Health in All Policies: Lessons Learned by LA County DPH

CDC Leaders to Leaders Conference
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Los Angeles County – Background

- 4,300 square miles
- 88 incorporated cities and 2 islands
- 10.3 million residents (more than 42 States)
- 46% Latino, 32% White, 13% Asian/Pacific Islander, 10% African American, 0.3% American Indian
- Over 100 different languages spoken by significant size populations
- 15% living in poverty (14% of families & 24% <18)
- 22% of adults and 8% of children have no health insurance
Crude Death Rate for Infectious Diseases, U.S., 1900 - 2000

- Rate is per 100,000

- 40 States have Health Departments
- Influenza Pandemic
- First Continuous Municipal Use of Chlorine in Water in United States
- Last Human-to-Human Transmission of Plague
- First Use of Penicillin
- Salk Vaccine Introduced
- Passage of Vaccine Assistance Act

MMWR, CDC, 1999
Policy and Public Health

- Historically, policy changes have yielded some of the biggest improvements in public health
  - Tobacco: smoking bans
  - Injury prevention: helmet laws
  - Disease prevention: immunization requirements, sanitation improvements
- The biggest levers we can move are often policy levers
Policies Can Work on Multiple Levels

- **Level 1** – Reducing burden of disease
  - e.g. Siting schools away from freeways to reduce asthma burden

- **Level 2** – Reducing risk factors for disease
  - e.g. Smoking bans and tobacco retail licensing to reduce smoking opportunities

- **Level 3** – Focus on underlying determinants of disease
  - e.g. Create a healthier built environment by incorporating health into land use decisions
Pollutant levels are correlated with distance from freeway
- High concentrations of regulated air pollutants such as PM10, NOx, and VOC’s are found in close proximity to freeways.
- Concentrations of ultrafine particles are found at levels significantly above background within 500 feet of freeways.
- Potentially adverse health impacts have been identified up to 1500 meters away from freeways.

Health effects associated with traffic related pollutants include:
- Decreased lung function and lung development in children
- Increased rates of respiratory disease, e.g., asthma, bronchitis
- Increased rates of premature births, low birth weight, and cardiac birth defects
- Increased rates of heart attack and other heart disease
Potential Air Pollution Impact of Freeways on Adjoining Communities

LAUSD - Proximity of District Sites to 101 Freeway

Zoom Level: 1x

- Freeway Buffer - 500 Feet
- LAUSD Schools and Offices
- Freeway Buffer - 1500 Meters
- Extent of Potential Health Effects from Freeway Beyond 500 Feet
LAUSD School Siting Policy

• LAC DPH’s Involvement:
  – Provided technical assistance to determine risks associated with siting schools close to freeways
  – Collaborated with LAUSD to develop the policy
  – Educated LAUSD Board Members about importance of the measure

• Resulting policy prohibited siting of schools within 500 feet of freeways
Level 2 – Reducing Risk Factors: Tobacco Control

• Current Tobacco Control and Prevention Priorities in Los Angeles County:
  – Countywide tobacco cessation initiative
  – Tobacco retail licensing (TRL)
    - Reduce tobacco availability to youth in the retail environment through local licensure
  – Smoke-free outdoor areas
    - Reduce exposure to secondhand smoke (SHS) through the adoption of smoking bans in parks and beaches
  – Smoke-free multi-unit housing
    - Reduce exposure to SHS through the adoption of policies that restrict smoking in apartments and common areas
Measuring Progress on Policy Change

- Tobacco retail licensing
  - implemented in 17 jurisdictions, including the cities of Los Angeles, Glendale, Compton, Long Beach and the County of Los Angeles

- Smoke-free parks and beaches
  - implemented in 36 jurisdictions, including the cities of Santa Monica, Los Angeles, Malibu, and Long Beach, and the County of Los Angeles

- Smoke-free multi-unit housing
  - implemented in one city (Calabasas) and being considered in three others (S. Pasadena, Glendale, and Santa Monica)
Lessons Learned from Tobacco Control Efforts

• Public education important but not sufficient; need to focus as much or more on the environment than the individual

• Tobacco control laws are critically important
  – Cities are a key leverage point for continued policy and environmental change
  – Community organizations and their constituents can be extremely effective policy change agents
  – Requires long term commitment of support to CBO’s to build capacity needed to organize and facilitate policy campaigns
  – Community-based policy campaigns require a sequence of steps or “phases”

• Success ultimately attributable to a comprehensive multi-pronged approach
Level 3: Addressing the Underlying Determinants of Health

The Evans-Stoddart Model

- Social Environment
- Physical Environment
- Genetic Environment

Individual Response
  - Behavior
  - Biology

Health & Function

Disease & Injury

Health Care

Well-Being

Prosperity

Health & Function

Disease & Injury

Health Care

Well-Being

Prosperity
Level 3 – The Underlying Determinants of Health: the Physical Environment

- Definition of the built environment:
  - The built environment encompasses all buildings, spaces, and products that are created, or modified, by people. It includes homes, schools, workplaces, parks/recreation areas, greenways, business areas, and transportation systems.

- The importance of regional planning:
  - Decisions made by cities and counties about zoning, development, and transportation have tremendous influence on the health of the local population.
Multiple Possible Adverse Health Impacts From Poor Community Design

- traffic safety
- air pollution
- water quality & quantity
- obesity & chronic disease
- physical activity
- crime & violence
- social capital
- elder health & mobility
- mental health
- health disparities
Summary of Health Effects of Air Pollution

- Amount of goods transported through California projected to nearly quadruple between 2000 and 2020\(^1\)
- Will have significant impact on air quality and health\(^2\)
- Diesel particulate matter (PM)
  - concentrated around ports, railyards, and heavily trafficked roads\(^3\)
    - premature deaths
    - cancer
    - respiratory disease
    - lost workdays
    - global warming (2\(^{nd}\) to CO\(_2\))

Annual Health Impacts in CA from PM and Ozone\(^4\)

1 (Cal EPA, 2005); 2 (Pacific Institute, 2006); 3 (CA/EPA Air Resources Board); 4 (CA/EPA Air Resources Board, 2004)
Achievements to Date in LA County

- LAC Public Health and Regional Planning Directors have agreed to have their staff work collaboratively on General Plan update
- Public Health has met with Regional Planning and provided feedback/suggestions on “Shaping the Future 2025” in support of healthy, livable communities
- Policies supporting healthy, livable communities have been incorporated into the Draft Preliminary General Plan
DPH’s Focus on Health Equity &
the Social Environment

• Department-wide workgroup on reducing health inequities
• Focus on the root causes of inequities, particularly underlying social conditions

• Five domains
  1. Neighborhood conditions
  2. Education across the life course
  3. Income and employment
  4. Social connectedness
  5. Health care and health promotion

• Action plan is currently under development – policy work will be large component
Annual Age-adjusted Mortality Rate by Median Household Income - LA County, 2003-2005*

*provisional data used for 2005
Percentage of the Population Living in Poverty, LA County, 1970-2000
Economic Hardship & Childhood Obesity

[Map showing the relationship between economic hardship and childhood obesity in Los Angeles County, with areas shaded to represent quartiles of economic hardship and childhood obesity.]
## Cities/Communities with Lowest and Highest Childhood Obesity Prevalence

### Top 10*

<table>
<thead>
<tr>
<th>City/Community Name</th>
<th>2005 Youth Obesity Prevalence (%)</th>
<th>Rank of Economic Hardship (1 - 128)</th>
<th>City/Community Name</th>
<th>2005 Youth Obesity Prevalence (%)</th>
<th>Rank of Economic Hardship (1 - 128)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manhattan Beach</td>
<td>4.2</td>
<td>2</td>
<td>Cudahy</td>
<td>29.4</td>
<td>123</td>
</tr>
<tr>
<td>Palos Verdes Estates</td>
<td>6.3</td>
<td>5</td>
<td>West Whittier-Los Nietos</td>
<td>29.7</td>
<td>81</td>
</tr>
<tr>
<td>Beverly Hills</td>
<td>6.9</td>
<td>19</td>
<td>West Puente Valley</td>
<td>30.0</td>
<td>90</td>
</tr>
<tr>
<td>San Marino</td>
<td>7.1</td>
<td>15</td>
<td>Bell</td>
<td>30.2</td>
<td>115</td>
</tr>
<tr>
<td>Agoura Hills</td>
<td>7.3</td>
<td>10</td>
<td>Willowbrook</td>
<td>30.5</td>
<td>116</td>
</tr>
<tr>
<td>Calabasas</td>
<td>8.0</td>
<td>8</td>
<td>Huntington Park</td>
<td>30.6</td>
<td>122</td>
</tr>
<tr>
<td>South Pasadena</td>
<td>9.0</td>
<td>17</td>
<td>East Los Angeles</td>
<td>31.9</td>
<td>117</td>
</tr>
<tr>
<td>La Canada Flintridge</td>
<td>11.4</td>
<td>18</td>
<td>Florence-Graham</td>
<td>32.0</td>
<td>128</td>
</tr>
<tr>
<td>Rancho Palos Verdes</td>
<td>11.6</td>
<td>13</td>
<td>San Fernando</td>
<td>32.9</td>
<td>103</td>
</tr>
<tr>
<td>Arcadia</td>
<td>12.3</td>
<td>35</td>
<td>Maywood</td>
<td>37.4</td>
<td>121</td>
</tr>
</tbody>
</table>

### Bottom 10*

<table>
<thead>
<tr>
<th>City/Community Name</th>
<th>2005 Youth Obesity Prevalence (%)</th>
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<td>12.3</td>
<td>35</td>
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### Average 10 lowest  8.0%

### Average 10 highest  31.5%

*Table excludes cities/communities where number of students with BMI data < 500.

Source: California Physical Fitness Testing Program, California Department of Education. Includes 5th, 7th, and 9th graders enrolled in LA County public schools.
## What Factors are Contributing to the Obesity Epidemic: a Partial List

<table>
<thead>
<tr>
<th>Factor</th>
<th>Can be addressed by policy work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased marketing of junk food and sodas to children</td>
<td>YES</td>
</tr>
<tr>
<td>Increased portion size of food and beverages</td>
<td>YES</td>
</tr>
<tr>
<td>More meals consumed outside the home</td>
<td>?</td>
</tr>
<tr>
<td>Decreased physical education in schools</td>
<td>YES</td>
</tr>
<tr>
<td>Fewer safe areas for exercise in communities</td>
<td>YES</td>
</tr>
<tr>
<td>Increased TV and computer time</td>
<td>?</td>
</tr>
<tr>
<td>Less access to fresh, nutritious, affordable food in underserved areas</td>
<td>YES</td>
</tr>
<tr>
<td>Increased time spent in cars</td>
<td>YES</td>
</tr>
</tbody>
</table>
Key New Tool – Health Impact Assessment (HIA)

- HIA is **tool for systematically** evaluating, synthesizing, and communicating information about potential health impacts for more **informed decision-making, especially in other sectors.**
- An HIA might ask:
  - What are the health consequences of high rates of students dropping out from high schools?
  - What elements of school site design are most cost-effective in encouraging physical activity?
- Why use an HIA?
  - It influences decision makers using a broad understanding of health and a wide range of evidence – it places public health on the agenda
  - It highlights potentially significant health impacts that are unknown, under-recognized, or unexpected
  - It facilitates inter-sectoral working and public participation in decision making
• Americans eating out more than ever before--in LA County, one in four children 2-17 years of age ate fast food in the past day (2005 LA County Health Survey).
• Supersizing of restaurant food and beverage portions has become widespread.
• Fast food consumption linked with increased caloric intake and excess weight gain.
• Studies have shown that most people (even nutritionists) greatly underestimate the caloric content of restaurant menu items.
• Calorie and other nutritional information not generally available at the point of purchase in restaurants (in contrast to packaged food products which are required by the FDA to include nutrition information).
SB 1420 - Menu Labeling

- Require chain restaurants with > 15 outlets in CA to provide nutritional information at point of purchase
  - **Menu Boards**: calories
  - **Menus**: calories, fat, sat/trans fat, carbohydrate, sodium
- Applies to standard menu items only

Example of Subway menu board in NYC
Which McDonald’s Menu Option Has the Most Calories?

- 2 Big Macs
- 2 Egg McMuffins
- 1 Large shake
- 4 Hamburgers

Field Poll, 523 registered voters, April 2007
### Which McDonald’s’s Menu Option Has the Most Calories?

<table>
<thead>
<tr>
<th>Option</th>
<th>Calories</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Big Macs</td>
<td>1,080 cal</td>
<td>53%</td>
</tr>
<tr>
<td>2 Egg McMuffins</td>
<td>600 cal</td>
<td>8%</td>
</tr>
<tr>
<td>1 Large shake</td>
<td>1,160 cal</td>
<td>11%</td>
</tr>
<tr>
<td>4 Hamburgers</td>
<td>1,000 cal</td>
<td>22%</td>
</tr>
</tbody>
</table>

Survey respondents who guessed the item has the most calories:

Field Poll, 523 registered voters, April 2007
Conducting HIA to Estimate Impact of Menu Labeling Bill

- HIA found that if menu labeling resulted in just 10% of restaurant patrons ordering reduced calorie meals (with an average reduction of 100 calories per meal), a total of 38.9% of the 6.75 million pound average annual weight gain in the county population (5 yrs and older) would be averted.

- Significantly larger impacts could be realized with increased consumer response to the posted calorie information.
Key New Tool - Health Forecasting

• Currently we spend time examining health status, health risks, and health improvement opportunities for today
  – But optimal planning requires us to understand how our current activities will influence future health status
• Health forecasting = a modeling project that helps us to estimate what health status will be in the future
• HF allows us to:
  – Model future health status based on health behavior patterns, population trends, and other variables
  – Compare policy options to determine which are the most cost-effective for improving health
  – Demonstrate the health impact of non-health oriented policies
  – Model effect of multiple interventions
Physical Activity & Obesity Are Not Independent

People with healthy BMI have higher levels of Physical Activity:

People with low levels of Physical Activity (<8 METhrs/wk) are more likely to be overweight:

Source: CA-BRFS 1984-2000
Identifying Strategies to Reduce Disparities

Charts show the forecasted percent change in age-adjusted mortality:

- **+2 METs**
  - Hours per week

- **Up to Best**

<table>
<thead>
<tr>
<th>Year</th>
<th>WHITE</th>
<th>BLACK</th>
<th>LATINO</th>
<th>ASIAN-PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
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<tr>
<td>2020</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

+2 METs Hours per week

- **Up to Best**
Further Increases in BMI = Additional $12 B. in Personal Medical Expenditures in CA Annually by 2025

Total direct personal medical expenditures*, age 18+ (2003 $000,000)
All dollars used below are 2003 actual dollars

Scenario I - Decreasing BMI
Baseline
Scenario II - Increasing BMI (= continuing increase in rate equal to rate increase from 1985 to 2005)
What Health Departments Can Do to Promote Healthy Policies

• Develop appropriate skills
  – Hire people with expertise in policy work
  – Learn new tools (e.g., HIA)

• Work with new partners that have overlapping goals and objectives
  – Look for partners in business, academia, other levels of government

• Educate decision makers and public about the underlying determinants
  – Explain why every policy is a health policy

• Use best evidence in choosing policy interventions to support
Guide to Community Preventive Services

- Excellent source for best evidence on interventions to improve health in populations
- 15 member independent expert panel working with CDC staff and other governmental agencies and interested organizations
- Performs systematic reviews and makes related recommendations based on standardized methods
- www.thecommunityguide.org
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Informational Approaches to Increasing Physical Activity (PA)</strong></td>
<td></td>
</tr>
<tr>
<td>Community-wide campaigns</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>“Point-of-decision” prompts</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Classroom-based health education focused on providing info</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>Mass media campaigns</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td><strong>Behavioral &amp; Social Approaches to Increasing Physical Activity</strong></td>
<td></td>
</tr>
<tr>
<td>School-based physical education</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Social support interventions in community settings</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Individually-adapted health behavior change</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Classroom-based health education focused on reducing TV viewing and video game playing</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>College-based health education and physical education</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>Family-based social support</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td><strong>Environmental &amp; Policy Approaches to Increasing Physical Activity</strong></td>
<td></td>
</tr>
<tr>
<td>Creation of or enhanced access to places for PA combined with informational outreach activities</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>“Point-of-decision” prompts</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Street-scale urban design and land use policies and practices</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Community-scale urban design and land use policies and practices</td>
<td>Recommended (strong evidence)</td>
</tr>
<tr>
<td>Transportation and travel policies and practices</td>
<td>Insufficient evidence</td>
</tr>
</tbody>
</table>
Environmental and Policy Approaches to Increase Physical Activity

• The Task Force recommended: Creating or improving access to places for physical activity

• Background on interventions:
  – Involve worksites, coalitions, agencies, communities to change the local environment
  – Examples of changes: creating walking trails, building exercise facilities, providing access to existing facilities nearby

• Findings:
  – In all 10 studies, improving access to places for physical activity was effective in getting people to exercise more
    • Median estimates = 25% increase in percent of people exercising at least 3 times a week
  – These interventions were effective among both men and women and in various settings, including industrial plants, universities, federal agencies, and low-income communities.
Environmental and Policy Approaches to Increase Physical Activity

- The Task Force recommended: **Community-scale urban design and land use policies and practices to promote physical activity**
- Background on interventions:
  - Defined as urban design and land use policies and practices that support physical activity in geographic areas, generally several square kilometers in area or more.
  - Involve urban planners, architects, engineers, developers, and public health professionals
  - Design elements include the proximity of residential areas to stores, jobs, schools and recreation areas; the continuity and connectivity of sidewalks and streets; and the aesthetic quality and safety aspects of the physical environment
- Findings:
  - Studies generally compared behavior of residents in auto-oriented (suburban) communities with those in urban communities
  - In 12 studies, overall median improvement in some aspect of physical activity (e.g., # of walkers) was 161%
Environmental and Policy Approaches to Increase Physical Activity

• The Task Force recommended: **Street-scale urban design and land use policies and practices to promote physical activity**

• Background on interventions:
  – Defined as street-scale urban design and land use policies that support physical activity in small geographic areas, generally limited to a few blocks
  – Involve urban planners, architects, engineers, developers, and public health professionals
  – Design components include improved street lighting, infrastructure projects to increase safety of street crossing, use of traffic calming approaches, & enhancing the street landscape

• Findings:
  – Studies assessed effectiveness in providing a more inviting and safer outdoor environment for physical activity
  – *In 6 studies, the overall median improvement in some aspect of physical activity (e.g., # of walkers) was 35%*
Setting Priorities Among High Impact, Low Cost Clinical Preventive Services

• Partnership for Prevention, non-profit organization dedicated to improving use of effective prevention, reviewed 25 preventive services recommended by the USPSTF & the Advisory Committee on Immunization Practices.

• Rankings based on clinically preventable burden, which measures (in QALYs):
  – Health impact of the service on the relevant population
  – Cost effectiveness of the service
  – Cost effectiveness = average net cost per QALY gained

• For full report & more about the National Commission on Prevention Priorities, go to www.prevent.org
## Aspirin Use to Prevent Heart Disease

### Health Impact

<table>
<thead>
<tr>
<th>Population</th>
<th>% Currently Reporting Daily Aspirin Use (2005)</th>
<th>Lives Saved Annually if Daily Use of Aspirin Increased to 90%</th>
<th>Lives Saved Annually Per 100,000 if Daily Use of Aspirin Increased to 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men 40+ Women 50+</td>
<td>40%</td>
<td>45,000</td>
<td>23</td>
</tr>
</tbody>
</table>

**Hispanics** are 24% less likely and **Asians** are 40% less likely to use aspirin daily or every other day compared to non-Hispanic whites.

Source: Dr. Eduardo Sanchez, PFP (2007)
## Smoking Cessation Advice and Help to Quit

<table>
<thead>
<tr>
<th>Population</th>
<th>% of Smokers Who Were Offered Help to Quit in Past 12 Months (2005)</th>
<th>Lives Saved Annually if % of Smokers Offered Help to Quit Increased to 90%</th>
<th>Lives Saved Annually Per 100,000 Smokers if % Offered Help to Quit Increased to 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Adult Smokers</td>
<td>28%</td>
<td>42,000</td>
<td>43</td>
</tr>
</tbody>
</table>

**Hispanics** are 55% less likely to have been offered assistance to quit smoking by a health professional compared to non-Hispanic whites.

Source: Dr. Eduardo Sanchez, PFP (2007)
### Chlamydia Screening

<table>
<thead>
<tr>
<th>Population</th>
<th>% Screened in 2005</th>
<th>Cases of PID Prevented Annually If % Screened Increased to 90%</th>
<th>Cases of PID Prevented Annually Per 100,000 If % Screened Increased to 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexually Active Women 16-25</td>
<td>40%</td>
<td>30,000</td>
<td>13</td>
</tr>
</tbody>
</table>

Chlamydia is the most common bacterial sexually transmitted disease in the U.S. Left untreated, Chlamydia causes **pelvic inflammatory disease** and **infertility** in some women.

Source: Dr. Eduardo Sanchez, PFP (2007)
### Influenza Immunization in Adults 50+

<table>
<thead>
<tr>
<th>HEALTH IMPACT</th>
<th>Population</th>
<th>% Vaccinated Against Influenza in Past 12 Months (2005)</th>
<th>Lives Saved Annually If % Vaccinated Increased to 90%</th>
<th>Lives Saved Annually Per 100,000 If % Vaccinated Increased to 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults 50+</td>
<td>37%</td>
<td>12,000</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

*Hispanic* adults are 40% less likely to have had a flu shot in the previous 12 months compared to non-Hispanic whites; *blacks* are 35% less likely, and *Asians* are 21% less likely.

Source: Dr. Eduardo Sanchez, PFP (2007)
## Colorectal Cancer Screening in Adults 50+

<table>
<thead>
<tr>
<th>Population</th>
<th>% Up to Date with Any Recommended Screening Method (2005)</th>
<th>Lives Saved Annually if % Up to Date with Screening Increased to 90%</th>
<th>Lives Saved Annually Per 100,000 If % Up to Date with Screening Increased to 90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White only</td>
<td>51%</td>
<td>11,100</td>
<td>17</td>
</tr>
<tr>
<td>Black only</td>
<td>42%</td>
<td>1,800</td>
<td>26</td>
</tr>
<tr>
<td>Hispanic</td>
<td>31%</td>
<td>700</td>
<td>15</td>
</tr>
<tr>
<td>Asian only</td>
<td>31%</td>
<td>330</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Dr. Eduardo Sanchez, PFP (2007)
LA County Public Health – Healthy People Build Healthy Communities