-Gaxiola SA, Zelezny L, Garcia B, Edmondson C, Alejo-Garcia C and Vega WA (2002).** Translating research into action: reducing disparities in mental health care for Mexican Americans. *Psychiatr Serv.* 53(12):1563-1568.
- Altabe M (1998).** Ethnicity and body image: quantitative and qualitative analysis. *Int J Eat Disord.* 23:153-160.
- Andersen RE, Crespo CJ, Bartlett SJ, Cheskin LJ and Pratt M (1998).** Relationship of physical activity and television watching with body weight and level of fatness among children: results from the Third National Health and Nutrition Examination Survey. *JAMA* 279:938-42.
- Babey S, Diamant A, Brown R and Hastert T (2005).** California Adolescents Increasingly Inactive. Health Policy Research Brief, March 2005. Los Angeles, CA: UCLA Center for Health Policy Research. Available at: www.healthpolicy.ucla.edu/pubs/files/TeensInactive_PB_040105_.pdf.
- Bell RA, Berger CR, Cassady D and Townsend MS (2005).** Portrayals of Food Practices and Exercise Behavior in Popular American Films. *J Nutr Educ Behav.* 37(1): 27-32.
- Bjorntorp P (2001).** Do stress reactions cause abdominal obesity and comorbidities? *Obesity Reviews.* 2:73-86.
- Blackman DR, Gonzaga CG and Freeman, Sullivan & Co. Media (2003).** Festival, Farmers/Flea Market, and Grocery Store Interventions Lead to Improved Fruit and Vegetable Consumption for California Latinos. Sacramento, CA: California Department of Health Services. Available at: www.dhs.ca.gov/ps/cdic/CPNS/lat5aday/lat_research.htm.
- Bolen E and Hecht K (2003).** Neighborhood Groceries: New Access to Healthy Foods In Low-Income Communities. San Francisco, CA: California Food Policy Advocates. Available at: www.cfpa.net/reports/link.html.
- Brown D (2005).** Dietary Challenges of New Americans. *J Am Dietet Assoc.* 105(11): 1704.
- Brown E, Ponce N, Rice T and Lavarreda S (2003).** The State of Health Insurance in California: Long-term and Intermittent Lack of Health Insurance Coverage. Los Angeles, CA: UCLA Center for Health Policy Research. Available at: www.healthpolicy.ucla.edu/pubs/files/SHIC_report_11142003.pdf.
- California Behavioral Risk Factor Survey (2001).** California Department of Health Services, Cancer Surveillance Section. Conducted by Survey Research Group, Sacramento, CA. Available at: www.surveyyesearchgroup.org/clients.html?ID=9.
- Center for Health Statistics (2003).** Thirteen Leading Causes of Death By Race/Ethnic Group And Sex, California. Sacramento, CA: California Department of Health Services. Available at: www.dhs.ca.gov/hisp/chs/OHIR/tables/death/causes.htm.
- California Department of Health Services (2005).** The Economic Costs of Physical Inactivity, Obesity, and Overweight in California Adults: Health Care, Workers' Compensation, and Lost Productivity. Sacramento, CA: California Department of Health Services. Available at: www.dhs.ca.gov/ps/cdic/cpns/press/downloads/CostofObesityFullTechnicalReport.pdf.
- California Department of Education (2005).** 2005 California Physical Fitness Test: Report to the Governor and the Legislature. Sacramento, CA: California Department of Education. Available at: www.cde.ca.gov/ta/tg/pf/documents/govreport2005.pdf.
- California Health Interview Survey (2003).** University of California, Los Angeles: UCLA Center for Health Policy Research.
- California Nutrition Network for Healthy, Active Families (2005).** Nutrition and Health Barriers Facing California Latinos: Latino Community Leaders Recommend Practical Solutions. Sacramento, CA: California Department of Health Services. Issue Brief. Available at: www.dhs.ca.gov/ps/cdic/cpns/lat5aday/download/Issue_Brief-September05.pdf.
- California State Data Center (2006).** Census 2000 Products: Summary Files 1, 3 and 4. Sacramento, CA: California Department of Finance, Demographic Research Unit. Available at: www.dof.ca.gov/HTML/DEMOGRAP/CSDC/CSDC_Products.htm.
- Carmona, RH (Surgeon General) (2003).** The Obesity Crisis in America: Testimony Before the Subcommittee on Education Reform Committee on Education and the Workforce, United States House of Representatives. Available at: www.surgeongeneral.gov/news/testimony/obesity07162003.htm.
- CDC (Centers for Disease Control and Prevention) (2006).** Physical Activity for Everyone: Recommendations. Atlanta, GA: Centers for Disease Control and Prevention, Department of Health and Human Services. Last reviewed March 22, 2006. Available at: www.cdc.gov/nccd/php/dnpa/physical/recommendations/index.htm.
- Center on Hunger, Poverty and Nutrition (1998).** Statement on the Link Between Nutrition and Cognitive Development in Children. Medford, MA: Tufts University, School of Nutrition Science and Policy. Available at: www.centeronhunger.org/cognitive.html#foreword.
- Chamorro R and Flores-Ortiz Y (2000).** Acculturation and disordered eating patterns among Mexican-American women. *Int J Eat Disord.* 28(1):125-29.
- Corkery E, Palmer C, Foley ME, Schechter CB, Frisher L and Roman SH (1997).** Effect of a bicultural community health worker on completion of diabetes education in a Hispanic population. *Diabetes Care.* 20(3): 254-257.
- Cox L (2003).** Youth Action League 2003 GO SERV Final Report. Obtained from California Center for Civic Participation and Youth Development, 1220 H Street, Suite 102, Sacramento, CA 95814.
- CPEHN (California Pan Ethnic Health Network and the Consumers Union) (2005).** Out of Balance: Marketing of Soda, Candy, Snacks and Fast Foods Drowns Out Healthful Messages. San Francisco, CA. Available at: www.consumersunion.org/pdf/OutofBalance.pdf.
- Crawford PB, Gosliner W, Strode P, Samuels SE, Burnett C, Craypo L and Yancey AK (2004a).** Walking the talk: Fit WIC wellness programs improve self-efficacy in pediatric obesity prevention counseling. *Am J Public Health.* 94(9):1480-5.
- Crawford PB, et al (2004b).** Counseling Latina Mothers of Preschool Children about Weight Issues: Suggestions for a New Framework. *J Amer Dietetic Assoc.* 104:387-394.
- Crawford PB (2005).** Principal Investigator, Fit WIC. Personal communication.
- Crespo CJ, Smit E, Troiano RP, Bartlett SJ, Macera CA and Andersen RE (2001).** Television watching, energy intake, and obesity in US children: results from the Third National Health and Nutrition Examination Survey, 1988-1994. *Arch Pediatr Adolesc Med.* 155(3):360-65.
- De La Torre M (2006).** Presentation to the National Association of Latino Elected Officials, January 28, 2006. Sacramento, CA.
- Dietz WH Jr and Gortmaker SL (1985).** Do we fatten our children at the television set? Obesity and television viewing in children and adolescents. *Pediatrics.* 75(5):807-12.
- Dowda M, Sallis JF, McKenzie TL, Rosengard P and Kohl HW (2005).** Evaluating the sustainability of SPARK physical education: a case study of translating research into practice. *Res Q Exerc Sport.* 76(1):11-9.
- Drewnowski A and Darmon N (2005a).** The economics of obesity: dietary energy density and energy cost. *Am J Clin Nutr.* 82(suppl): 265S-73S
- Drewnowski A and Darmon N (2005b).** Food Choices and Diet Costs: an Economic Analysis. *J Nutr.* 135(4):900-904.

- Economic and Planning Systems, Inc., Public Health Institute, and Shute, Mihaly & Weinberg LLP (2005). Regulatory Fee Assessments: Nutrition-Related Municipal Services, Nexus Study. Berkeley, CA.
- ENSA (Mexican National Health Survey/ Encuesta Nacional de Salud) (2000). Mexico City, Mexico: National Center for Epidemiological Surveillance and Disease Control (CENAVECE: Centro Nacional de Vigilancia Epidemiologica y Control de Enfermedades).
- Evenson KR, Sarmiento OL, Macon ML, Tawney KW and Ammerman AS (2002). Environmental, Policy, and Cultural Factors Related to Physical Activity Among Latina Immigrants. *Women and Health*. 36(2):43-57.
- Fitzgibbon ML and Stolley MR (2004). Environmental changes may be needed for prevention of overweight in minority children. *Pediatr Ann*. 33(1):45-9.
- Fitzgibbon ML, Spring B, Avellone ME, Blackman LR, Pingitore R and Stolley M (1998). Correlates of binge eating in Hispanic, black and white women. *Int J Eat Disord*. 24:43-52.
- Flores R (1995). Dance for health: improving fitness in African American and Hispanic adolescents. *Public Health Rep*. 110(2):189-93.
- Flournoy R and Treuhart S (2005). Healthy food, Healthy Communities: Improving Access and Opportunities Through Food Retailing. Oakland, CA: PolicyLink. Los Angeles, CA: The California Endowment.
- Forst L, Lacey S, Chen HY, Jimenez R, Bauer S, Skinner S, Alvarado R, Nickels L, Zaroni J, Petrea R and Conroy L (2004). Effectiveness of community health workers for promoting use of safety eyewear by Latino farm workers. *Am J Ind Me*. 46(6): 607-13.
- Giammattei J, Blix G, Marshak HH, Wollitzer AO and Pettitt DJ (2003). Television watching and soft drink consumption: associations with obesity in 11- to 13-year-old schoolchildren. *Arch Pediatr Adolesc Med*. 157(9):882-6.
- Gordon AR and McKinney P (1995). Sources of nutrients in student's diets. *Am J Clin Nutr*. 61(1 Suppl):232S-240S.
- Gordon-Larsen P, Harris KM, Ward DS and Popkin BM (2003). Acculturation and overweight-related behaviors among Hispanic immigrants to the US: the National Longitudinal Study of Adolescent Health. *Soc Sci Med*. 57(11):2023-34.
- Gortmaker SL, Peterson K, Wichita J, Sobol AM, Dixit S, Fox MK and Laird N (1999). Reducing obesity via a school-based interdisciplinary intervention among youth: Planet Health. *Arch Pediatr Adolesc Med*. 153(4):409-18.
- Governor's Summit on Health, Nutrition, and Obesity: Actions to Combat California's Obesity Epidemic. September 15, 2005. Available at: www.cnr.berkeley.edu/cwh/PDFs/Summit_State_Gov_Commitments.pdf.
- Hahn-Smith AM and Smith JE (2001). The positive influence of maternal identification on body image, eating attitudes, and self-esteem of Hispanic and Anglo girls. *Int J Eat Disord*. 29(4):429-40.
- Harmon A, et al (2003). Farm to School: An Introduction for Food Service Professionals, Food Educators, Parents and Community Leaders. Venice, CA: National Farm to School Program, Occidental College, Center for Food and Justice, Urban & Environmental Policy Institute.
- Hernandez B, Gortmaker SL, Colditz GA, Peterson KE, Laird NM and Parra-Cabrera S (1999). Association of obesity with physical activity, television programs and other forms of video viewing among children in Mexico City. *Int J Obes Relat Metab Disord*. 23(8):854-54.
- Hill JO, Wyatt HR, Reed GW and Peters JC (2003). Obesity and the environment: where do we go from here? *Science*. 299(5608): 853-5.
- Hovell M, Sallis J, Hofstetter R, Barrington E, Hackley M, Elder J, Castro F and Kilbourne K (1991). Identification of correlates of physical activity among Latino adults. *J Community Health*. 16(1):23-26.
- Huhman M, Potter LD, Wong FL, Banspach SW, Duke JC and Heitzler CD (2005). Effects of a Mass Media Campaign to Increase Physical Activity Among Children: Year-1 Results of the VERB Campaign. *Pediatrics*. 116(2): e277-84.
- Hunter JB, de Zapien JG, Papenfuss M, Fernandez ML, Meister J and Giuliano AR (2004). The impact of a promotora on increasing routine chronic disease prevention among women aged 40 & older at the U.S.-Mexico border. *Health Educ Behav*. 31(4 Suppl):18S-28S.
- Ingram M, Gallegos G and Elenes J (2005). Diabetes is a community issue: the critical elements of a successful outreach & education model on the U.S.-Mexico border. *Prev Chronic Dis*. 2(1):A15.
- Jara E, Silberstein J and Vega S (2002). California Project LEAN Great South Region
- Community Based Social Marketing Plan Creative Brief, Progress Report, Fall 2002. San Bernardino, CA: San Bernardino County Department of Public Health Nutrition Program.
- Joiner GW and Kashubeck S (1996). Acculturation, body image, self-esteem, and eating-disorder symptomatology in adolescent Mexican American women. *Psych Women Quarterly*. 20:419-35.
- Joint US-Mexico Workshop on Childhood Obesity Prevention (2006). Institute of Medicine, Food and Nutrition Board, and Mexico National Institute of Public Health, Cuernavaca, Mexico, May 3-4, 2006.
- Jones P, Ona F, Rimkus L, and Wells Z [editors] (2005). 2005 San Francisco Collaborative Food System Assessment. San Francisco, CA: San Francisco Food Systems. Available at: www.sffoodsystems.org/pdf/FSA-online.pdf.
- Kahn EB, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW and Corso P (2002). The Effectiveness of Interventions to Increase physical Activity: A Systematic Review. *Am J Prev Med*. 22(4S):73-107.
- King AC, Castro C, Wilcox S, Eyler AA, Sallis JF and Brownson RC (2000). Personal and environmental factors associated with physical activity among different racial-ethnic groups of U.S. middle-aged and older-aged women. *Health Psychology*. 19(4):354-64.
- Kleinman R (1999). School Breakfast Program and Persistent Hunger in Children. Breakfast and Learning in Children Symposium Proceedings, April 22, 1999. Washington, DC: Center for Nutrition Policy and Promotion, US Department of Agriculture. Available at: www.usda.gov/cnpp/Seminars/Behavior/breakfast.pdf.
- Kojima D, Teare C, Dill L and Boyle M (2002). Improving Meal Quality in California's Schools: a best practices guide for healthy school food service. California Food Policy Advocates.
- Koplan JP, Liverman CT and Kraak VA [editors] (2005). Preventing Childhood Obesity: Health in the Balance. Washington, DC: National Academies Press.
- LCHC (Latino Coalition for a Healthy California) (2005). The California Latino 2005. Available at: www.lchc.org/documents/PresentationreLatinoDemographics_000.pdf.
- Los Angeles County Health Survey, 2002-2003. Los Angeles, CA: Department of Health Services. Available at: www.lapublichealth.org/phcommon/public/reports/rptsbygroup.cfm?ou=ph&prog=hae&unit=ha&categoryid=98.
- Luepker RV, Perry CL, McKinlay SM, Nader PR, Parcel GS, Stone EJ, Webber LS, Elder JP, Feldman HA, Johnson CC, Kelder SH and Wu M (1996). Outcomes of a field trial to improve children's dietary patterns and physical activity: the Child and Adolescent Trial for Cardiovascular Health (CATCH). *JAMA*. 275:768-76.

- Lytle LA, Stone EJ, Nichaman MZ, Perry CL, Montgomery DH, Nicklas TA, Zive MM, Mitchell P, Dwyer JT, Ebzery MK, Evans MA and Galati TP (1996). Changes in nutrient intakes of elementary school children following a school-based intervention: results from the CATCH study. *Prev Med.* 25(4):465-477.
- Martorell R (2005). Diabetes and Mexicans: why the two are linked. *Prev Chronic Dis.* 2(1): A04. Available from: www.cdc.gov/pcd/issues/2005/jan04_0100.htm.
- Mazur RE, Marquis GS and Jensen HH (2003). Diet and food insufficiency among Hispanic youths: acculturation and socioeconomic factors in the third National Health and Nutrition Examination Survey. *Am J Clin Nutr.* 78(6):1120-7.
- Moreno LA, Fleta J and Mur L (1998). Television watching and fatness in children. *JAMA.* 280(14):1230-1.
- Meyers A, Weitzman M, Rogers B and Kayne H (1989). School breakfast and school performance. *Am J Dis Children.* 143(10): 1224-9.
- Nader PR, Stone EJ, Lytle LA, Perry CL, Osganian SK, Kelder S, Webber LS, Elder JP, Montgomery D, Feldman HA, Wu M, Johnson C, Parcel GS and Luepker RV (1999). Three-year maintenance of improved diet and physical activity: the CATCH cohort. *Child and Adolescent Trial for Cardiovascular Health. Arch Pediatr Adolesc Med.* 153(7):695-704.
- Narayan KMV, Boyle JP, Thompson TJ, Sorensen SW and Williamson DF (2003). Lifetime risk for diabetes mellitus in the United States. *JAMA.* 290(14):1884-1890.
- National Heart Lung and Blood Institute (1998). The Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. Bethesda, Maryland: National Institutes of Health. Available at: www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf.
- National Heart Lung and Blood Institute (2004). Think Tank on Enhancing Obesity Research at the National Heart, Lung and Blood Institute. Bethesda, Maryland: National Institutes of Health. Available at: www.nhlbi.nih.gov/health/prof/heart/obesity/ob_res_exsum/obesity_tt.pdf.
- Nestle M (2002). *Food Politics*. Berkeley and Los Angeles, CA: University of California Press.
- Neumark-Sztainer D, Story M, Resnick MD and Blum RW (1996). Correlates of inadequate fruit and vegetable consumption among adolescents. *Prev Med.* 25(5):497-505.
- Pawson IG, Martorell R and Mendoza FE (1991). Prevalence of overweight and obesity in US Hispanic populations. *Am J Clin Nutr.* 53(6 suppl):1522S-1528S.
- Philadelphia Inquirer (2005). Mexico Fights Obesity as Rates Close in on U.S. Figures. November 30, 2005.
- Pumariega AJ (1986). Acculturation and eating attitudes in adolescent girls: a comparative and correlational study. *Jour Amer Acad Child Psych.* 25(2):276-79.
- Ravussin E, Valencia ME, Esparza J, Bennett PH and Schulz LO (1994). Effects of a traditional lifestyle on obesity in Pima Indians. *Diabetes Care.* 17(9):1067-74.
- Rideout VJ, Foehr UG, Roberts DF and Brodie M (1999). Kids and Media at the New Millennium: A Comprehensive National Analysis of Children's Media Use: A Kaiser Family Foundation Report. Menlo Park, CA: The Henry J Kaiser Family Foundation. Available at: www.kff.org/entmedia/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=13265.
- Ritchie L, Crawford P, Woodward-Lopez G, Ivey S, Masch M and Ikeda J (2001). Prevention of Childhood Overweight-What Should be Done? University of California, Berkeley: Center for Weight and Health. Available at: www.cnr.berkeley.edu/cwh/activities/position.shtml.
- Robinson TN (1999). Reducing children's television viewing to prevent obesity: a randomized controlled trial. *JAMA.* 282(16):1561-7.
- Sallis JF, McKenzie TL, Alcaraz JE, Kolody B, Hovell MF and Nader PR (1993). Project SPARK: Effects of physical education on adiposity in children. *Ann N Y Acad Sci.* 699:127-36.
- Samuels SE, Craypo L, Dorfman L, Purciel M and Standish MB (2003). Food and Beverage Industry Marketing Practices Aimed at Children: Developing Strategies for Preventing Obesity and Diabetes. A Report on the Proceedings from a Meeting Sponsored by The California Endowment, Held in San Francisco in June of 2003. Available at: www.calendow.org/reference/publications/pdf/disparities/TCE1101-2003_Food_and_Bever.pdf.
- Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity 2001. Rockville, MD: U.S. Department of Health and Human Services. Available at: www.surgeongeneral.gov/topics/obesity/calltoaction/CalltoAction.pdf
- Tobacco Control Section (2001). Tobacco Education Ethnic Networks. Sacramento, CA: California Department of Health Services.
- Trevino RP, Yin Z, Hernandez A, Hale DE, Garcia OA and Mobley C (2004). Impact of the Bienestar school-based diabetes mellitus prevention program on fasting capillary glucose levels: a randomized controlled trial. *Arch Pediatr Adolesc Med.* 158(9):911-7.
- Troiano RP, Briefel RR, Carroll MD and Bialostosky K (2000). Energy and fat intakes of children and adolescents in the United States: data from the National Health and Nutrition Examination Surveys. *Am J Clin Nutr.* 72(5 suppl):1343S-53S.
- Trust for Public Land (2004). Parks for People: Los Angeles Case Statement. San Francisco, CA: The Trust for Public Land. Available at: www.tpl.org/tier3_cd.cfm?content_item_id=17655&folder_id=2627.
- UCCE DANR (University of California Cooperative Extension Division of Agriculture and Natural Resources) (2003). Learning from Latino Community Efforts. Youth, Families, and Communities Workgroup. Retrieved November 11, 2005 from <http://ucce.ucdavis.edu/files/filelibrary/5433/11197.pdf>.
- Unger JB, Reynolds K, Shakib S, Spruijt-Metz D, Sun P and Johnson CA (2004). Acculturation, physical activity, and fast-food consumption among Asian-American and Hispanic Adolescents. *J Community Health.* 29(6):467-81.
- Wilcox S, Castro C, King AC, Housemann R and Brownson RC (2000). Determinants of leisure time physical activity in rural compared with urban older and ethnically diverse women in the United States. *J Epidemiol Community Health.* 54(9): 667-72.
- Woodward-Lopez G, Vargas A, Proctor C, Kim S, Hiort-Lorenzen C, Diemoz L and Crawford P (2005). Linking Education, Activity, and Food (LEAF): Fiscal Impact Report. University of California, Berkeley: Center for Weight and Health. Available at: www.cnr.berkeley.edu/cwh/activities/LEAF.shtml
- Woodward-Lopez G, Ritchie L, Gerstein D and Crawford P (2006). Obesity: Dietary and Developmental Influences. Boca Raton, FL: CRC Press.
- Yancey AK, Kumanyika SK, Ponce NA, McCarthy WJ, Fielding JE, Leslie JP and Akbar J (2004). Population-based interventions engaging communities of color in health eating and active living: a review. *Prev Chronic Dis.* 1(1):A09. Available at: www.cdc.gov/pcd/issues/2004/jan/03_0012.htm.
- Zarate Macias (2005) Rosa Marta, founder of San Bernardino Calpulli Project, comments made during an interview conducted by Eddy Jara on March 23, 2005 at the Vision y Compromiso "Nuestros Derechos" Bay Area Convening in Redwood City.

Footnotes

1. “obesigenic” refers to an environment that discourages physical activity and encourages overconsumption of calories thereby contributing to obesity.
2. See www.ecologycenter.org/ffc and www.peoplesgrocery.org/main.html
3. See “Summit Honor Roll” at www.cnr.berkeley.edu/cwh/activities/gov_summit.shtml
4. See “Summit Honor Roll” at www.cnr.berkeley.edu/cwh/activities/gov_summit.shtml
5. www.preventioninstitute.org
6. www.latinohalthaccess.org
7. www.publichealthadvocacy.org
8. www.leiyouth.org/youth_envision.php4#gnp
9. www.vusd.k12.ca.us/cns/healthyvending.htm
10. www.canfit.org
11. www.publichealthadvocacy.org
12. see www.cnr.berkeley.edu/cwh/activities/child_weight_coal.shtml for more information.



**Latino Coalition for a
Healthy California**

www.LHC.org

1225 Eighth Street, Suite 500
Sacramento, Ca 95814
(916) 448-3234
(916) 448-3248 fax

