

Strategies for *Action*

**Integrating Nutrition and
Physical Activity Promotion
to Reach Low-Income Californians**

**Prepared for the Cancer Prevention and Nutrition Section
California Department of Health Services
by Prevention Institute
Oakland, CA, October 2001**

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Prevention Institute is a national non-profit organization established to advocate for prevention by developing methodology and strategy to strengthen and expand primary prevention practice. The organization provides training and technical assistance to a variety of public and private organizations in the areas of injury and violence prevention, fitness and nutrition, child and adolescent health, and strategy development for city and county governments. Such strategy is essential to save lives and money, reduce individual suffering, and enhance community well-being.

The Cancer Prevention and Nutrition Section was established in 1986 and operates large-scale social marketing campaigns to increase healthy eating, physical activity, sun safety, and other protective behaviors. CPNS is striving to prevent obesity and promote good health through the *California Nutrition Network for Healthy, Active Families* and the *California 5-a-Day Plus Physical Activity Campaign*.

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Executive Summary

The Strategies for Action report describes the results of a planning process, initiated by the Cancer Prevention and Nutrition Section (CPNS) of the State of California Department of Health Services, to integrate physical activity promotion into existing efforts to improve eating habits among California families with low incomes. The executive summary briefly summarizes the seven sections of the report.

I. Introduction

“We are dealing with a life and death situation. The statistics are getting worse and worse. Can we turn it around? We can do this!” (PANIC member)

Recent research confirms that there are many benefits from the dual promotion of regular physical activity and healthy eating.¹ Together, these behaviors significantly lower the risk of chronic disease and reduce complications for those who are already experiencing illness.

While the majority of people in California do not meet the U.S. Dietary Guidelines or the Surgeon General’s recommendations for levels of regular, moderate physical activity, people with low incomes face particular challenges in achieving these goals. The Cancer Prevention and Nutrition Section of the State of California Department of Health Services is committed to playing a role in addressing these challenges. In June 2000, CPNS established the Physical Activity and Nutrition Integration Committee (PANIC) to identify key strategies for increasing physical activity among families with low incomes.

Through the California Nutrition Network for Healthy, Active Families, CPNS funds over 160 local public and community-based organizations to support educational activities, food security projects, and faith-based initiatives. The planning process was designed to inform CPNS statewide efforts and assist Network members by identifying key actions that could complement and strengthen current nutrition-related activities.

CPNS retained Prevention Institute, a national non-profit organization committed to forging effective prevention strategies, to facilitate the planning process and develop the written framework.

II. Methods

The planning process included several steps:

- Establishment of PANIC
- Synthesis of the research literature
- Key informant interviews
- Two planning sessions with PANIC members
- Planning session with state staff
- Review and development of a final strategy framework

III. Background

According to the United States Surgeon General, leading a sedentary lifestyle is linked to five percent of all cancer deaths and is a contributing factor to premature deaths from a variety of serious diseases, including heart disease and diabetes. The Surgeon General and the Centers for Disease Control and Prevention recommend that adults get at least 30 minutes of moderately intense physical activity on most and preferably all days of the week.ⁱⁱ

Despite California's reputation as a health-conscious state, most adults are not regularly active. People with low incomes are even less likely to be active. Over the last five years, there has been gradual improvement in levels of vigorous activity and leisure time activity for higher-income adults but the trend has moved in the opposite direction among those with lower incomes.ⁱⁱⁱ Moreover, the Behavioral Risk Factor Surveillance survey shows that over 52 percent of California adults are classified as overweight or obese. Rates of being overweight and obese in low-income individuals and adults of color are even higher.

It is vitally important that efforts to promote physical activity reach the state's low-income residents, since on average they engage in less physical activity and are at a higher risk for chronic disease. In California, disproportionately more people of color live in poverty than whites. Given the alarming diabetes rates among Latinos, Native Americans, and African Americans as well as higher risk for cardiovascular disease and some kinds of cancer, effective physical activity promotion is also a means to begin to reduce health disparities between these ethnic groups and whites.^{iv}

To date most of the published research literature on physical activity initiatives has focused on middle- and higher-income, predominately white, able-bodied populations.^v Physical activity promotion as a whole is a relatively new state priority. There is only one state program devoted exclusively to physical activity promotion and only a few programs that include physical activity promotion as one of their goals.

IV. Physical Activity and Nutrition Integration Committee (PANIC) Findings

PANIC was charged with outlining the major strategies that should be implemented in California to increase physical activity among families with low incomes. In order to determine these strategies, they had to first develop a common understanding of the major barriers that lead to inactivity and the most promising approaches for promoting an active lifestyle. This section represents a compilation of the major themes contained in the background materials and the reflections of PANIC members.

A key purpose of this plan was to look for opportunities to include physical activity in existing nutrition promotion efforts. PANIC members generally agreed that there is an interrelationship between nutrition and physical activity promotion. There were some differences of opinion about whether the same practitioners could promote both behaviors, since each discipline has its own expertise and the environmental changes needed to support the behaviors are different.

Despite these differences, there was fairly wide agreement that there was value in bringing the two fields together. PANIC members felt that the public stood to achieve significant gains through mutual support, streamlined messages, and strategies developed in tandem.

Barriers to Physical Activity

The committee and formative research indicates that major barriers to activity for low-income people could be linked to a variety of environmental and economic factors, including:

- Lack of formative research for promoting physical activity among low-income populations
- Lack of time and resources
- Negative attitudes toward physical activity
- Absence of role models and social support
- Unsupportive physical environments
 - Limited opportunities at school
 - Limited opportunities in workplaces
 - Inadequate recreational facilities and programs
 - Unfriendly to walkers and bicyclists
 - Safety concerns

Key Principles for Physical Activity Promotion

After outlining the major barriers to activity, PANIC discussed what was needed to improve the rates of physical activity among low-income families. Action at both the state and local level is important for changing the picture of physical activity in California. Some key principles were identified for forging a comprehensive physical activity promotion plan:

- Build on community assets
- Involve the community
- Utilize comprehensive strategies
- Foster collaboration
- Conduct ongoing evaluation

V. Tools for Designing Comprehensive Physical Activity Initiatives

PANIC made use of two tools to assist with the planning process: the Social-Ecological Model and the *Spectrum of Prevention*. The Social-Ecological Model is a theoretical framework for understanding the multiple factors that influence behavior. The model suggests that interventions that are designed to impact more than one sphere of influence will have a greater impact. The *Spectrum of Prevention* provided PANIC with a framework for developing such a multifaceted intervention. The *Spectrum* identifies six levels of intervention that encourage practitioners to move beyond a primarily educational or individual skill-building approach to a more community-wide, systems change focus.

VI. Recommendations

PANIC members delineated overarching strategies and potential action steps along the *Spectrum of Prevention* for increasing physical activity among low-income California families. While the *Spectrum* provided general guidelines for the types of strategies that are needed, the specific concepts evolved from PANIC members' discussion about barriers and principles for physical activity promotion. There will need to be ongoing monitoring and evaluation to provide information about the quality of implementation and outcomes. This data can then be used to modify implementation strategies and action steps.

Level of Spectrum	Recommendations
6. Policies That Support Prevention	<ul style="list-style-type: none"> A. Enact policies at the state and local level that promote positive physical environments and organizational practices. B. Increase government support for physical activity and nutrition programming, training, and evaluation. C. Simplify state contracts to make it easier for localities to target funds for local needs.
5. Changing Organizational Practices	<ul style="list-style-type: none"> D. Promote school and workplace practices that support physical activity. E. Build the capacity of community-based organizations to incorporate physical activity into their programming.
4. Fostering Coalitions and Networks	<ul style="list-style-type: none"> F. Develop collaboration among agencies and departments at the state level. G. Support collaboration and planning at the local level. H. Engage community organizations and the private sector.
3. Educating Providers	<ul style="list-style-type: none"> I. Develop the skills of community residents from low-income communities. J. Educate local, state, and national legislators and government administrators to build support for physical activity and nutrition. K. Train managers in the public and private sector in physical activity and nutrition promotion. L. Teach doctors, allied health care professionals, social workers, and WIC and other service providers how to include physical activity promotion in current practices.
2. Promoting Community Education	<ul style="list-style-type: none"> M. Utilize a neighborhood focus; work where people are. N. Refine media approaches to physical activity promotion in diverse populations.

<p>1. Strengthening Individual Knowledge and Skills</p>	<p>O. Teach life-long skills. P. Support current healthy behaviors; enhance what people already do. Q. Encourage and provide social support for family and peers.</p>
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VII. Next Steps for CPNS

The recommendations outlined in section VI are general for promoting physical activity among low-income Californians statewide. This section outlines specific activities that CPNS will conduct with USDA funding in the next two years. Additional sources of funding will be necessary to fully implement the recommendations identified in section VI.

<i>Year 1</i>
<ul style="list-style-type: none"> ▪ Form advisory group (PANIC) comprised of physical activity experts and key partners to provide recommendations to CPNS for promoting and integrating physical activity among low-income Californians. Define mission, objectives, membership, etc. (4-G) ▪ Collaborate with other PA programs funded by the Department of Health Services to develop a statewide physical activity coordination team (PACT). (4-F, 6-A, B, C) ▪ Conduct additional formative research (e.g., literature review, focus groups, and partner surveys). ▪ Develop a statewide marketing plan for promoting physical activity and nutrition among low-income adults in California. ▪ Develop a resource kit for CPNS contractors. ▪ Pilot marketing activities in 1-2 regions of the state. ▪ Develop a database of research-based physical activity resources for promoting physical activity among low-income communities.

<i>Year 2</i>
<ul style="list-style-type: none"> ▪ <i>Identify other sources of categorical funding to expand physical activity campaign statewide.</i> ▪ <i>Develop additional partnerships with business partners and other non-traditional partners to expand campaign.</i> ▪ <i>Based on results from Year 1 pilot campaign, expand the campaign to include other regions of the state.</i> ▪ <i>Based on availability of additional funding, provide resources to community-based organizations to conduct interventions at the local level.</i>

VIII. Conclusion

The recommendations contained in this report provide direction for a multi-year effort to improve physical activity levels among low-income California residents. It has taken decades

for our current sedentary culture to develop and reversing this trend will require perseverance. Yet there is no question that the “epidemic” of obesity and the scourge of related chronic diseases makes action an absolute necessity.

As one PANIC participant summed it up, “I didn’t imagine that I’d run into the people here that are doing the things I want to do. I feel relieved that there are more people working towards the same goal. This really encouraged me.” The development of the strategy framework is not the final step in this important work, but is a vital beginning.

I. Introduction

This report describes the results of a planning process, initiated by the Cancer Prevention and Nutrition Section (CPNS) of the State of California Department of Health Services, to integrate physical activity promotion into existing efforts to improve eating habits among California families with low incomes. Recent research makes it clear that there is much to be gained from the dual promotion of these healthy behaviors.^{vi} Together, regular physical activity and healthy eating significantly lower the risk of chronic disease and reduce the complications of those who are already experiencing illness.

While the majority of people in California do not meet the U.S. Dietary Guidelines or the Surgeon General's recommendations for levels of regular, moderate physical activity, people with low incomes face particular challenges in achieving these goals. Food choices and activity options are frequently limited in low-income neighborhoods. There are many needs competing for scarce dollars in the family budget. Family members with special dietary needs or physical disabilities have even greater difficulties finding adequate resources. Recognizing these challenges, CPNS is committed to playing a role in addressing them.

In June 2000, CPNS established the Physical Activity and Nutrition Integration Committee (PANIC) to identify key strategies for increasing physical activity among families with low incomes. Through the Nutrition Network for Healthy, Active Families, CPNS funds over 160 local public and community-based organizations to support educational activities, food security projects, and faith-based initiatives. The planning process was designed to inform CPNS statewide efforts and assist Network members by identifying key actions, which could complement and strengthen current Network nutrition-related activities. CPNS retained Prevention Institute, a national non-profit organization committed to forging effective prevention strategy, to facilitate the planning process and develop the written framework.

This document describes the activities and primary findings of PANIC. The final strategy framework reflects some of the best thinking in the state about what action is needed to make a real difference in the health of families with low incomes. From the onset, CPNS recognized that there was a great deal of knowledge about effective physical activity promotion throughout California, but much of this knowledge had not yet been fully understood and shared among people working in the field. The planning process provided the opportunity to synthesize the learning's to date from academic researchers and the experience of practitioners at the local, state, and national levels. PANIC members drew on their experiences in health promotion and sensitivity to issues facing families with low incomes to distill this information and translate it into specific action steps for California. Their collective wisdom and hard work has led to the recommendations, which are presented at the conclusion of this report.

II. Methods

Strategies for Action is the result of a year-long planning process beginning in June 2000. The process included eight primary steps:

1) Establishment of the Physical Activity and Nutrition Integration Committee (PANIC)

CPNS, with assistance from Prevention Institute, convened individuals representing organizations and sectors with an influence and interest in promoting positive physical activity and nutrition behavior. These groups included public health organizations, parks and recreation, voluntary health organizations, grassroots and faith-based organizations, media, advocacy groups, business, and private funders. State staff from CPNS as well as other Department of Health Services programs served as ex-officio members of PANIC (see Appendix I for list of participants).

2) Synthesis of Research Literature

In order to capture what had already been learned about increasing physical activity among people with low incomes, James F. Sallis, Ph.D. of San Diego State University was commissioned to prepare a document “Community Interventions and Communities as Interventions” that discussed findings from the research literature (see Appendix II).

3) Key Informant Interviews

Prevention Institute conducted key informant interviews with a range of researchers and experienced practitioners at the local, state, and national levels. The primary purpose of the interviews was to include the expertise of practitioners outside of California and to learn from the perspectives of other state and national policy organizations. The key informants were primarily selected through the recommendations of California Department of Health Services staff. (Appendix III)

4) First Planning Session

On July 13-14, 2000, PANIC members attended a meeting in San Diego, California. Members heard a review of the key informant interviews and presentations by an expert panel (Appendix IV). Drawing on their personal knowledge, the background papers, and the panel, participants outlined the major barriers to physical activity in low-income communities and a strategy framework for improving the prevalence of physical activity.

5) Draft Strategy Framework

The major outcome of the first meeting was a broad set of strategies for promoting physical activity among low-income families that could be integrated into healthy eating promotion efforts. In addition to the key strategies, the PANIC members made recommendations for particular actions that could be carried out to implement the strategies.

6) Second Planning Session

The draft framework was reviewed and refined by PANIC members at two one-day working sessions (one in Northern California and one in Southern California). The final set of recommendations in this report synthesizes the results of these two meetings.

7) Session with State Staff

A meeting was held with state staff to review the final recommendations and establish a process for collaboration among state programs to most effectively carry out elements of the plan.

8) Review and Final Framework

The final report summarizes the major influences on physical activity among families with low incomes identified throughout this process and outlines specific strategies for promoting physical activity among low-income families throughout the state. Before publication, the draft recommendations were distributed to PANIC members for review and comments.

III. Background

Physical Activity Benefits

According to the United States Surgeon General, leading a sedentary lifestyle is linked to five percent of all cancer deaths and is a contributing factor to premature deaths from a variety of serious diseases, including heart disease and diabetes. Further, physical activity fosters healthy muscles, bones, and joints, and helps maintain function and preserve independence in older adults.^{vii}

Physical activity is simply any movement of the body that results in some energy expenditure.^{viii} A combination of cardiovascular or aerobic, strength, and flexibility training is highly recommended for everyone. Cardiovascular activity includes activities such as walking, running, or bicycling that increase one's heart rate, usually followed by an increase in breathing. Strength training consists of activities that develop the musculoskeletal system, such as weight lifting or push-ups. Flexibility exercises increase the ability to move around and are especially important as the population ages. Such activities include stretching, yoga, and t'ai chi.

Cardiovascular exercise is most related to the prevention of chronic conditions such as cancer, heart disease, and Type II diabetes. It is also the most widely measured on local, state, and national levels. Therefore, it will be the primary focus of physical activity programming in conjunction with nutrition education and social marketing through CPNS for California. However, programs that combine the promotion of aerobic activity with other types of activity will be encouraged as well.

Physical activity has also been shown to have benefits that go beyond reducing the risk of disease. New research suggests that regular participation in physical activity is linked to better academic performance among school-aged children.^{ix} Further, participating in organized physical

activity programs, such as midnight basketball or after school sports teams, has been shown to increase a sense of mastery and self-esteem among youth. Recent findings indicate an “association between involvement in physical activity and sport and well-being. Physical activity is associated with lower levels of mental health problems, and seems to promote self-esteem.”^x This effect reduces the likelihood teens will participate in risk-taking behavior. Having the ability to walk and play freely in one’s neighborhood also helps children develop key cognitive skills. “Independent play and mobility by school-aged children in their neighborhoods have been found to contribute to their social and spatial development.”^{xi}

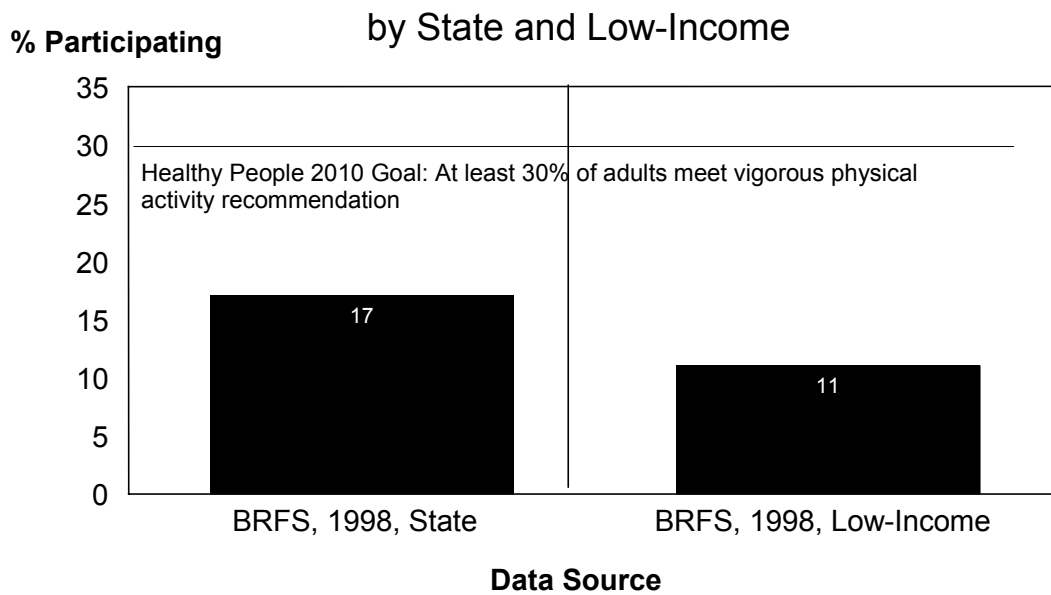
Physical Activity Recommendations

The Surgeon General and the Centers for Disease Control and Prevention recommend that adults get at least 30 minutes of moderately intense physical activity on most and preferably all days of the week.^{xii} Most people in the United States do not meet this requirement. In fact, the National Health Interview Survey in 1997 found that only 15 percent of the population exercises regularly at least 5 days a week, at least 30 minutes per session.

Given that physical activity levels in the United States are relatively low, the U.S. Department of Health and Human Services established, within Healthy People 2010, fifteen physical activity objectives in four categories (Physical Activity in Adults, Physical Activity in Children and Adolescents, Muscular Strength/Endurance and Flexibility, and Access). CPNS has adopted the following Healthy People 2010 objective for the Physical Activity campaign, *Increase the proportion of adults who engage regularly in moderate physical activity for at least 30 minutes per day*. Presently only fifteen percent of Americans meet this objective; the 10-year goal is thirty percent. Additionally, Healthy People 2010 has set targets for people at the extremes of the activity spectrum – those with no leisure time activity and those with vigorous activity at least 3 times per week. The national goal is to increase the percentage of individuals engaging in vigorous activity from 23 percent (in 1997) to 30 percent in 2010. The goal is to reduce the percentage of people not participating in leisure time activity from 40 percent in 1997 to no more than 20 percent (see Appendix V for a complete listing of the Healthy People 2010 physical activity objectives).^{xiii}

Despite California’s reputation as a health-conscious state, most adults are not regularly active. People with low incomes are even less likely to be active. According to the 1998 California Behavior Risk Factor System (BRFS), only 17 percent of all adults reported partaking in vigorous physical activity three or more times per week, and 24 percent reported no leisure time activity. Participation rates are lower for people with lower incomes (those with household incomes less than \$20,000 annually). Eleven percent of the low-income population engaged in vigorous activity for the recommended length of time (see Figure 1). Thirty-five percent of the low-income population in California did not participate in any leisure time physical activity (see Figure 2). Over the last five years, there has been gradual improvement in levels of vigorous activity and leisure time activity for higher-income adults but the trend has moved in the opposite direction among those with lower incomes.^{xiv}

Percentage of Adults in California Participating in Recommended Vigorous Physical Activity ¹



¹ Those that engage in vigorous activity at least 3 days per week, at least 20 minutes per session.

Figure 1

Percentage of Adults in California Participating in No Leisure Time Physical Activity

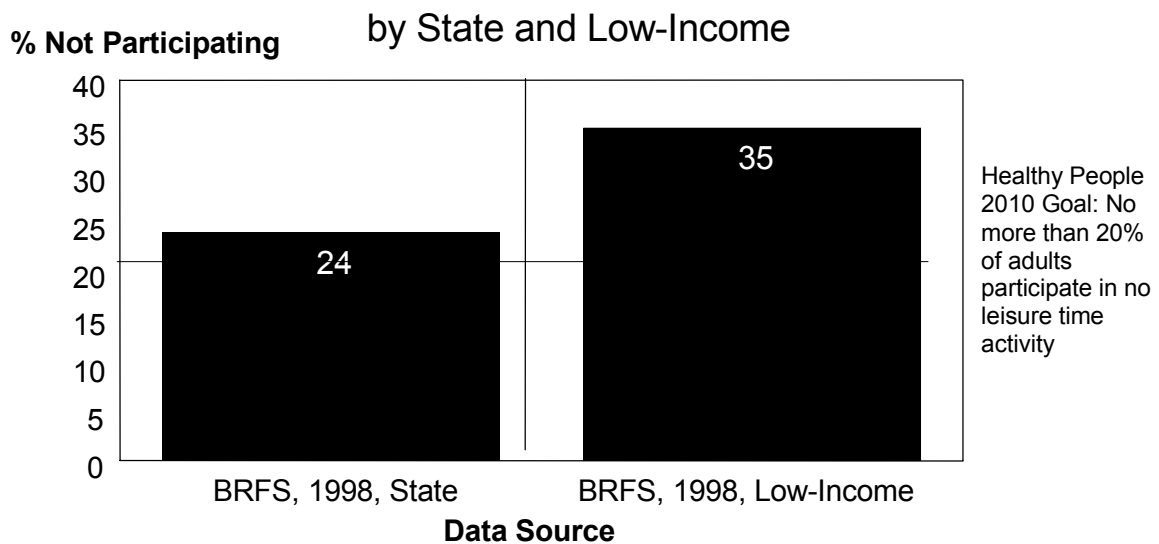


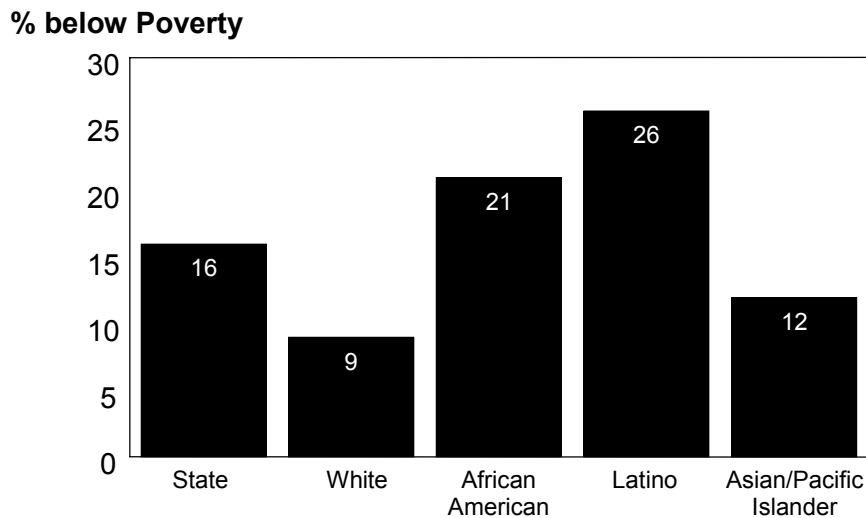
Figure 2

It is important to note that organized classes, sports teams, or scheduled daily walks or runs are not the only approach to increasing cardiovascular exercise. There is growing recognition of the value of incidental physical activity. Benefits may accrue through actions such as taking the stairs instead of an elevator, walking more frequently to run errands, using bicycles for transportation, or adding small bits of activity throughout the day.

Reaching Low-Income Californians

The California BRFS data demonstrate that there is a need to promote physical activity to Californians at all income levels. It is vitally important that these efforts reach the state's low-income residents, since on average they engage in less physical activity and are at a higher risk for chronic disease. In California, disproportionately more people of color live in poverty than whites (see Figure 3). Given the alarming diabetes rates among Latinos, Native Americans, and African Americans as well as higher risk for cardiovascular disease and some kinds of cancer, effective physical activity promotion is also a means to begin to reduce health disparities between these ethnic groups and whites.^{xv}

**Percentage of Californians below Poverty Level
by Race/Ethnicity**



Data Source: Current Population Survey Report, California State Department of Finance, March 1999

Figure 3

There are several reasons why physical activity promotion targeted to the general population may not be effective in increasing physical activity among low-income families:

- Low-income families have limited disposable income for purchasing physical activity goods and services.
- Work demands may mean parents have less free time to be active with their children. It is more likely that both parents are working, or that there is a single parent in the home. Low-wage earners are more likely to work longer hours or work two jobs. Further, parents may have jobs that are more physically exhaustive than higher-income workers, making it more difficult to engage in exercise after work or on weekends.
- Low-income neighborhoods frequently lack well-maintained facilities such as community recreation centers and parks
- Safe environments are not always available. People with lower incomes are more likely to be victims of crime and children especially are more likely to be hit by motor vehicles.^{xvi, xvii} This discourages families from being active outside and parents from permitting children to walk to school.
- The spokespersons selected for physical activity promotion to the general population may not be suitable role models that reflect the faces and preferred activities of the diverse low-income residents in the state.

This project was designed to develop a deeper understanding of these barriers and identify opportunities for increasing physical activity among low-income families. As specified by USDA Nutrition Network funding, low-income is defined as anyone living in a household that is eligible for food stamps, with income at approximately 130 percent of the federal poverty level or less.

To date most of the published research literature on physical activity initiatives has focused on middle- and higher-income, predominately white, able-bodied populations.^{xviii} Therefore there is a need to build a body of knowledge about how to effectively increase physical activity among low-income, ethnic minority, and disabled populations. Physical activity promotion as a whole is relatively new as a priority of the state. There is only one state program devoted exclusively to physical activity promotion, the Physical Activity and Health Initiative (PAHI). Several programs including the California Nutrition Network, California 5-a-Day Campaign, Project LEAN, and the California Heart Disease and Stroke Prevention Program (CHDSPP) include physical activity promotion as one of their goals. An overview of state efforts can be found in Appendix VII.

California was home to one nationally recognized physical activity initiative, *On The Move!*, which funded nine local projects, primarily serving ethnically and sociodemographically diverse communities.^{xix} In 1992, *On The Move!* devoted \$1 million annually for three years to promote community-based physical activity programs using an ecological approach, with a focus on coalition building. This program was successful in working with local projects and showed that there can be a strong link between state and local programs. Most local programs increased participants' awareness of the importance of physical activity and succeeded in creating partnerships, as well as coalition and community building. These things are key to maintaining physical activity programming in the future. Policy change appeared to be the most difficult

aspect of the *Spectrum of Prevention* (the health planning framework used for *On The Move!*) to strongly affect during the 3-year grant period. However, according to Dr. Steve Hooker, when policy change did occur it seemed to be the most sustainable aspect of the program.^{xx}

Many lessons can be taken from *On The Move!* when planning the Cancer Prevention and Nutrition Section's future in physical activity. Further state efforts will build on the knowledge gained from this experience as we continue to look deeper at how to create effective initiatives to make an impact on levels of physical activity in low-income communities.

IV. The Physical Activity and Nutrition Integration Committee Findings

"We are dealing with a life and death situation. The statistics are getting worse and worse. Can we turn it around? We can do this!" (PANIC member)

PANIC was charged with outlining the major strategies that should be implemented in California to increase physical activity among families with low incomes. At their first session, PANIC heard presentations from three experts in the field of physical activity promotion. These presentations provided background information to inform the strategy development process. Along with pre-meeting reading materials, including the results of the key informant interviews, this information set the stage for strategy development.

In order to determine these strategies, they had to first develop a common understanding of the major barriers that lead to inactivity and the most promising approaches for promoting an active lifestyle. This section represents a compilation of the major themes contained in the background materials and the reflections of PANIC members. It is based on the discussion and opinions of PANIC members and the key informants, rather than specific research findings.

Integrating Nutrition and Physical Activity

A key purpose of this plan was to look for opportunities to include physical activity in existing nutrition promotion efforts. PANIC members generally agreed that there is an interrelationship between nutrition and physical activity promotion. As one PANIC member described, they are "co-dependent," because the health implications of the two are intertwined. Good nutrition is essential for improving physical performance, and at the same time being physically active improves how the body utilizes nutrients.

Because of the synergistic health effects, it made sense to many PANIC members to promote the behaviors together. In fact, people interested in one are frequently interested in the other. At the same time, there are related reasons that people do not adopt these healthy behaviors such as limited time and access. There were some differences of opinion about whether the same practitioners could promote both behaviors, since each discipline has its own expertise and the environmental changes needed to support the behaviors are different. Despite these differences, there was fairly wide agreement that there was value in bringing the two fields together. PANIC members felt that the public stood to achieve significant gains through mutual support, streamlined messages, and strategies developed in tandem.

Barriers to Being Physically Active

Lack of Time and Resources

There are many competing priorities for household time and resources which make it difficult to participate in physical activity. Basic survival issues, such as managing finances or coping with health problems, may take precedence over physical activity. Heads of households from low-income families are more likely to work more than one job. They are also more likely to be engaged in occupations such as janitorial services, light manufacturing, housekeeping, and retail work, which leave them physically exhausted at the end of the day without providing sufficient health benefits. Reliance on public transportation and less access to automobiles also cut into available time. Unlike more affluent families, low-income parents cannot afford to pay the cost of gym memberships or class fees for themselves and their children. Nor can they pay for extra childcare to permit them to participate in leisure time activity. In fact, many adults feel that time taken for physical activity interferes with time spent with their children and fulfilling other family responsibilities.

Negative Attitudes Towards Physical Activity

People do not think of physical activity as something enjoyable. As one PANIC member stated, “Adults treat physical activity as anything that is not fun. This is not true; we have to find enjoyable activities that make physical activity congruent with people’s personality types and lifestyles.” There are many ways that people can add moderate-intensity physical activity to the things that they already do, but there is a lot of misunderstanding about what ‘qualifies’ as physical activity, and even less knowledge about how to include these activities into already busy lifestyles. Attitudes need to shift so that walking, biking, and being active are seen as positive.

Absence of Role Models and Social Support

An absence of role models and social networks emerged as an obstacle for people from households with low incomes. Images that reflect real people of all shapes and sizes, both able-bodied and physically challenged, taking part in a wide range of fun activities are missing. There are limited images of women and people of color engaging in diverse activities. Media portrayals of professional athletes and amateur enthusiasts send the message that only those with perfect bodies and a willingness to engage in rigorous activity meet the descriptor of physically active. They also imply that engaging in physical activity requires expensive shoes, clothing, and equipment. PANIC members asked, “What does it take to get people to see their own lives reflected in our physical activity efforts, so that they resonate and have impact?”

Sallis notes that “social support is a powerful correlate of physical activity” and that “enjoyment encourages activity.”^{xxi} People are more likely to stay in an active routine if they find it fun and enjoyable and if they have support from family members and friends. Given the lower levels of physical activity in low-income communities, there is less of a support network already in place. The lack of structured opportunities for women in particular makes being physically active a challenge. PANIC members noted that many women face resistance from their families when considering getting involved in physical activity routines. When a woman is the primary

caretaker or meal planner in the home, families are concerned that an exercise routine would keep her from this work.

Unsupportive Physical Environments:

Limited Opportunities at School

Children and youth spend a great deal of time at school and learn many lifestyle habits related to physical activity there. Schools can be key allies in activity promotion, but many do not enforce existing standards for physical activity. If students do have physical education (P.E.) sessions, they may spend more time standing on the sidelines waiting their turn than actually participating in activity. Schools in low-income neighborhoods are least likely to have facilities and well-trained teaching staff devoted to physical activity promotion. Team sports frequently alienate less athletically inclined students who are picked last. These situations could be improved through better training for physical activity instructors. However, despite research showing the positive link between physical activity and learning, limited budgets lead school resources to be devoted to more traditional academic skills.^{xxii}

Limited Opportunities in Workplaces

Most adults spend their workday indoors, sitting or standing for long periods of time. As mentioned earlier, many adults who are low wage earners are engaged in the service industry. These employers thus far have not invested in encouraging physical activity among their personnel. Lack of showers, locker facilities, and expectations for business dress discourage people from riding bikes to work or engaging in activities on their breaks. Few workplaces have on-site exercise facilities. The general work culture does not promote even incidental activity. While elevators are centrally located, the stairways are often difficult to find and appear unpleasant.

Inadequate Recreational Facilities and Programs

Low-income communities generally have fewer recreational facilities and programs available. The costs of participation may be prohibitive. Frequently equipment is missing or in disrepair, and playgrounds and gyms are not maintained. Programs may not meet the needs of both able-bodied and disabled participants, nor be appropriate for the cultural backgrounds of the participants. One PANIC member noted that “local streets used to be the playgrounds for city kids in America.” There is potential to design neighborhood streets to recapture some of the 25-40 percent of the street space, which makes up American cities. While this would help alleviate the problem of inadequate recreational facilities in low-income communities, at this point street space in many areas is not viewed as safe for recreational use.

Unfriendly to Walkers and Bicyclists

Communities with high rates of poverty are often designed without attention to walkability or bikeability. According to one key informant, streets in many low-income neighborhoods are designed to provide access for suburban commuters rather than serve the needs of community residents. These wide multi-lane streets are not conducive to walking and biking. High poverty neighborhoods are more likely to have limited commercial activity, absence of trees and bike lanes, and abandoned buildings that make it unappealing to be out on the street.

Safety Concerns

Safety concerns rank high as a reason low-income residents choose not to be physically active outdoors. Violence and the perception of vulnerability to violence are very real barriers to people's use of their neighborhood, along with dangerous high-speed traffic. Parents are afraid to let their children play on the street or walk to school. These concerns have led an increasing number of parents to drive their children to school. This understandable response means that children are losing access to important opportunities for physical activity.

Key Principles for Physical Activity Promotion

After outlining the major barriers to activity, PANIC discussed what was needed to improve the rates of physical activity among low-income families. Action at both the state and local level is important for changing the picture of physical activity in California. Some key principles were identified for forging a comprehensive physical activity promotion plan.

Build on Community Assets

There are many important community assets to bring to bear on promoting physical activity. Successful initiatives should incorporate existing institutions such as faith-based organizations, community-based organizations, schools, and local businesses, as well as input from community leaders. PANIC members felt strongly that there is a need for local role models, real people who have figured out how to regularly integrate healthy eating and physical activity into their lives. Therefore an important strategy is to find the natural helpers in the community and provide training and support to develop their skills as leaders and advocates.

Involve the Community

Each community is unique. There is no single way of making effective change. Every locale must assess its unique characteristics, assets, and barriers for physical activity. PANIC members and the key informants agreed that it is critically important that community members are involved in planning and program development. Low-income communities are too often the recipients of programs imposed from the outside, which are frequently destined to failure. As one PANIC member described it, "You can quickly see a program you thought was good go down the tubes if you don't engage community and community role models." Community members have important knowledge about what is needed to successfully promote healthy behaviors and they need to be a part of planning and implementation.

Utilize Comprehensive Strategies

There are many influences on whether an individual is physically active. Traditional approaches to health promotion have tended to rely on individual education as the sole means for encouraging the adoption of healthy habits. This technique has been somewhat effective with educated, higher-income individuals but has not contributed to widespread improvement in healthy eating or activity levels. Sallis, along with the PANIC key informants, calls for a combination of strategies that includes environmental and policy interventions." There is emerging evidence that the structure of the community itself and the transportation infrastructure have profound effects on the physical activity habits of the residents. If we can identify the most important community characteristics, we may be able to guide the construction of communities that naturally stimulate physical activity."^{xxiii} An effective initiative requires a multifaceted

approach that includes a wide range of strategies – from individual education, to community promotion, to environmental changes and policy.

Foster Collaboration

Collaboration provides the opportunity to strengthen the impact of physical activity promotion efforts. PANIC identified some “natural allies.” These include organizations and individuals from the fields of public health, nutrition, traffic safety, violence prevention, urban planning, transportation, and environmental design, as well as community-based service and social organizations. Each discipline can contribute its unique expertise to the development of a holistic strategy. By identifying and building on common areas of interest, more can be achieved together than by any one organization alone. Physical activity proponents are well advised to reach out to existing networks and organizations to build strategic alliances.

Finally, in order to successfully advance physical activity promotion within California, it is essential that collaboration occur within government as well. This collaborative effort needs to begin with the state. Currently, there are several programs (Project LEAN, Active Aging, Worksite Health Promotion, and Active Community Environments) aimed at addressing physical activity that operate largely in isolation from one another. One priority for PANIC community members was greater uniformity in applications, contract periods, and reporting requirements among state agencies. These changes would reduce the paperwork burden and allow grantees more time to carry out program activities. The PANIC meetings provided an opportunity for staff to begin to share their approaches and consider how their efforts can be complementary. In this way, resources can be maximized and better support can be provided to local public and private partners.

Conduct Ongoing Evaluation

One of the concerns of PANIC was “How will we know if we are being effective?” As new strategies and initiatives are put into place, it is important to assess whether they are being implemented in a high quality manner and whether they are having the impact that was intended. This information is essential for building a body of knowledge about the most effective approaches.

Evaluating the results of multifaceted approaches is a challenge. To date, most evaluation methods have tended toward single focus and quantitative models, measuring programs and initiatives in isolation, and measuring only certain outcomes. Given the complexity of environmental approaches to reduce health risks, we cannot expect that simple or linear models for evaluation will illustrate the relative value of comprehensive efforts. The challenge to evaluation, as seen with other health issue initiatives, is making sure all aspects of the effort are accounted for during evaluation. The process requires that we involve all of the key stakeholders, especially community members, in developing evaluations that are useful in helping us to answer the questions, “What are all of the impacts of this effort?” and “How has the low-income population been affected by these efforts?” in a substantive manner.

V. Tools for Designing Comprehensive Physical Activity Initiatives

After outlining the barriers to being physically active and identifying principles for physical activity promotion, PANIC members began the process of developing specific recommendations for increasing levels of physical activity among low-income families in California. PANIC made use of two tools to assist with the planning process: the Social-Ecological Model and the *Spectrum of Prevention*.

The Social-Ecological Model is a theoretical framework for understanding the multiple factors that influence behavior. The model conceptualizes the social world in five spheres, or levels, of influence (see Figure 4).^{xxiv} CPNS has adopted this model as an evaluation tool for the social marketing campaigns conducted through the California Nutrition Network for Healthy, Active Families. The Social-Ecological Model was presented to PANIC members to provide an underlying explanatory model for how different spheres of influence might affect physical activity behaviors at the individual level. The spheres of influence are not separate and distinct categories but they represent the range of influences that affect behavioral change. The Social-Ecological Model suggests that interventions that are designed to impact more than one sphere of influence will have a greater impact.

Social-Ecological Model for Nutrition Program Evaluation

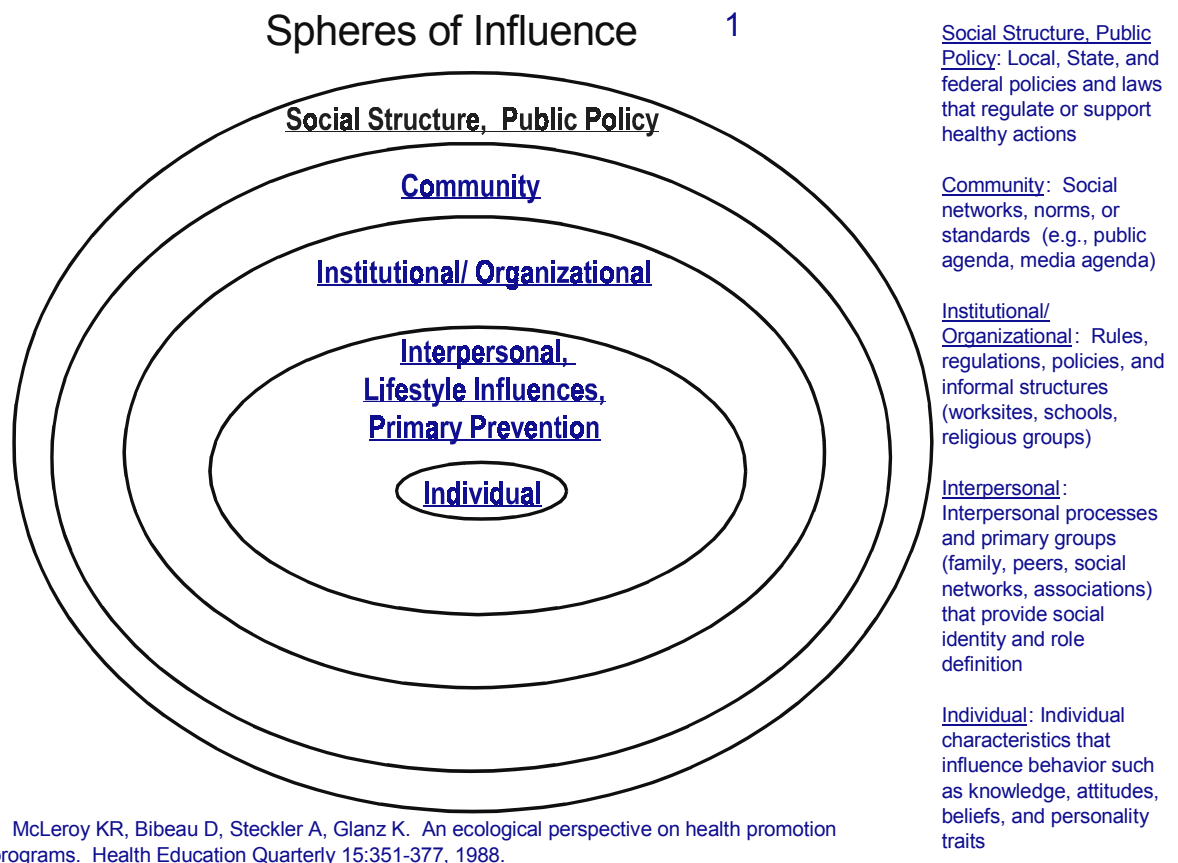


Figure 4

The *Spectrum of Prevention* provided PANIC with a framework for developing such a multifaceted intervention.^{xxv} The *Spectrum* identifies six levels of intervention that encourage practitioners to move beyond a primarily educational or individual skill-building approach to a more community-wide, systems change focus (Figure 5). Each level of the *Spectrum* targets successively broader arenas for change, beginning with a focus on the individual and family, on community norms, institutional practices, and finally laws. By carrying out action steps at each level of the *Spectrum*, interventions have the potential to produce greater change than would be possible by implementing a single strategy.

Spectrum of Prevention

Level of Spectrum	Definition of Level
6. Policies That Support Prevention	Developing strategies to change laws and policies to influence health outcomes
5. Changing Organizational Practices	Adopting regulations and shaping norms to improve health and safety
4. Fostering Coalitions and Networks	Bringing together groups and individuals for broader goals and greater impact
3. Educating Providers	Informing providers who will transmit skills and knowledge to others
2. Promoting Community Education	Reaching groups of people with information and resources to promote health and safety
1. Strengthening Individual Knowledge and Skills	Enhancing an individual’s capability of preventing injury or illness and promoting safety

Figure 5

VI. Recommendations

PANIC members delineated overarching strategies and potential action steps along the *Spectrum of Prevention* for increasing physical activity among low-income California families. While the *Spectrum* provided general guidelines for the types of strategies that are needed, the specific concepts evolved from PANIC members’ discussion about barriers and principles for physical activity promotion. There will need to be ongoing monitoring and evaluation to provide information about the quality of implementation and outcomes. This data can then be used to modify strategies and action steps.

Strategies along the Spectrum of Prevention*

Level of Spectrum	Recommendation
6. Policies That Support Prevention	<ul style="list-style-type: none"> A. Enact policies at the state and local level that promote positive physical environments and organizational practices. B. Increase government support for physical activity and nutrition programming, training, and evaluation. C. Simplify state contracts to make it easier for localities to target funds for local needs.
5. Changing Organizational Practices	<ul style="list-style-type: none"> D. Promote school and workplace practices that support physical activity. E. Build the capacity of community-based organizations to incorporate physical activity into their programming.
4. Fostering Coalitions and Networks	<ul style="list-style-type: none"> F. Develop collaboration among agencies and departments at the state level. G. Support collaboration and planning at the local level. H. Engage community organizations and the private sector.
3. Educating Providers	<ul style="list-style-type: none"> I. Develop the skills of community residents from low-income communities. J. Educate local, state, and national legislators and government administrators to build support for physical activity and nutrition. K. Train managers in the public and private sector in physical activity and nutrition promotion. L. Teach doctors, allied health care professionals, social workers, and WIC and other service providers how to include physical activity promotion in current practices.
2. Promoting Community Education	<ul style="list-style-type: none"> M. Utilize a neighborhood focus; work where people are. N. Refine media approaches to physical activity promotion in diverse populations.
1. Strengthening Individual Knowledge and Skills	<ul style="list-style-type: none"> O. Teach life-long skills. P. Support current healthy behaviors; enhance what people already do. Q. Encourage and provide social support for family and peers.

(*Recommendations are not in order of priority)

LEVEL 6: POLICIES THAT SUPPORT PREVENTION

Strategy	Actions
<p>A. Enact policies at the state and local level that promote positive physical environments and organizational practices</p>	<ul style="list-style-type: none"> • Develop model ordinances for localities, based on investigation of best practices, to create environments supportive of physical activity for able-bodied and disabled residents. Target particular jurisdictions such as school districts, zoning, housing, parks, street engineering, public transportation, and workplaces. Healthy Cities’ livability measures and Safe Routes to School are examples. (A) • Based on model ordinances, seek increased legislative flexibility and support for change (tax credits, subsidies, reimbursements, etc.). (A) • Identify and reduce barriers to utilization of public space. Examples of underutilized public space include sidewalks, public parks, school grounds, and university campuses. (A) • Research and evaluate the enforcement of existing standards related to nutrition and physical activity and take corrective action; utilize information to improve future policymaking. (A) • Assess transportation routes and identify mechanisms for encouraging physical activity (i.e., free shuttles to public parks). (A) • Fund pilot projects to support collaborative planning and implementation of model ordinances and programs at the local level. Monitor outcomes to build the knowledge base about effective approaches. (A, B) • Work with the California delegation to Congress to change federal requirements in order to better meet local and state needs. (A, B) • Build on previous programmatic experience (e.g., <i>On The Move!</i>); fund successful organizations to document what contributed to their successes, and fund studies of what happened in failed efforts. Disseminate findings. (B) • Allocate funds for physical activity and nutrition programming, training, and evaluation. (B) • Track federal government funding opportunities to ensure that all available funds are utilized. (B) • Make State of California contracts longer-term and streamline reporting requirements. (C) • Develop uniform applications, scopes of work and progress reports between state programs to simplify work by local agencies receiving multiple State of California funding streams. (C) • Make State of California grant goals more flexible to apply to a community’s specific needs. To retain accountability, set standards for an appropriate needs assessment and allow funds to be targeted based on needs assessment results. (C)
<p>B. Increase government support for physical activity and nutrition programming, training, and evaluation</p>	
<p>C. Simplify state contracts to make it easier for localities to target funds for local needs</p>	

LEVEL 5: CHANGING ORGANIZATIONAL PRACTICES

Strategy	Actions
<p>D. Promote school and workplace practices that support physical activity</p> <p>E. Build the capacity of ‘non-traditional’ organizations to incorporate physical activity into their programming</p>	<ul style="list-style-type: none"> • Implement and evaluate practices that promote physical activity and nutrition in government workplaces (i.e., physical activity breaks and healthy food) and share findings with other organizations. (D) • Adopt norms and practices at work and faith-based and community-based organizations that encourage physical activity such as casual dress, walking meetings, and exercise breaks. (D, E) • Create workplace and community organization environments that are designed for physical activity, including inviting stairways, bike racks, lockers, showers, gardens, recreational facilities, and meditation/relaxation rooms. (D, E) • Identify legal barriers to including physical activity promotion in work sites and community organizations, such as insurance liability issues. (D, E) • Develop physical activity task forces at schools and worksites. (D) • Develop physical activity and nutrition report cards. (Possible model is San Mateo County Health Department grading of restaurant sanitation.) Grades could be provided for the degree to which schools and businesses enable healthy practices among employees and students, and to what extent the food offered is nutritious. Improvements could be recognized and celebrated. (D, E) • Provide incentives, such as comp time, physical activity-related memberships or discounts, or paid exercise breaks, to individuals for participating in health risk assessments and physical activity at work. Consider utilizing EAP programs for health risk assessments. (D) • Include requirements for physical activity/nutrition standards in government contracts with service providers (e.g., P.A. Breaks). (D) • Provide model, court-tested MOU (Memorandum of Understanding) language templates to incorporate work-site safety and physical activity into contracts. (D) • Disseminate model organizational practices, such as the American Cancer Society’s Meeting Well documents. Gather information on best practices, hold a symposium to present and review various ideas, and produce a manual of best practices. (D,E) • Link farmers’ markets, flea markets, swap meets, community gardens, and supermarkets to physical activity and nutrition promotion. (E) • Provide funding to community-based and faith-based organizations to pay staff to lead physical activity and nutrition promotion efforts. (E)

LEVEL 4: FOSTERING COALITIONS AND NETWORKS

Strategy	Actions
F. Develop collaboration among agencies and departments at the state level	<ul style="list-style-type: none"> • Assess the current and potential role of state agencies/ departments in physical activity and nutrition promotion. Set specific objectives for collaboration. (F) • Devote ongoing commitment of staff/resources to ensure that physical activity and nutrition promotion will play a role in existing related coalitions. (F, G)
G. Support collaboration and planning at the local level	<ul style="list-style-type: none"> • Identify and share information on barriers, lessons learned, best practices, and models in California and other states that exemplify cross-departmental collaboration with state and local groups (e.g., Walk Your Kids to School). (F, G) • Invest in local identification of existing coalitions, physical activity assets, needs, and objectives. (G) • Develop a cadre of local facilitators who can provide leadership and bridge state/local planning efforts. (G) • Invest in local strategy development for communities to identify and prioritize local needs. (G) • Engage independent living and other organizations that address the needs of people with disabilities. (F, G, H) • Initiate interdisciplinary collaboration, emphasizing issues that cross disciplines and engage all relevant sectors and key stakeholders. (F, G, H)
H. Engage community organizations and the private sector	<ul style="list-style-type: none"> • Reformulate the CPNS Physical Activity and Nutrition Integration Committee to reflect a broader cross-section of disciplines that have an influence on physical activity (e.g., poverty programs/social services infrastructure, city and county planning advisors). (F, G, H) • Increase the number of community-based organizations represented in strategic planning processes for physical activity. (H) • Explore opportunities to involve local agencies that work with dogs to develop programs to encourage walking (i.e., buddy programs that match up dogs with seniors for a walk). (H)

LEVEL 3: EDUCATING PROVIDERS

Strategy	Actions
<p>I. Develop the skills of community residents from low-income communities</p>	<ul style="list-style-type: none"> • Identify community members who serve as opinion leaders, role models, and community change agents. (I) • Develop skills of low-income community residents to teach classes in nutrition and lead physical activity programs; provide certification, underwrite costs, and offer continuing education and support. (I) • Develop a government relations committee to plan and organize educational activities. (J) • Train advocates, including low-income residents, to promote physical activity to relevant state and local governing boards (such as City Councils, Boards of Supervisors, School Boards, and relevant commissions, special districts, and authorities) as well as relevant professional and community organizations. (J) • Identify existing organizations and councils that advocate around physical activity or related issues and build collaborative ties. (J) • Attend political debates and forums and raise issues related to physical activity promotion; prepare factual materials to support this activity. (J) • Conduct outreach to individual providers and make presentations to relevant organizations to motivate providers to participate in physical activity promotion. (I, J, K, L) • Locate existing materials, or develop as needed, factsheets that detail the benefits of physical activity and nutrition, including cost and quality of life “savings” relevant to workplaces, education, health care, and communities and that are appropriate for various provider audiences. (I, J, K, L) • Recruit, train, and mentor community providers to serve as champions of organizational change. Teach state-of-the-art nutrition and physical activity promotion strategies; provide effective outreach materials that are appropriate for their target audience, as well as easy-to-use models for incorporating changing organizational practices and education into their sphere of influence. Continue to provide coaching, evaluate impact, and provide feedback to help providers be more successful. (I, K, L) • Develop public policy advocacy skills among providers, especially leaders in low-income communities. (I, K, L) • Conduct state and community level training on the importance of cross-disciplinary collaboration for physical activity and nutrition promotion. (I, K, L) • Present at or co-sponsor key conferences (i.e., Annual California Injury Prevention Conference) that include physical activity or nutrition promotion in their agendas. (K, L) • Train managed care/Medi-Cal eligibility/enrollment workers to promote physical activity as part of their wellness presentations to potential enrollees. (K, L) • Develop tools and models for incorporating physical activity into existing health care and service provision settings, e.g., quick health and fitness assessments, and appropriate on-site activities. (L)
<p>J. Educate local, state, and national legislators and government administrators to build support for physical activity and nutrition</p>	
<p>K. Train managers in the public and private sector in physical activity and nutrition promotion</p>	
<p>L. Teach doctors, allied health care professionals, social workers, and WIC and other service providers how to include physical activity promotion in current practices</p>	

LEVEL 2: COMMUNITY EDUCATION

Strategy	Actions
M. Utilize a neighborhood focus - work where people are	<ul style="list-style-type: none">• Channel physical activity and nutrition information through key community organizations that regularly interact with neighborhood residents. (M)• Create and support forums for defining and addressing community needs and wants (e.g., focus groups, neighborhood planning councils). (M)• Develop and distribute neighborhood maps that show opportunities for physical activity; include environmental features (parks) and organizations that support activity and nutrition. (M)
N. Refine media approaches to physical activity promotion in diverse populations	<ul style="list-style-type: none">• Provide support/funding to existing community programs (not primarily doing physical activity promotion) for development/expansion of physical activity components. (M)• Promote a simple, broader, more cohesive health message that includes a definition of physical activity as both exercise and incidental activity; work with community leaders. (M, N)• Utilize social marketing principles/practices to develop culturally and geographically appropriate materials; emphasize diversity and use a diversity of role models. (M, N)• Use local media including radio, local columnists, public television (in-kind media support), and other sources of information for local news and events. (N)• Use national entertainment media, mainstream TV, Latino/a broadcast channels, ethnic cable channels, and trend-setting music channels to communicate new images of physical activity. (N)

LEVEL 1: INDIVIDUAL SKILL BUILDING

Strategy	Actions
<p>O. Teach life-long skills</p> <p>P. Support current healthy behaviors; enhance what people already do</p> <p>Q. Encourage and provide social support for family and peers</p>	<ul style="list-style-type: none">• Emphasize strategies and programs that incorporate a ‘lifestyle perspective’ by acknowledging that behavior change takes time, encouraging long-term planning (plan ahead) and teaching youth skills early. (O)• Promote activities that are accessible (i.e., do not require costly equipment and are locally available). (O)• Clarify health messages; integrate and coordinate between government departments and disciplines. (O)• De-emphasize rigid guidelines and broaden definition of physical activity to encourage activities people are already doing. (O, P)• Provide incentives for those who get others to participate as well as for those who get support through monetary donations. (O, P)• Utilize youth as mentors and role models for physical activity. (O, P)• Ensure that opportunities exist for buddy, group, and family participation in physical activity through funding and/or expanded programming. (Q)

VII. Next Steps

The recommendations outlined in this report for promoting physical activity (PA) among low-income Californians are not agency-specific. This section of the report identifies recommendations that CPNS can conduct with USDA funding. Funding from USDA is provided to CPNS primarily for conducting nutrition education activities. However, USDA allows the integration of some physical activity promotional activities. Activities congruent with USDA guidelines are outlined below. CPNS will continue to work with PANIC to set priorities and plan future implementation steps. The Department of Health Services has formed an internal Physical Activity Collaboration Team (PACT) to determine how state staff can best work together to promote physical activity.

Overall Objectives

CPNS Objective 1: Increase the percentage of low-income Californian adults engaging in 30 minutes of physical activity on a daily basis.

Baseline: 25%

Target: 30%

Data: CABRFSS, 1998

Healthy People 2010 Objective (22-2): Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.

Baseline: 15%

Target: 30%

Data: NHIS, CDC, NCHS, 1997

CPNS Objective 2: Increase the proportion of adolescents in California's low-resource schools who report engaging in 30 minutes of (moderate level) physical activity on a daily basis.

Baseline: 22%

Target: 30%

Data: YRBS, CALTEENS, 1999

Healthy People 2010 Objective 22-9: Increase the proportion of adolescents who engage in moderate physical activity at least 30 minutes on 5 or more of the previous seven days.

Baseline: 20%

Target: 30%

Data: YRBS, CDC, NCCDPHP, 1997

Action Steps - Year 1 (2001 - 2002)

Foundational Activities	LEAD AGENCY	KEY PARTNERS
<ul style="list-style-type: none"> • Form advisory group (PANIC) comprised of physical activity experts and key partners to provide recommendations to CPNS for promoting and integrating physical activity among low-income Californians. Define mission, objectives, membership, etc. • Identify and collaborate with other DHS-funded physical activity programs to develop a statewide physical activity coordination team (PACT). Review mission, goals, and objectives of programs. Develop a coordination plan for promoting physical activity among Californians. Specifically, identify programmatic activities conducted by other DHS agencies that support recommendations outlined in this report and CPNS objectives. Identify strategies to support PACT efforts. • Identify or conduct research-based surveys to determine base-line data for Objectives 1 and 2. 	CPNS	Physical Activity partners (see appendix)
	Physical Activity Health Initiative (PAHI)	CPNS, PANIC advisory group
	PACT, CPNS	PANIC
Promotional Activities		
<ul style="list-style-type: none"> • Conduct formative research on physical activity promotion among low-income populations. 	CPNS	CPNS Research Unit
<ul style="list-style-type: none"> • Based on formative research, develop a marketing plan for promoting physical activity and nutrition among low-income Californians statewide. 	CPNS	PANIC
<ul style="list-style-type: none"> • Pilot a marketing campaign in selected communities. 	CPNS	PANIC, CPNS contractors
Resource Development		
<ul style="list-style-type: none"> • Identify and catalog research-based educational resources for promotional physical activity among low-income populations. Develop a database and system for disseminating information to CPNS contractors. • Based on the pilot marketing campaign, develop a marketing resource kit for CPNS contractors to integrate and promote physical activity among low-income populations. • Pilot the marketing kit with 2-3 CPNS contractors. 	CPNS	PACT, CDC

One-Time Demonstrations		
<ul style="list-style-type: none"> • Develop a written plan for providing CPNS contractors with “one-time” demonstrations/trainings on promoting physical activity. • Conduct 1-3 pilot “one-time only” demonstrations/trainings with selected CPNS contractors. 	CPNS	PANIC
	CPNS	CPNS contractors

Action Steps – Year 2 (2002 – 2003)

Foundational Activities		
<ul style="list-style-type: none"> • Identify other sources of categorical funding to expand physical activity campaign beyond promotional activities. Depending on funding, use the <i>Strategies for Action</i> framework to develop a comprehensive 2-3-year strategic plan for developing and implementing statewide physical activity interventions that include community, environmental, and systems approaches. • Identify and develop partnerships with for-profit, private partners to support and fund physical activity activities. 	CPNS	PANIC, PACT
Promotional Activities		
<ul style="list-style-type: none"> • Based on results from the pilot project (marketing campaign), implement and evaluate a statewide physical activity promotional campaign. 	CPNS	PANIC
Resource Development Activities		
<ul style="list-style-type: none"> • Based on pilot phase (marketing kit) in Year 1, provide funding for additional CPNS contractors to implement and evaluate physical activity resource kit. 	CPNS	PANIC

VIII. Conclusion

The recommendations contained in this report provide direction for a multi-year effort to improve physical activity levels among low-income California residents. It has taken decades for our current sedentary culture to develop and reversing this trend will require perseverance. Yet there is no question that the “epidemic” of obesity and the scourge of related chronic diseases makes action an absolute necessity.

As one PANIC participant summed it up, “I didn’t imagine that I’d run into the people here that are doing the things I want to do. I feel relieved that there are more people working towards the

same goal. This really encouraged me.” The development of the strategy framework is not the final step in this important work, but is a vital beginning.

Appendix I

Physical Activity and Nutrition Integration Committee members

Lisa Allen	Mediascope
Terry Bazzarre	American Heart Association
Shene Bowie	Leap for Joy Fitness for Health
Jim Carman	Physical Activity and Health Initiative, California Department of Health Services
Linda Cooper	Daly City Parks and Recreation Department
John Crosby	Escondido Community Health Center
Michael Darnley	Pinn Fund
Jerry Glashagel	Total Health Initiative, West Coast YMCA Shared Projects
Karen Hall	Genentech, Inc.
Ash Hayes	San Diego Chapter, Governor's Council on Physical Activity
Marianne Hernandez	Cardiovascular Disease Outreach, Resources, and Epidemiology, California Department of Health Services
Erica Hertz	Cancer Prevention and Nutrition Section, California Department of Health Services
Arnell Hinkle	California Adolescent Nutrition and Fitness Program
Steve Hooker	Physical Activity and Health Initiative, California Department of Health Services
Judeth Lagrimas	City of Long Beach, Department of Health and Human Services
Brenda Laine	Loveland Church
Gordon Laine	Loveland Church
Sarah Liang	Cancer Prevention and Nutrition Section, California Department of Health Services
Elise Lorenz	San Diego County Health and Human Services Agency
Ruth Manzano	Escondido Community Health Center
Maria Santa Maria	Southern California Public Health Association
Nestor Martinez	California Project LEAN, California Department of Health Services
Monica McCorkle	Indian Health Council
Lori McNicholas	Por La Vida
Chris Morfas	California Bicycle Coalition
Carmen Moreno	Por La Vida
Michelle Oppen	Cancer Prevention and Nutrition Section, California Department of Health Services
Heather Paulsen	California Healthy Cities
Jennifer Peale	American Cancer Society
Greg Roberts	Magic Johnson Foundation
Joan Rupp	Department of Exercise and Nutritional Sciences, San Diego State University
Nicole Singer	Sports, Play, and Active Recreation for Kids, San Diego State University
Gil Sisneros	Cancer Prevention and Nutrition Section, California Department of Health Services

Aurora Sosa
Mike Stallings
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Beverly Tuzin
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Los Angeles County Department of Health Services
Cancer Prevention and Nutrition Section, California Department of
Health Services

Appendix II

Community Interventions and Communities as Interventions

James F. Sallis, Ph.D.
San Diego State University

For the California Nutrition Network and Five-A-Day Programs
Physical Activity Planning Meeting
San Diego, CA
July 13-14, 2000

Community Interventions

Because sedentary lifestyles are a mass phenomenon, it is necessary to intervene with entire communities. The largest research projects to attempt to increase physical activity in whole communities are the heart health projects, particularly the three U.S. studies that were conducted mainly in the 1980s. In addition to theories of individual behavior change, all studies applied theories of communication, diffusion of innovations, community organization, and social marketing. Specific groups such as young people, the elderly, women, employees, ethnic groups, and low-income groups, were targeted with specific interventions. Strategies ranged from behavior change contests, events, and volunteer training, to community coalitions, classes, and mass media for education.

Physical activity was a secondary goal of these multiple risk factor programs, and the Stanford study accounted for only 8 percent of the educational messages. Nevertheless, there was some evidence of effectiveness. The Stanford study reported several significant effects for physical activity, but those results were inconsistent regarding type of physical activity and who made the changes. The Minnesota study also reported significant physical activity outcomes, but only during the first three years. The Pawtucket intervention did not report significant physical activity outcomes. Generally, the results were modest and have been seen as disappointing. The modest outcomes could be due to the complexity of the overall programs, inadequate effort (and budget) devoted to physical activity, or the reliance on educational strategies. All the interventions were dominated by educational and behavioral skills training information presented to many people by a variety of media venues. Little attempt was made to improve the physical environment to make activity more convenient or more pleasant. Combining educational, environmental, and policy interventions may be more effective in increasing physical activity in the community.

Community interventions have not been evaluated for young people. Such studies are needed, because young people obtain most of their physical activity outside of school, often in community programs. Interventions should focus on increasing access to programs and facilities, with the goal of providing a choice of popular programs that appeal to girls and boys of all skill levels, several times a week, throughout the year.

Walkable Communities: The Ultimate Solution?

There is emerging evidence that the structure of the community itself and the transportation infrastructure have profound effects on physical activity habits of the residents. If we can identify the most important community characteristics, we may be able to guide the construction of communities that naturally stimulate physical activity. Some land-use planners want to increase walking and bicycling to increase the sense of community and quality of life. Some transportation planners want to increase walking and bicycling to reduce the traffic noise and pollution. Thus, strong alliances can be built between health promotion and these other disciplines. Architects and urban planners developed the Ahwahnee Principles to define “Livable Communities,” and walkability is a key concept.

Walkable communities have attractive sidewalks on narrow streets with limited traffic. There is a range of destinations within walking distance, so you can shop, go to work, and seek entertainment without having to use a car. Walkable communities shelter pedestrians from weather extremes by using trees for shade and awnings for protection from weather. A value is also placed on having a diversity of residents within neighborhoods to enhance the richness of social contacts.

Residential and job density are highly related to the percent of residents who commute to work. A study of 32 cities worldwide found correlations with active commuting of 0.66 with residential density. These are high correlations showing that if it is possible to commute without cars, people will do so. It is important to note that this international study found the U.S. to have the absolute lowest density and near-zero levels of commuting by walking and biking. Of course, in California millions of people live in very low density suburbs, so this presents a major challenge to physical activity promotion. Some grassroots advocacy is needed to demand more walkable designs for new subdivisions.

Mixed land use that intermingles residences, shops, and commercial buildings also encourages walking and bicycling. A California study found active commuting was negatively correlated with living in a neighborhood of detached single family homes, which rarely have shops and other facilities nearby. However, there was a strong positive association between active commuting and having a commercial building within 100 yards of the home. Simply put, in a mixed-use neighborhood there are places nearby to walk to.

Transportation policies have a major influence on walking and bicycling patterns. Active commuting is correlated -0.78 with gasoline use and +0.71 with use of mass transit use in a worldwide survey. The number of parking spaces in the central city is correlated -0.48 with active commuting. Policies that make it inconvenient to park cars and effectively promote mass transit use should encourage people to use cars less and lead to an increase in active commuting. Right now, virtually all California policies are devoted to making driving as convenient as possible.

Transportation and urban planning researchers have only shown that high density, mixed-use communities with good mass transit have high rates of active commuting to work. The impact on total physical activity is unknown but likely to be substantial. Some of us think that we have

engineered physical activity out of lives, and for our health we need to change the current way of building society. One of the most effective ways of increasing physical activity in the population may be to advocate for land use and transportation policies that create communities in which walking and bicycling are naturally part of everyday life. Education efforts may be more fruitfully directed at policy makers than to the population at large. Achieving the necessary policy and environmental changes to create walkable communities is likely to be complex, require the cooperation of multiple governmental and non-governmental agencies, and take a long time to be effective. However, efforts such as this may be necessary to reverse the epidemic of sedentary behavior that characterizes modern societies.

Ecological Approaches to Physical Activity Promotion

While we are advocating for improved land use and transportation policies, the research literature gives us some clues about effective intervention strategies that can be implemented now. Studies of physical activity determinants show that many factors influence physical activity. This means that no single approach is likely to solve the problem of sedentary lifestyles. Ecological models teach us that interventions should operate on multiple levels: psychological, social, and environmental. Here are some key correlates of physical activity and how they can inform intervention design.

Correlates and Interventions for Adults

Men are more active	Most programs and information should target women
Low-income people are less active	Learn how to help low-income people overcome their barriers
People who perceive fewer barriers are more active	Provide information that helps people think differently about barriers and improve problem solving skills
Enjoyment encourages activity	Help people do more of activities they already enjoy; teach them ways of increasing enjoyment
Self-efficacy, or confidence in ability to be active, is a strong correlate	People increase self-efficacy by making gradual increases in activity and being successful in meeting goals
Use of self-change skills is helpful	Teach people effective self-change skills
Physician counseling is effective	Engage physicians in improving their counseling skills
Social support is a powerful correlate	Intervene with existing groups; encourage people to seek out social support
Access to exercise facilities makes activity easier	Help people learn where they can be active safely and conveniently

Correlates and Interventions for Young People

Boys are more active	Girls need additional motivation, encouragement, and programs
Ethnic minorities tend to be less active than whites	Programs are particularly needed in areas with high ethnic representation; information should be appealing to diverse groups
Youth with high athletic competence are more active	Youth with less physical skills need more programs and encouragement
Youth get most activity outside of school	Community programs need to have programs for all kids, every day, year-round
After school hours are peak time for activity	All youth need access to safe physical activity after school. This can be at school, at a community facility, or near home
Reducing TV time can increase activity	Educate parents to limit TV time to 2 hours per day
Parent support is effective at all ages	Parents can be most effective by ensuring that the child has a place to be active every day. This may require the parent to transport the child
Some physical education programs provide substantial amounts of activity	Intervene with schools to make sure they have quality curricula and instruction. Encourage parents to advocate for excellent P.E.
Being outdoors is the best correlate of activity for young children	Make sure children have a place to play outdoors every day

The most effective programs will ensure that people have safe, convenient, and pleasant environments to be active, and the programs will provide motivational information and behavior change instruction. Many programs need to be targeted to specific subgroups, so it is important to know your community and involve community representatives in planning and implementing the programs. Please evaluate your programs so you can get feedback and make improvements over time.

Best wishes on your efforts to promote physical activity among Californians.

Sources and Resources

Centers for Disease Control and Prevention. (1997). **Guidelines for school and community programs to promote lifelong physical activity among young people.** MMWR, 46 (No. RR-6), 1-36. www.cdc.gov.

Center for Disease Control and Prevention. (1999). **Promoting Physical Activity: A Guide for Community Action.** Champaign, IL: Human Kinetics.

Sallis, J.F., Bauman, A. and Pratt, M. (1998). Environmental and policy interventions to promote physical activity. **American Journal of Preventive Medicine, 15,** 379-397.

Sallis, J.F., and Owen, N. (1999). **Physical Activity and Behavioral Medicine.** Thousand Oaks, CA: Sage. www.sagepub.com.

Sallis, J.F., Prochaska, J.J., and Taylor, W.C. (2000). A review of correlates of physical activity of children and adolescents. **Medicine and Science in Sports and Exercise, 32,** 963-975.

Appendix III Key Informant Interviews

The Cancer Prevention and Nutrition Section of the California Department of Health Services initiated a planning process to explore how to significantly increase physical activity and healthy lifestyles among low-income families. As part of this process, Prevention Institute conducted a series of key informant interviews to enrich the knowledge base available for development of the plan. The primary purpose of the interviews was to include the expertise of practitioners outside of California and to learn from the perspectives of other states and national policy organizations.

The fourteen interviews represented the following categories:

- Researchers - synthesis and interpretation of the research
- State and National Approaches - perspectives from other states, national advocacy groups, and the Centers for Disease Control and Prevention
- Worksite Health Promotion - challenges and particular issues facing lower level wage earners
- Pedestrian Issues - strategies for making walking the norm

A list of the interviewees appears at the end of the document. This paper summarizes the interview results.

Researchers

What are the most promising strategies for increasing physical activity?

- There is not simply one approach; a combination of strategies must be used.
- Important elements include thoughtfully designed group- and home-based activity programs, changing the physical environment, promoting organizational changes (e.g., at work) that support being active, and implementing policy changes to support all of these elements.
- Ultimately, we need to change the culture in order to achieve ongoing increases in physical activity.
- Community participation at all levels is key in planning interventions. Each community is different and needs to be involved from the start with any program design.
- We need to reach people where they are, rather than expecting them to come to us. There are two aspects to this: 1) Designing the physical environment to encourage activity throughout the day, e.g., walking to neighborhood stores or taking the stairs. 2) Creating opportunities for physical activity that easily fit into people's routines, e.g., convenient programs at the workplace or in faith institutions.

Are there particular strategies which are most effective for increasing physical activity among families with low incomes?

- Each community is unique. Initiatives must be community-centered. The first step is the examination of community assets (such as existing programs, facilities, and institutions) and barriers (such as access, cost, safety, and transportation).
- Health disparities are a real issue. We must be conscious of the significance of poverty and the racial divide.
- There is limited information in the research literature about successful approaches in low-income communities. However, there are a number of examples of promising approaches from across the country. These include culturally appropriate activity programs, efforts to improve safety, and in one rural area, a project to develop walking trails.

Is it better to focus on increasing physical activity or decreasing inactivity as a programmatic approach?

This question was prompted by a discussion of the issue at a national meeting on physical activity promotion. According to interviewees:

- Most research has focused on attempts to increase activity, therefore there is little data for answering this question.
- It is uncertain whether decreasing specific sources of inactivity (e.g., TV watching) would necessarily lead to more physical activity.
- The bottom line is that adults and children need to increase daily physical activity, whether it be in the form of more activity throughout the day or scheduled workouts.

How should CPNS measure the success of its initiative?

- The ideal measure of success is increased levels of activity and improvement in physical activity-related health parameters (e.g. weight, blood pressure, and cholesterol levels) among California residents.
- Individual activity programs can measure success by whether people stay in the program over time, more participants join the program, and program participants increase and maintain activity levels.
- A portion of program funds should be set aside for evaluation, including process and, if possible, outcome evaluation. (Editor's note: Evaluation was not discussed in detail. Experience in other fields suggests that evaluation resources need to be used strategically and not spread too thinly across every program.)

State and National Approaches

What are the most promising strategies for increasing physical activity?

- The key to successful intervention strategies lies in community involvement. No community intervention would achieve success without identifying and recruiting key community members to spur on the process.
- Building partnerships among many sectors is critical.
- Education cannot be the sole component in a successful initiative; a systematic approach is long overdue. While media and communications play a role, these approaches alone do not change behavior.

- Lifestyle intervention approaches (that is, increasing small amounts of activity throughout the day) can work at least as well as structured programs. In either case, initiatives must address both social and environmental barriers to being active.
- Interventions must build in social support and teach people to develop their own long-term social support.
- Intervention strategies need to begin where people are. For example, community-based organizations, worksites, faith-based organizations, and schools have a unique opportunity to reach groups of people where they frequently congregate. These types of programs tend to be more successful in sustaining participation due to the social networks that are constructed.

What is your state/national organization doing to increase physical activity among residents?

- Forging partnerships with public and private organizations to develop more comprehensive strategies is central to state/national work. Agencies that would not have traditionally worked together are beginning to realize that there are many overlapping factors such as traffic and zoning issues, neighborhood safety, and lack of resources or access that affect a person's ability to be physically active.
- Examples of specific approaches include walking and bicycling initiatives, trail development, Safe Routes to School programs, and various health promotion efforts. While most of what is being done is in the areas of walking and biking, those interviewed were quick to mention that it is important to have a variety of available activities. This should be an important consideration in developing and sustaining new programs.
- It was noted that walking and biking will not necessarily be successful strategies in low-income communities. More comprehensive programs, especially those that include culturally diverse activities, will have a better chance for success.

What policies at the national or state level are particularly important for supporting increased physical activity?

There were a variety of policy recommendations that emerged:

- Design streets and roadways to protect pedestrians and bicyclists from traffic hazards.
- Support development of convenient, well-designed recreation facilities, and a wide variety of culturally diverse activity programs.
- Take action to reduce neighborhood violence and other crimes.
- Enforce existing statutes, and develop new ones, to ensure regular physical activity in schools.
- Develop schools as multi-use facilities to provide recreational opportunities for the community during non-school hours.
- Utilize state snack food taxes as a funding stream for physical activity initiatives.
- Build effective coalitions of diverse community groups such as those representing health, environmental, crime prevention, transportation, and land use issues.
- Advocate at the national level to get physical activity on the agenda of policymakers and government.

Worksite Health Promotion

What motivates employees to participate in health promotion activities?

- Women care about being healthy for their kids
- Personal health problems or those of family members
- Peer support network
- Convenient location and time for activities

What are the barriers to participation?

- No time after work; women must catch public transportation to get to childcare
- People working two jobs
- Insufficient promotion of culturally appropriate activities
- People get paid by the piece, so they hunch over their sewing machines all day rather than take a break

What are ways people can include physical activity in their workday without the use of formal facilities?

- Walking the stairs
- Parking farther away
- Getting up and stretching, and generally increasing movement during the day

What strategies can be implemented to encourage physical activity among lower-income workers?

- Provide paid time for workers to participate in activities during the workday.
- Provide on-site physical activity equipment.
- Bring in instructors.
- Utilize peer support. Recruit volunteers as champions of activity programs. Promotoras have been very effective in Los Angeles County among Latinas.
- Programs have been more successful in smaller (<60 employees) operations that can be more flexible about schedules.
- Assess the kind of jobs workers do and emphasize what they are already doing that is really good for them (e.g., physical labor on the job).
- Promote preservation of healthy habits from cultural traditions.
- Hotels can make gyms and pools available to employees during off hours.
- Address pertinent issues like occupational safety and build from this to address the whole work environment.

What are some incentives that would prompt employers to institute worksite activity programs?

- Personal interest in activity
- Concerns about employee's health
- Hard data about the benefits for productivity and decreased absenteeism
- Provides a stopgap since they do not supply health insurance
- Fosters goodwill with employees

What are ways in which companies with limited funds can implement programs to increase physical activity?

- Utilize voluntary health agencies.
- Recruit volunteers to be coordinators/champions.
- Engage groups active in the worksite wellness movement.

Are there policies at the local or state level that could provide incentives to employers?

- Require that worksites over a certain size offer employee health promotion.
- Ensure that occupational health issues are being addressed.
- Offer employer incentives beyond tax credits such as direct subsidies or reductions in worker compensation costs.

Pedestrian Issues

What are the key strategies for increasing walking and biking in communities?

- Establish a committee with the political muscle to promote these issues.
- Develop strong partnerships between community groups and city government that include public health, traffic engineering, parks and recreation, the city council, and police.
- Institute traffic calming to decrease fatalities and complement neighborhood commercial revitalization.
- Emphasize walkable routes to school.
- Establish good places to wait for the bus.
- Identify the top ten intersections where people are being hit and take action.
- Develop a master plan by reviewing existing traffic engineering, building, and zoning codes to ensure that design meets pedestrians needs.
- Ensure new commercial interests take into account pedestrian safety and interests, e.g., by providing adequate lighting after dark, creating interesting commercial display windows, and placing parking lots behind buildings.
- Use events such as Walk Your Child to School Day to build momentum for longer-term outcomes.

What issues are particular concerns in low-income neighborhoods?

- Recent immigrants are not prepared for high velocity traffic.
- Neighborhoods are not designed to respect traditional active street cultures. For example, recent Latino immigrants are particularly at risk for being hit as pedestrians. Wide sidewalks, parks, slower streets, and “bulk outs” can all be used to make the environment more inviting and safer for pedestrians.
- Noisy, dusty arterials near highways increase injuries and reduce walkability.
- Streets in lower-income neighborhoods are designed to accommodate people coming from outside of the city, encouraging speed and subsequent fatalities.
- State highways frequently traverse low-income neighborhoods. These streets are much wider than they need to be given that traffic is now carried on parallel freeways. They deserve traffic calming, streetscaping, and commercial development.

- Fifteen percent of streets are state roadways yet forty percent of the fatalities occur on these thoroughfares. There is opportunity for city/state partnerships to redesign these roadways.

If you had \$1,000,000 to improve walkability in a low-income neighborhood, how would you spend it?

- Institute traffic calming in residential neighborhoods.
- Address the speed and condition of the arterial roadways.
- Invest in commercial districts.

Key Informants

Researchers

Ross Brownson, St. Louis University

Tom Prohaska, University of Chicago

Wendell Taylor, University of Texas – Houston

State and National Approaches

Allen Abraham, California Alliance for Physical Education, Recreation and Dance

Michael Arthur, Nova Scotia Sport and Recreation Commission

Barbara Fraser, Nebraska Department of Health and Human Services

Refilwe Moeti, Centers for Disease Control and Prevention

Russell Pate, National Coalition for Promoting Physical Activity

Cindy Porteous, National Association for Health and Fitness

Rosemary Thackeray, Utah Department of Health

Holly Van Houten, National Park Service

Worksite Health Promotion

Barbara Fain, Wellness Program – Santa Clara County

Liz Torres, Worksite Wellness Project

Pedestrian and Bicycling Issues

Zac Wald, BayPeds

Appendix IV

Expert Panel Presentations

Presentations were made by:

- Dr. Antronette Yancey, Director of Chronic Disease Prevention, County of Los Angeles, Department of Health Services
- Steve Hooker, Ph.D., Director of the Physical Activity and Health Initiative (PAHI), California Department of Health Services
- Thom McKenzie, Ph.D., Professor, San Diego State University

They are summarized here briefly:

- Dr. Antronette Yancey, in her talk, “Recapturing Recess,” shared her approach to promoting physical activity in Richmond, Virginia and Los Angeles, California. She believes there are five lessons – institutionalizing opportunities, creating social support, making physical activity enjoyable, ensuring facilities are available and accessible, and teaching life-long skills – that should be applied from the concept of recess to physical activity promotion. Within these five lessons, creating environments conducive to physical activity, recruiting people of color to serve as role models, and encouraging positive communication through both word of mouth and social marketing are all key in successfully promoting physical activity.
- Dr. Steve Hooker, in his talk, “Lessons Learned from the *On The Move!* Physical Activity Promotion Program,” discussed strategies for promoting physical activity among sedentary, ethnically and sociodemographically diverse adults. Community capacity building approaches, the Stage of Change Model, and the *Spectrum of Prevention* were used to inform *On The Move!*’s project design. The lessons learned included the importance of support from community members and local leaders, the inclusion of community outreach workers and culturally appropriate activities, and the notion that policy change may be easier to sustain than other types of change.
- Dr. Thom McKenzie shared data about the activity levels of children and the increasing rate of children being overweight. Helping youth to become active early is important not only for reducing the risks of obesity, but also because children are more likely to encourage adults to be active. The skills youth learn help prevent the onset of chronic disease during adulthood and are key in building self-confidence. For the most part, “women, the ‘non-elite,’ poor, and ethnic minorities have been ‘left out’ and as a consequence, are less active than men, the non-low-income, and whites, respectively.” Schools provide opportunities for reaching youth and garnering the support and involvement of parents. McKenzie’s project, Sports, Play, and Active Recreation for Kids (SPARK), encourages quality physical education in schools and supports increased activity among youth by advising curricula, supporting staff development, and providing on-site consultation.

Appendix V

Healthy People 2010 Physical Activity Objectives

BACKGROUND

The goal of Healthy People 2010 with respect to physical activity is to “improve the health, fitness, and quality of life through daily physical activity” (Healthy People 2010). In order to reach this goal, the Healthy People 2010 report contains 15 specific physical activity objectives. The objectives are divided into the following four groups: Physical Activity in Adults, Muscular Strength/Endurance and Flexibility, Physical Activity in Children and Adolescents, and Access. The authors of Healthy People 2010 also recognize disparity in the levels of physical activity with lower rates seen for women, African-Americans and Latino/as, older individuals, and lower-income individuals.

Physical Activity in Adults

22-1 Reduce the proportion of adults who engage in no leisure time physical activity.

22-2 Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.

22-3 Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

Muscular Strength/Endurance and Flexibility

22-4 Increase the proportion of adults who perform physical activities that enhance and maintain muscular strength and endurance.

22-5 Increase the proportion of adults who perform physical activities that enhance and maintain flexibility.

Physical Activity in Children and Adolescents

22-6 Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on five or more of the previous seven days.

22-7 Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness three or more days per week for 20 or more minutes per occasion.

22-8 Increase the proportion of the nation's public and private schools that require daily physical education for all students.

22-9 Increase the proportion of adolescents who participate in daily school physical education.

22-10 Increase the proportion of adolescents who spend at least 50 percent of school physical education class time being physically active.

22-11 Increase the proportion of adolescents who view television two or fewer hours on a school day.

22-12 (Developmental) Increase the proportion of the nation's public and private schools that provide access to school physical activity spaces and facilities for all persons outside of normal school hours (that is, before and after the school day, on weekends, and during summer and other vacations).

Access

22-13 Increase the proportion of worksites offering employer-sponsored physical activity and fitness programs.

22-14 Increase the proportion of trips made by walking.

22-15 Increase the proportion of trips made by bicycling.

Note: Additional information on the Healthy People 2010 Objectives can be found at <http://web.health.gov/healthypeople/default.htm>.

Appendix VI

State of California Physical Activity Partners

- American Cancer Society (www.cancer.org)
- American Heart Association (www.amhrt.org)
- California Association for Health, Physical Education, Recreation and Dance (CAHPERD) (www.cahperd.org)
- California Cardiovascular Disease (CVD) Prevention Coalition (www.cvdcoalition.org)
- California Parks and Recreation (www.cprs.org)
- California Governor's Council on Physical Fitness and Sports (www.calfit.ca.gov)
- California Physical Activity and Health Initiative (Active Community Environments, Active Aging, Worksite Health Promotion)
- California Project LEAN (www.dhs.ca.gov/lean)
- California Department of Education (www.cde.ca.gov)
- Coalition for Healthier Cities and Communities (www.healthycities.org)
- National Association for Sport and Physical Education
- National Coalition for Promoting Physical Activity (www.al.com/ncppa)
- SHAPE UP America (www.shapeup.org)
- Sports, Play, and Active Recreation for Kids (SPARK) (www.foundation.sdsu.edu/projects/spark/index.html)
- Sports4Kids (based in Oakland) (www.sports4kids.org)
- Women's National Basketball Association (WNBA) (www.wnba.com)

Appendix VII

California Department of Health Services Physical Activity Programs

PROGRAM	GOAL	FUNDING	TARGET	KEY ACTIVITIES	CONTRACTORS Partners	Reports/ Resources
Physical Activity Health Initiative (PAHI) A) Active Aging Program Steve Hooker (916-324-7758) (NOTE: PAHI is the lead agency for PA at DHS)	Enable and encourage Californians over 50 years of age to have healthier lives by promoting physical activity and creating social and physical environments that support active aging	Federal Prevention Block Grant, Robert Wood Johnson Foundation	Californians over 50 years of age	Educate public about physical activity; increase accessibility, affordability and availability; develop community-based programs; implement direct mail interventions; modify existing or develop new environments; initiate policy within health care plans; conduct surveillance and evaluation activities	CONTRACTS FUNDED: 14 community mini-grants, 18 month cycle, \$6-10K per grant, Also No More Falls Program, (\$900K) Key Partners: California Dept. on Aging, Area Agencies on Aging, Local Health Depts.	California Active Living; PAHI's Approaches to Promoting Physically Active Lifestyles
PAHI B) Active Community Environments & Safe Routes to School Anne Seeley (916-445-0472)	Facilitate changes in physical and social environments that will increase naturally occurring physical activity, such as walking and bicycling, as a part of recreation, work, transportation and family life	For ACE & SR2S: block grant + Office of Traffic Safety, Caltrans	Local Government Officials Walk & Bike Advocates Traffic Safety & Transportation professionals	Safe Routes to School Program (SR2S) SLIC Collaborative Project Transportation Resources Center Build capacity of local bike and walk advocacy groups Walk to School Day (W2SD)	CONTRACTORS: SR2S -10 projects, \$25k per project, 17 months. 1) \$1.6M to contract for marketing research and skill-building of local government and local advocates 2) Local Government Commission: \$50K to develop education/training materials for local government officials and staff. 3) CA Bike Coalition: \$35K to provide TA to local bike advocacy groups 4) RTC: \$3K as partner in development & maintenance of website On Trails Advocacy KEY PARTNERS: Local Government Commission, CA Bicycle Coalition & local bicycle advocacy coalitions, Rails to Trails Conservancy (contractors), Surface Transportation Policy Project, Caltrans, America Walks & local pedestrian advocacy coalitions in California, DHS-State & Local Injury Control, CA Highway Patrol, Federal Highway Administration (National Bike/Walk	SR2S & W2SD websites SR2S Fact Sheets Livable Communities Fact Sheets (5)

					Resource Center), CDC Division of Nutrition & Physical Activity	
PAHI C) Employee Health Promotion Jim Carman (916-324-3996) web site: www.Takeaction.org	Assist California's workforce (employed population, their families, and retirees) in becoming the healthiest and most productive in the world by increasing the level of regular physical activity and other healthy lifestyles.	Federal Prevention Block Grant	Californians through worksites	Centralize the gathering of information; develop policy and legislation; promote EHP programs to employers; increase the prevalence of EHP to employers; improve existing EHP programs; partner with existing EHP programs	Contractors: Axiom, Inc Key Partners: Calif. Health Promotion Collaborative, Assoc. for Worksite Health Promotion, CPNS (Nutrition Network/5 a Day)	Website 10 Week Worksite Program
California Obesity Prevention Initiative (COPI) Geanne Lyons (916-455-7054)	Obesity Prevention	CDC	Children & adolescents	Develop a statewide strategic plan Using Social Marketing develop 2 pilot interventions Review surveillance data gathering systems to track obesity and related risk behaviors	Internal & External Planning Groups Key Partners: UC Berkeley Center for Health & Weight, UC San Francisco	Literature Review
California Heart Disease and Stroke Prevention Program (CHDSPP) Liana Lianov (916-322-1523) website: www.dhs.ca.gov/heart	The California Heart Disease and Stroke Prevention Program aims to prevent and control premature death and disability from heart disease and stroke.	Federal Block Grant	All Californians; especially where there is disparity in health among Latinos, African Americans, Asian Americans, Pacific Islanders and Native Americans	Surveillance, linking existing programs, developing a clearinghouse (database with materials, activities, projects, websites, organizations, research, and experts), convening a Heart Disease and Stroke Prevention council, developing a state action plan, educating public health workers and interested groups, working with AHA's "get with the guidelines" program for hospitals, and seeking funding for demonstration projects.	CONTRACTS FUNDED: Heart Smart Cities grants 2-10 per year \$60K per grant KEY PARTNERS: AHA, California Conference of Local Health Officers, National Stroke Association, California Medical Review	Californians' attitudes & knowledge of CVD Deaths From Heart Disease and Stroke Cardiovascular Risk among California Adults CVD Risk Factors among California Adults, 84-96. Website: www.dhs.ca.gov/heart
California Project LEAN Peggy Argon (916-323-4742) website: www.dhs.ca.gov/lean	LEAN's (Leaders Encouraging Activity & Nutrition) mission is to increase healthy eating and physical activity to reduce the prevalence of chronic diseases.	TCE USDA, Federal Block Grant, Cancer Research Program	All Californians	California Project LEAN (CPL) works with state and local physical activity and nutrition leaders to conduct programs throughout California.	12 local regions based in county health departments, universities, and non-profit CBOs.	
California Project LEAN <i>Food on The</i>	To increase physical activity and healthy	TCE, USDA, Federal	Multiethnic, underserved high school	Increase advocacy for physical activity & healthy food options	Food on the Run is active in 30 California high schools.	JUMP START Curriculum Jump Start's

<p><i>Run</i> Amanda Purcell (916-323-4742)</p>	<p>eating behavior among teens as a way to improve health and reduce the risk of chronic disease</p>	<p>Block Grant</p>	<p>students</p>	<p>Advance policy & environmental changes that support physical activity & healthy eating</p> <p>Motivate adolescents to engage in more physical activity & to eat healthier</p>		<p>real-life, cross-curricular lessons encourage students to eat healthy, keep moving and take action!</p> <p><i>Playing the Policy Game Kit</i>, a guide to physical activity & healthy eating policy change game.</p> <p>Simple Solution campaign materials</p> <p>Teen Website www.caprojectle.com</p>
<p>California Project LEAN Bone Health Campaign Elizabeth Bell (916-327-1421)</p>	<p>To prevent osteoporosis</p>	<p>USDA</p>	<p>Spanish-speaking Latino mothers</p>	<p>Paid radio campaign</p> <p>Promotora program</p> <p>Community events</p>	<p>2 intervention sites</p> <p>2 control sites</p>	<p>Promotora curriculum with physical activity lessons</p>
<p>CANCER PREVENTION & NUTRITION SECTION (CPNS) A) California 5 a Day plus Physical Activity Campaign Desiree Backman (916-445-7031)</p> <p>website: www.ca5aday.com</p>	<p>Statewide public health campaign aimed at increasing daily consumption of fruits and vegetables to a minimum of 5 per day and physical activity to 30 minutes a day.</p>	<p>TCE USDA</p>	<p>California children, adolescents, and adults</p>	<p>Five targeted <i>5 a Day Campaigns</i></p> <ul style="list-style-type: none"> ▪ Children's 5 a Day - Power Play! Campaign ▪ Latino 5 a Day Campaign ▪ 5 a Day Retail Campaign ▪ 5 a Day Work-site Campaign ▪ 5 a Day Physical Activity Integration Campaign 	<p>Local community grants</p>	<p>See www.ca5aday.com</p>
<p>CPNS B) Children's 5 a Day Power Play! Campaign Tanya Garbolino (916-327-2918)</p>	<p>Encourage consumption of at least 5 servings of fruits and vegetables every day as part of a low-fat, high-fiber diet and a physically active lifestyle</p>	<p>TCE USDA</p>	<p>9, 10 and 11 year old children in California, as well as educators and other adult intermediaries who can bring the <i>5 A Day</i> message to children</p>	<p>Multi-channel, community-based approach</p> <p>Technical assistance to lead agencies in 10 regions</p> <p>Lead agencies oversee coalition development and implementation of <i>Power Play!</i></p>	<p>Funds 10 regional coalitions</p>	<p>School Idea & Resource Mini Kit, Community Youth Organization Idea & Resource Kit, Farmers' Market Idea & Resource Kit, Retail Power! Kit</p>

<p>CPNS C) Latino 5 a Day Rosie Sotelo-Armijo (916-445-8068)</p>	<p>Encourage Latinos to consume 5 or more servings of fruits and vegetables every day as part of a healthy lifestyle to reduce the risk of diet-related chronic diseases, especially cancer and heart disease.</p>	<p>TCE/USDA</p>	<p>Spanish-language dominant and acculturated Latino adults and their families in California</p>	<p>Culturally-relevant, linguistically-appropriate, and community-based social marketing interventions</p> <p>Disseminates 5 A Day message through communication channels such as bilingual television and radio advertisements, media tours, festivals, farmers'/flea market, and community education programs</p> <p>Educational materials and promotional items</p>	<p>Regional Outreach Grants to lead agencies</p>	<p><i>Latino 5 a Day</i> cookbook, posters, bingo game, signage, and prize wheel, <i>Latino 5 a Day</i> brochure, and a Latino Community Kit (Physical Activity & Nutrition Activities)</p>
<p>CPNS D) 5 a Day Physical Activity Integration Campaign Gil Sisneros (916-445-6727)</p>	<p>A) Promote 30 minutes of daily, physical activity with CPNS target population B) Integrate physical activity message via social marketing into existing CPNS programs</p>	<p>USDA</p>	<p>Low-income families</p>	<p>Conducting formative research (literature reviews, focus groups, environmental scan, etc.)</p> <p>Developing a social marketing campaign to be piloted in 1-2 regions in 2002</p> <p>Developing a marketing promotion kit for local projects</p>	<p>Contractors: CPNS LIA Contracts (150) Prevention Institute, SPARK, YMCA, Media-BMC, LMP, H7K</p> <p>Key Partners: YMCA, SPARK, SPORTS4KIDS, CPNS LIA Contracts (150)</p>	<p>Strategies for Action Framework</p> <p>Promotion Kit for CPNS Contractors (Fall 2002)</p>
<p>CPNS E) California Nutrition Network For Healthy, Active Families Susan Foerster (916-322-1520)</p>	<p>Network of over 200 agencies seeking to improve dietary and physical activity behaviors among Californians, specifically 5 fruits & vegetables a day and 30 minutes of physical activity via Social Marketing model</p>	<p>USDA Food Stamp Program, CDC Block Grant</p>	<p>Low-income families in California</p>	<p>Statewide social marketing campaign promoting nutrition and physical activity.</p>	<p>Contractors: 150 agencies funded, 12 month contracts, funding amount based on submitted in-kind. \$19 million / Media Program funded for 3 years.</p> <p>Partners: Numerous types of agencies are represented on the Joint Steering Committee</p>	<p>Research reports include 1) California Dietary Practices Survey, 2) California Teen Eating, Exercise and Nutrition Survey, 3) California Children's Healthy Eating and Exercise Practices Survey.</p>

Appendix VIII

Glossary

Aerobic activity: Physical activity that stimulates the heart, thus increasing its overall functional capacity.

Bikeability: A measure of how conducive a particular environment is to bike riding.

Bulk-outs: An alteration to a sidewalk, providing pedestrians with less distance to cross the street while slowing traffic.

California Behavior Risk Factor Survey (BRFS): A statewide survey conducted annually to research health behaviors of Californians. It is part of the national Behavior Risk Factor Surveillance System (BRFSS).

California Children's Healthy Eating and Exercise Practices Survey (CalCHEEPS): The only statewide survey that identifies dietary and physical activity practices, knowledge, attitudes, beliefs, and exposure to nutrition messages of children in the upper elementary grades of school; conducted by the Cancer Prevention and Nutrition Section of the California Department of Health Services.

California Dietary Practices Survey (CDPS): The largest dietary assessment of adults in California, the CDPS is conducted by the Cancer Prevention and Nutrition Section of the California Department of Health Services.

California Nutrition Network for Healthy Active Families (a.k.a. Nutrition Network): The state's largest nutrition coalition. The Nutrition Network blends various social marketing techniques, incorporating consumer empowerment and community development, to promote nutrition education, address and improve the health of low-income Californians.

California Teen Eating Exercise and Nutrition Survey (CalTEENS): The only large-scale dietary and physical activity survey conducted in California with youth age 12-17. CalTEENS measures progress toward reducing the prevalence of overweight/obesity in youth and increasing the percentage of these youth meeting most of the dietary guidelines; conducted by the Cancer Prevention and Nutrition Section of the California Department of Health Services.

Cancer Prevention and Nutrition Section (CPNS): A section of the California Department of Health Services. The section promotes healthy eating, physical activity, sun safety and other protective behaviors that prevent cancer and other chronic diseases while improving the health of all Californians.

Centers for Disease Control and Prevention (CDC): An agency of the U.S. Department of Health and Human Services. CDC is the lead federal agency designed to protect Americans' health and safety. CDC serves as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities.

Department of Health Services (DHS): A department within California State government. The mission of DHS is to protect and improve the health of all Californians.

Employee Assistance Program (EAP): EAPs are work-based programs. They are designed to assist in the identification and resolution of productivity problems associated with employees impaired by personal concerns including: health, marital, family, financial, alcohol, drugs, legal, emotional, stress, or other concerns which may adversely affect an employee's job performance.

Healthy People 2010: Healthy People 2010 is a report that was produced by the U.S. Department of Health and Human Services. The report outlines a comprehensive, nationwide health promotion and disease prevention agenda. It is designed to serve as a roadmap for improving the health of all Americans by establishing a set of health objectives for the Nation to achieve over the first decade of the new century.

Incidental physical activity: Any physical activity obtained indirectly in the course of daily living (e.g. physical activity achieved while walking to the store or work).

Memorandum of Understanding (MOU): A document outlining specific agreements between two parties.

Moderately intense physical activity: Physical activity that causes only light sweating or a slight to moderate increase in breathing or heart rate.

National Health Interview Survey (NHIS): The National Health Interview Survey is the principal source of information on the health of the civilian non-institutionalized population of the United States and is one of the major data collection programs of the National Center for Health Statistics (NCHS). The NHIS monitors the health of the United States population through data collection and analysis on the amount, distribution, and effects of illness and disability in the U.S. and the services rendered for or because of such conditions. The NHIS is sponsored by the U.S. Department of Health and Human Services, the CDC, and the National Center for Health Statistics (NCHS).

Nutrition Network: (see California Nutrition Network for Healthy Active Families)

On The Move!: A California physical activity initiative that funded nine local projects, primarily serving ethnically and sociodemographically diverse communities. It promoted community-based physical activity programs using an ecological approach, with a focus on activities along the *Spectrum of Prevention*.

PA: Physical activity.

Physical Activity (PA): Any movement of the body that results in some energy expenditure.

Physical Activity Breaks: Short breaks from daily tasks during which one performs physical activity.

Physical Activity Collaboration Team (PACT): A team made up of California Department of Health Services staff. This team provides a center for collaboration among Department of Health Services staff involved in physical activity promotion.

Physical Activity and Nutrition Integration Committee (PANIC): A committee established by the Cancer Prevention and Nutrition Section of the California Department of Health to guide the *Strategies for Action* framework from strategy to action. This will be accomplished by advising CPNS on potential actions to integrate the promotion of nutrition and physical activity, through the implementation of *Strategies for Action*.

Promotoras: Non-professional community members trained to provide health education and outreach to residents in their neighborhood. The term literally translates into “women who promote,” but is now used more generally to refer to any community leader.

Safe Routes to School: Programs to promote walking and biking to school by improving the safety of routes between homes and schools.

Sedentary lifestyle: A lifestyle without significant physical activity.

Social-Ecological Model: A theoretical framework for understanding the multiple factors influencing behavior. It conceptualizes the social world in five spheres of influence (individual, interpersonal, institutional/organizational, community, and public policy) and suggests interventions impacting more than one sphere of influence will have greater impact.

Social Marketing: Social marketing is the application of commercial marketing techniques to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behavior of target audiences. Its goal is to use marketing techniques to improve the welfare of individuals and their society.

Spectrum of Prevention: This framework identifies six levels of intervention which encourage practitioners to move beyond a primarily educational or individual skill building approach to a more community-wide, systems change focus. Each level targets successively broader arenas for change. The levels are: 1) Strengthening Individual Knowledge and Skills; 2) Promoting Community Education; 3) Educating Providers; 4) Fostering Coalitions and Networks; 5) Changing Organizational Practices; and 6) Policies that Support Prevention. By carrying out action steps at each level, interventions have the potential to produce greater change than would be possible by implementing a single strategy.

Stages of Change Model: This theory describes the five stages (Precontemplation, Contemplation, Preparation, Action, Maintenance) people go through on their way to making a behavioral change.

Vigorous physical activity: Physical activity that causes heavy sweating and large increases in heart rate.

Walk Your Child to School Day: An international event during which parents are encouraged to walk with their child to school and to get involved in efforts to improve neighborhood conditions that impede walking to school.

Walkability: A measure of how conducive a particular environment is to walking.

Women, Infants, and Children Program (WIC): A supplemental nutrition program that is run by the California Department of Health Services. WIC helps pregnant women, new mothers, and young children eat well and stay healthy. The WIC program offers special vouchers to buy healthy foods, information about nutrition and health, support and information about breastfeeding, and help in finding health care and other community services.

United States Department of Agriculture (USDA): A sector of the U.S. Government. The mission of USDA is to enhance the quality of life for the American people by supporting the production of agriculture.

ⁱ Physical Activity and Health: A Report of the Surgeon General, US Department of Health and Human Services, 1996

ⁱⁱ Physical Activity and Health: A Report of the Surgeon General, US Department of Health and Human Services, 1996.

ⁱⁱⁱ California Dietary Practices Survey: Overall Trends in Healthy Eating Among Adults 1989-1997, A Call to Action, Part 2, Cancer Prevention and Nutrition Section, California Department of Health Services, Public Health Institute, September 1999.

^{iv} US Department of Health and Human Services, Press Release, 12.28.99, "New National Health Goals Target Racial and Ethnic Health Disparities."

^v Taylor WC, Baranowski T. Physical Activity Interventions in Low-Income, Ethnic Minority, and Populations with Disability, American Journal of Preventative Medicine, 1998.

^{vi} Physical Activity and Health: A Report of the Surgeon General, US Department of Health and Human Services, 1996.

^{vii} Physical Activity and Health: A Report of the Surgeon General, US Department of Health and Human Services, 1996.

^{viii} Caspersen CJ, Powell KE, Christenson GM. (1985). Physical activity, exercise, and physical fitness: Definition and distinctions for health-related research, Public Health Reports, 1985;100:126-131.

^{ix} Foerster S. California Teen Eating, Exercise and Nutrition Survey: Also Profiling Body Weight and Tobacco Use. Public Health Institute, September 2000.

^x Ommundsen Y. [Can sports and physical activity promote young people's psychosocial health]? Tidsskr Nor Laegeforen, November 2000;120(29):3573-3577.

^{xi} Jacobsen P, Anderson CL, Winn DG, Moffat J, Agran PF, Sarkar S. Child Pedestrian Injuries on Residential Streets: Implications for Traffic Engineering, Institute of Traffic Engineers Journal, February 2000.

^{xii} Physical Activity and Health: A Report of the Surgeon General, US Department of Health and Human Services, 1996.

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- ^{xiii} Physical Activity and Health: A Report of the Surgeon General, US Department of Health and Human Services, 1996.
- ^{xiv} California Dietary Practices Survey: Overall Trends in Healthy Eating Among Adults 1989-1997, A Call to Action, Part 2, Cancer Prevention and Nutrition Section, California Department of Health Services, Public Health Institute, September 1999.
- ^{xv} US Department of Health and Human Services. *Healthy People 2010*. (Conference edition, in two volumes). Washington, DC: January 2000.
- ^{xvi} Rennison CM. National Crime Victimization Survey: Criminal Victimization 1998: Changes 1997-1998 with Trends 1993-1998, Bureau of Justice Statistics, US Department of Justice, July 1999.
- ^{xvii} Ohland G, Nguyen T, and Corless J, Dangerous by Design: Pedestrian Safety in California, Surface Transportation Policy Project. Sacramento, September 2000.
- ^{xviii} Taylor WC, Baranowski T. Physical Activity Interventions in Low-Income, Ethnic Minority, and Populations with Disability, American Journal of Preventative Medicine, 1998.
- ^{xix} Journal of Health Education Supplement. March/April 1999;30(2).
- ^{xx} Presentation by Dr. Steve Hooker, Physical Activity and Nutrition Integration Committee.
- ^{xxi} Sallis JF. Community Interventions and Communities as Interventions, Background Paper for California Nutrition Network and Five-a-Day Programs Physical Activity Planning Meeting, San Diego, CA, July 13-14, 2000.
- ^{xxii} Sallis JF. Community Interventions and Communities as Interventions, Background Paper for California Nutrition Network and Five-a-Day Programs Physical Activity Planning Meeting, San Diego, CA, July 13-14, 2000.
- ^{xxiii} Sallis JF. Community Interventions and Communities As Interventions, Background Paper for California Nutrition Network and Five-a-Day Programs Physical Activity Planning Meeting, San Diego, CA, July 13-14, 2000.
- ^{xxiv} McLeroy KR, Bibeau D, Steckler A, Glanz K. An Ecological Perspective on Health Promotion Programs, Health Education Quarterly, 1988; 15:351-377.
- ^{xxv} Cohen L, Swift S. The Spectrum of Prevention: Developing a Comprehensive Approach to Injury Prevention. Injury Prevention, 1999; 5:203-207.