



## CHAPTER ONE

### LATINO CHILDREN'S HEALTH AND THE ENVIRONMENT

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*... If you grow up in a neighborhood with a good school, where it's safe, where you can walk and play outside, where you have a regular doctor and where you have access to good food, you are more likely to live a long and healthy life. On the other hand, if you grow up in a neighborhood where you're not safe, where your school is failing you and where you do not have a place to go when you are sick or need a basic grocery store, then you are far more likely to live a shorter life, to earn less money, to be party to or victim of violence and to be far less healthy emotionally and physically. If you are . . . Latino, you are likely to face not just one of those challenges, but many or all of them at once.*

(Policy Link, 2010)

### Introduction

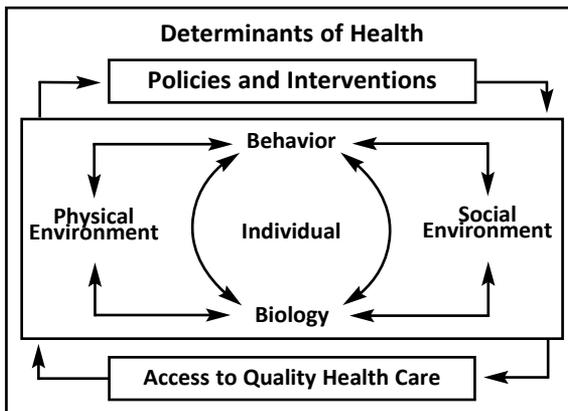
Generally speaking, health and wellness is influenced to a greater degree by environments where children are born, grow, play and go to school than by genetics or the medical care that children receive (McGinnis, Williams-Russo et al., 2002). The social, political, economic and physical conditions in the environment shape children's physical, emotional and social wellbeing through each developmental stage (WHO Commission on Social Determinants of Health, 2008; Braveman & Barclay, 2009). These conditions are commonly referred to as *social and environmental determinants of health* (Marmot, 2000; Subramanian, Belli et al., 2002; WHO Commission on Social Determinants of Health, 2008).

Relative to non-Hispanic whites, Latino children that experience less favorable environments are at risk for poorer health outcomes (Carter-Pokras, Zambrana et al., 2007). In Spanish, the term *bienestar* conveys a sense of health and wellbeing that extends beyond physical wellness and that reflects favorable social and environmental conditions. It stands to reason that efforts to improve the health and wellbeing of Latino children ought to address their environments as well.

This chapter reviews scientific literature to identify environmental conditions commonly experienced by Latino children that have bearing on their health during childhood and throughout life. We provide promising models from Latino communities working toward healthier environments. Finally, we list policy goals for policymakers and the public to improve environments for healthier, safer, more productive Latino children, families and communities.

The determinants of health are illustrated in Figure 1 as a sphere of environments that interact with behavior and biology, and that are shaped by policies and interventions. Scientists examining the factors that lead to health and wellbeing use a broad systems view, based on the understanding that health outcomes are the result of multiple determinants—social, behavioral, environmental and genetic—that work in concert through complex interactions (Hernandez & Blazer, 2006). Environments may have direct (i.e., exposure causes illness) or indirect (i.e., exposure influences behavior to cause illness) impacts on health. Community-level health advocates recognize that many environmental conditions can be shaped through policy change to bring about favorable health outcomes (Center for Health Improvement, 2009). The general understanding is that distinct environments operate in unique ways to influence children’s health and wellness, and that policies largely determine the extent to which environments can optimize health and support healthy behaviors.

Figure 1.

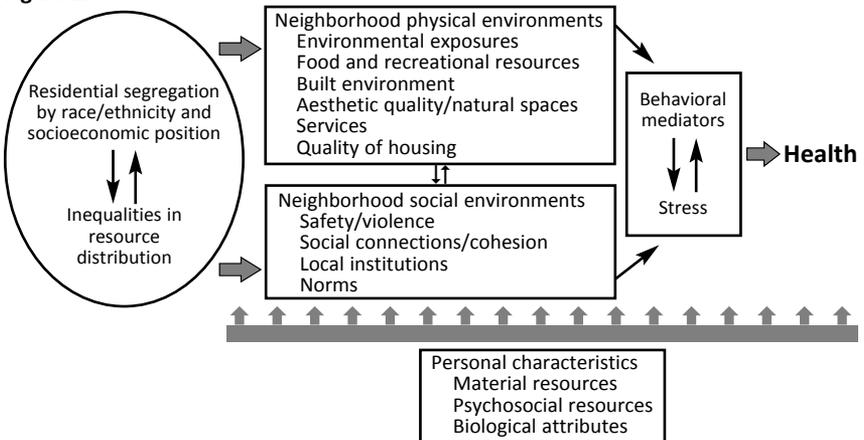


Source: HHS, 2000.

In Figure 2, Diez-Roux and Mair describe processes through which neighborhood environments contribute to health and health inequalities (Diez-Roux and Mair, 2010). For example, characteristics of the physical environment such as lack of safety in public spaces can affect the nature of social interactions within the neighborhood, which in turn has consequences for the ability of neighbors to advocate for improved public safety. Additionally, environments can induce stress. While some environmentally mediated behaviors (e.g., physical activity in school) may buffer the adverse effects of stress, exposure to stress-inducing environments may be a factor in leading children to adopt unhealthy behaviors (e.g., diet, smoking) as mechanisms to cope. Environmental conditions illustrated in Figure 2 are amenable to policy interventions, ranging from policies that minimize resource inequalities to those that target neighborhood-level features such as increasing access to healthy food.

Besides operating across the life course, the impact of environments can be modified by personal characteristics. For example, some children may possess certain characteristics that could increase their vulnerability to adverse neighborhood conditions, while others with similar characteristics may have families with resources to permit overcoming deficiencies or hazards in their neighborhoods (Diez-Roux et al., 2010). Additionally, a single environmental agent may influence multiple personal, social and structural characteristics and health outcomes for many children, and over a lifetime. For example, a policy that improves neighborhood walk-ability can simultaneously benefit children's physical fitness, reduce stress, increase safety, strengthen social connections and improve neighborhood aesthetics. In effect, that single policy may have multi-

**Figure 2.**



ple benefits by preventing obesity, and reducing the risk of diabetes, cancer and heart disease later in life.

Environmental conditions may have profound and long-term effects on health at all stages of life, from pregnancy through childhood and adulthood (Braveman et al., 2009). Sensitive and critical periods of development, such as the prenatal period, early childhood and the school years present windows of opportunity to promote lifelong health and wellbeing through policies that can shape environments. Health care services are important, but alone are insufficient to produce health and wellness for children (Wizemann & Anderson, 2009). The holistic notion of *bienestar* requires health-supportive environments (i.e., in places where children are born, grow, play and go to school) for optimal health and wellbeing throughout the lifespan.

## Environments and Health—The Evidence

To investigate how the physical and social features of environments impact the health and wellbeing of Latino children, we selected from studies identified by key terms in the scientific literature. We also examined selected “best available” unpublished sources of community-based research and program evaluations. We found in the literature that some types of environments overlap with others (e.g., food and physical activity environments in neighborhoods and in schools), just as the actual environments do in our surroundings. Thus, our discussion of food and physical activity environments, for example, is presented in multiple sections of the chapter. Further, many of the references and examples are drawn from work to prevent childhood obesity. Since obesity is a precursor of multiple chronic diseases (Visscher & Seidell, 2001) and is influenced by behavioral factors such as diet (Bray & Popkin, 1998; Peters, 2003) and physical activity (Jimenez-Pavón, Kelly j., 2010), this field offers the most salient and accessible evidence to demonstrate the links between the environment and children’s health.

There is a growing, but still insufficient, evidence base in the published scientific literature specific to Latino children that illuminates the nexus of environments and health. Consequently, to develop this chapter, we also applied our considerable collective practical experience with environments and Latino children’s health.

### HOME AND NEIGHBORHOOD

The home environment is most closely associated with early childhood development and reflects family structure, socioeconomic status, culture and other factors. Many Latino children experience home environments different than non-Hispanic children with regard to Spanish-language use, food avail-

ability and types, male parent involvement in rearing and introduction to reading; but the effect of poverty on how children experience environments is greater than that of ethnicity (Bradley, Corwyn et al., 2001). In many places across the United States, Latinos overall, but particularly recent Latino immigrants (Ramirez & de la Cruz, 2002) are the poorest population group. Latino children living in poor urban neighborhoods may have inadequate housing, experience crowded and unsafe living conditions and be exposed to toxins, traffic and other hazards. Latino children in remote rural areas, especially those supported by seasonal labor at risk of economic and food insecurity and lack of health insurance, may have limited access to transportation and be far from essential services like medical care and healthy food sources.

Neighborhoods play a critical role with regard to health (Kawachi & Berkman, 2003) because residents share common exposure to environmental risks and health-supporting opportunities. Physical and social features of neighborhood environments are linked with a wide range of health outcomes, especially among adults (O'Campo, Xue, Wang et al. 1997; Winkleby & Cubbin 2003; Robert & Reither 2004; Mujahid, Roux, Shen et al. 2008; Diez-Roux & Mair 2010) but also among children (Carter & Dubois, 2010; Singh, Siahpush et al., 2010).

Because Latino children are more likely to live in socioeconomically disadvantaged neighborhoods than even poorer non-Hispanic white children (Acevedo-Garcia, Osypuk et al., 2008) and evidence indicates that these neighborhoods offer fewer health promoting opportunities (Larson, Story & Nelson 2009; Lovasi, Hutson, Guerra et al. 2009; Singh, Siahpush & Kogan 2010), Latino children are especially at risk of multiple health damaging exposures and deprivation.

Neighborhood environments that recent immigrants from Mexico and Central America encounter in the United States may contrast sharply with the environments that they experienced in their home countries. Latino immigrants are primarily concentrated in six states (California, New York, Florida, Texas, New Jersey and Illinois), however over the past 15 years, greater dispersal of Latinos throughout the United States has occurred (Capps, Passel, Perez-Lopez et al., 2003). Neighborhoods more recently settled by Latino immigrants tend to have limited capacity to assist Spanish-speaking, low income and less well-educated populations, whereas neighborhoods populated by Latinos for generations tend to have fewer language barriers and greater Latino political representation. Thus, programs and services developed by and for populations in well-established Latino neighborhoods may not be directly transferable to newer Latino neighborhoods. Still, most low-income Latinos, both immigrants and U.S.-born, live in segregated neighborhoods that offer inexpensive housing, comfortable language, trusted rela-

tionships and familiar goods. These neighborhoods often have fewer structural resources to support healthy behavior such as grocery stores and parks, school yards that are open for recreation after-hours, sidewalks and streets that are safe for walking and biking, clean air and water (Schulz, Williams, Israel et al., 2002).

### FOOD ENVIRONMENTS

The food environment refers to the availability of food retailers, including convenience stores, supermarkets and fast food restaurants (Morland, Wing & Diez Roux 2002; Morland, Wing, Diez Roux et al. 2002; Morland, Diez Roux & Wing 2006) within cities, neighborhoods or near schools.

Several descriptive studies have shown that access to healthy food environments is unequally distributed by race/ethnicity and class, where minority and poor neighborhoods typically have the least access to supermarkets and the highest concentration of convenience stores and fast food restaurants (Papas, Alberg, Ewing et al. 2007; Black & Macinko 2008; Larson, Story & Nelson 2009; Lovasi, Hutson, Guerra et al. 2009).

A limited but growing number of investigations have characterized food environments in Latino neighborhoods. For example, a study in Los Angeles found fewer supermarkets in Latino neighborhoods than non-Hispanic white neighborhoods (Shaffer, 2002). Another recent study that used U.S. Census and commercial food store data reported that neighborhoods in a Texas locality with a high percentage of Hispanic residents had almost four times the number of convenience stores compared to neighborhoods with a low percentage of Hispanic residents (Lisabeth, Sanchez et al., 2010). Although local convenience stores are potential sources of culturally favored fruits and vegetables, research in Latino neighborhoods in Chicago found this not to be the case (Grigsby-Toussaint, Zenk et al., 2010). In addition to convenience store availability, studies have shown that a greater number of fast food outlets are found in minority compared with non-Hispanic white neighborhoods (Larson, Story et al., 2009; Lovasi, Hutson et al., 2009).

A recent review of the food environment-obesity literature reported that access to supermarkets was inversely related to body weight and concluded that this was the strongest and most consistent association across the studies reviewed (Lovasi et al., 2009). Similarly, a study using national data documented that supermarket availability was inversely associated with the adolescent body mass index (BMI) (Powell, Auld et al., 2007). The same study reported a positive association between the number of convenience stores and BMI.

Although availability and density of fast food restaurants in disadvantaged neighborhoods is widely considered a contributor to obesity, the limited evi-

dence of these linkages is equivocal: some studies showed an association while others did not (Lovasi et al., 2009). Despite increasing interest in this area, there is still insufficient research to fully understand the associations between neighborhood supermarkets, fast food and convenience stores, diet and obesity among Latino children (Larson, Story and Nelson 2009; Lovasi, Hutson, Guerra et al. 2009). Nevertheless, previously mentioned studies documenting a preponderance of smaller grocery and convenience stores in Latino neighborhoods may translate into fewer healthy food options for Latino children.

Prices constitute an important component of the food environment. Recent economic studies document the influence of food prices on children's body weight. One study found that higher prices for fruits and vegetables were associated with higher BMI, while higher fast food prices were related to lower BMI (Powell, 2009). Although Latinos represent a small proportion of the population under investigation (Powell & Bao, 2009; Powell, Zhao et al., 2009), findings from these studies may have important implications for Latino children. Despite living under the same roof of those who grow our nation's food, children of agricultural workers may not have ready and affordable access to fresh nutritious food at home or at school (Weigel, Armijos et al., 2007). Further, compared with whites, Latino children are more likely to live in poverty (Suro, Kocchar et al., 2007) and poverty is associated with greater consumption of energy-dense foods and lower quality diets (Drewnowski & Specter, 2004).

Farmers' markets and community gardens are growing in popularity and have been highlighted as a potential tool in addressing poor food environments. Although more research is needed to understand accessibility of farmers' markets and their influence on consumption of fruits and vegetables and obesity, preliminary research of the Supplemental Nutrition Program for Women Infants and Children (WIC) Farmers' Market Nutrition Program suggests that providing coupons for purchase of allowed foods at these markets increases fruit and vegetable consumption (McCormack, Laska et al., 2010). However, farmers' markets and community gardens may not always be accessible for Latino populations; and the quality and prices of produce may differ between farmers' market venues, depending on the neighborhood demographics.

Traditional food outlets sometimes carry a unique connotation in Latino neighborhoods where a variety of ready-to-eat foods are commonly offered by street vendors. Despite their popularity, little research has been conducted to understand the impact of street vendors on Latino children's health. Observational studies have noted a consistent customer base for street vending of ice cream and candy on property adjacent to elementary and middle schools that have implemented policies prohibiting on-campus sales of such products (Healthy Eat-

ing and Active Communities, 2010). While policies to restrict street vending have been implemented (with varying degrees of enforcement) in a number of places, assessment of street vending in Latino communities needs to consider the range of food offerings as well as the impact on jobs and economics, cultural traditions and access to healthy alternatives (Woodward-Lopez & Flores, 2006).

Sugar-sweetened beverages have unique implications for Latino children. In 2009, Mexico and the United States were respectively the first and fourth largest per capita consumers of Coca-Cola products worldwide (Coca-Cola Co, 2010). Recent studies suggest that sugar-sweetened beverages are one of single largest contributors to the obesity epidemic (Vartanian, Shwartz et al., 2007; Brownell & Freiden, 2009). Forty-one percent of children (ages 2-11), 62% of adolescents (ages 12-17) and 24% of adults in California drink at least one soda or other sugar-sweetened beverage every day (Babey, Jones et al., 2009). Rising consumption of sugary drinks is likely due to a variety of factors, including larger portion sizes, pervasive marketing and increasing accessibility of these products. Marketers spend close to \$500 million dollars a year to reach children and adolescents, including targeting Latino youth, with messages about sugar-sweetened drinks, more than they spend on any other category of food or beverage (Berkeley Media Studies Group, 2009).

Compounding the influence of food and beverage marketing on Latino children, prominent Latino civic and health organizations may accept support from and have longstanding loyalties to the food and beverage industries, including major purveyors of beer, soda, snack foods and fast foods (National Council of La Raza, 2009). The food and beverage industry plays a vital role in many Latino neighborhoods, fueling commerce, jobs and donations for programs and celebrations. Consequently, policy measures to improve health that involve regulating the food and beverage industry are not always met with support from prominent organizations that speak for Latino children (Geiger & Hamburger, 2010).

### PHYSICAL ACTIVITY ENVIRONMENTS

There is strong evidence that consistent and vigorous physical activity in combination with healthy nutrition is instrumental to prevent obesity and its complications, such as type 2 diabetes, coronary heart disease, hypertension, sleep apnea and some cancers (U.S. Department of Health and Human Services 2001; U.S. Department of Health and Human Services and U.S. Department of Education 2001; U.S. Department of Health and Human Services 2002; White House Task Force on Childhood Obesity 2010). Neighborhood environments also matter when it comes to physical activity (Sallis & Glanz, 2009). Access to safe recreational facilities, such as parks, playgrounds, open spaces and trails,

has been demonstrated to increase physical activity among youth and adolescents (Babey, Brown et al., 2005). However, compared with white and high socioeconomic status populations, minority and low-income communities have less access to public and private facilities for recreation (Sallis et al., 2009). Lack of access to safe parks in particular is a significant barrier to physical activity for Latino children and youth. In California, more than 29% of Latino adolescents do not have access to a safe park as compared with 22% of non-Hispanic white teens (Babey et al., 2005).

Compared to 8.5% of non-Hispanic white parents, more than 41% of Latino parents reported lack of neighborhood safety as a problem in relation to their children's physical activity (Babey et al., 2005). Furthermore, Latino parents of nine- to thirteen-year-old children report more obstacles to their children's physical activity than non-Hispanic white parents, including a lack of local opportunities, transportation problems, cost of participation in organized sports and safety concerns (Duke, Huhman et al., 2003). As a result, a far lower percentage of Latino youth participate in organized physical activity outside of a school setting than non-Hispanic children (Duke, Huhman et al., 2003). Neighborhood environments that support and promote physical activity among youth are measured not only by access to parks and recreational facilities, but also by safety, walkability and bikeability, access to organized sports and joint-use of school facilities for after-school recreation in the neighborhood as well as school and community design (Sallis et al., 2009).

### TELEVISION AND ADVERTISING

Television viewing and exposure to advertisements is associated with multiple adverse health consequences such as obesity (Saelens, Sallis et al., 2002), alcohol consumption (Smith & Foxcroft, 2009) and smoking (Charlesworth & Glantz, 2005). TV viewing replaces activities like playing with friends, being physically active, playing outside, reading, doing homework and doing chores (Bickham & Rich, 2006).

Children see tens of thousands of TV commercials each year (American Academy of Child and Adolescent Psychiatry, 2001), two-thirds of which are for unhealthy food and drinks (McGinnis, Appleton et al., 2005). During the after-school time period, ads targeting children tend to focus on promotion of fast food and sugary drinks (Jago, Baranowski et al., 2005; Viner & Cole, 2005).

On average, two- to five-year-old children spend 32 hours a week, and their six- to eleven-year-old counterparts spend about 28 hours a week watching television, DVDs, DVR and videos or using a game console (McDonough, 2009). One study found that young children of Hispanic mothers whose dominant lan-

guage was Spanish spent less time in front of the TV than children whose mothers spoke mostly English (Thompson, Sibinga et al., 2010).

Older Hispanic youth average about 1½ times as much of media exposure daily, compared to white youth (Rideout, Foehr et al., 2010). Children's programming on Spanish-language TV is scant, so children in Spanish-speaking households may be more likely than children in English-speaking households to be exposed to adult content and advertising that is predominantly for unhealthy foods like sugary drinks and fast food (Thompson, Flores et al., 2008).

Despite industry self-regulation in response to pressure from the public and from Congress, 73% of the foods advertised on television to children are for products in the poorest nutritional category, and cartoon characters continue to be used to get children to influence parental food purchasing decisions (Kunkel, McKinley et al., 2009).

Advertising also influences and encourages smoking and alcohol consumption. Children see on average, about 2,000 beer and wine ads on TV each year (Strasburger, 2002) and although tobacco ads are banned on TV, young people still see characters smoking in movies and on TV, which has been associated with smoking initiation (Charlesworth et al., 2005). Some television and magazine ads for alcohol, such as "alcopop," which combine the sweet taste of soda pop in a liquor-branded malt beverage, target youth, especially girls and Latinos (Jernigan & Ostorff, 2005).

### **TOBACCO AND OTHER ENVIRONMENTAL TOXINS**

Tobacco use and exposure to second-hand smoke are toxins that can cause health problems for children and later in life. Children and teens are at greater health risk from tobacco use and exposure to second-hand smoke than adults because their respiratory, immune and nervous systems are still developing. Due to lower rates of tobacco use among Latino adults, Latino children may have a lower risk of exposure to second-hand smoke than African-American or non-Hispanic white children (U.S. Department of Health and Human Services, 2007), although a study by Acevedo-Garcia and colleagues found that the tobacco industry aggressively targeted immigrant groups, including Latinos (Acevedo-Garcia, Barbeau et al., 2004).

Tobacco users almost always begin during adolescence while 16.7% of Latino high school students report using tobacco (Center for Disease Control and Prevention, 2008), 6.8% of Latino middle school students report tobacco use (Center for Disease Control and Prevention, 2006). Tobacco use among Latino high school students is slightly below the national average, but Latino

middle school students were more likely than any other subgroup to report tobacco use (Center for Disease Control and Prevention, 2006).

Latino children living in substandard housing or poor neighborhoods have a higher risk of exposure to toxins that may adversely affect their health than children not living in such places (Morello-Frosch & Jesdale, 2006; Carter-Pokras et al., 2007). Latino children may be more vulnerable to the effects of toxic exposures than other children due to co-existing factors such as poor nutrition, stress and lack of access to health care (Carter-Pokras et al., 2007). Exposure to household mold, a common problem in sub-standard housing, is a frequent finding in Latino children with asthma (Natalie, Freeman et al., 2003).

Exposure to toxins such as lead, hazardous air pollutants and pesticides is a relatively common risk for Latino children. Because Latinos account for 90% of the farm worker population in the United States, their children can be chronically exposed to the widespread use of agricultural pesticides. Although children may not work directly in the fields, they are exposed to pesticides through drift from applications to nearby fields and as a result of residues on farm workers' shoes and clothing that are brought into the home. Inadvertently, Latino children living in substandard housing may be exposed to indoor pesticides used to treat infestations as well.

The National Institute of Environmental Health Sciences joined with the Environmental Protection Agency to fund the CHAMACOS (Center for the Health Assessment of Mothers and Children of Salinas) study in 1999 which found that children of Mexican immigrants residing in the agricultural community of Salinas, California, have higher pesticide exposure levels than the general U.S. population and than Mexican-American children in general (Bradman, Whitaker et al., 2007). Exposures were found to be associated with developmental deficits and behavioral problems (Eskenazi, Rosas et al., 2008; Rosas & Eskenazi, 2008).

The presence of lead in the blood of children is abnormal and almost always due to lead exposure in the child's environment. Health effects of lead include damage to the brain and nervous system, behavior and learning problems such as hyperactivity, slowed growth and hearing problems (Agency for Toxic Substances and Disease Registry, 2007). Latino children are more likely than non-Hispanic white children to have high blood lead levels on screening tests (Meyer, Pivetz et al., 2003). Children residing in older dwellings with lead paint, exposed to industrial sources of lead or consuming food contaminated with lead are at risk of lead intoxication (Handley, Hall et al., 2007).

Some Latino children have been found to have high blood lead levels from ingesting *greta*, a traditional laxative made in Mexico, and from Mexican

tamarind and other flavored candies and their wrappers. Latino children have also been exposed to the lead dust-laden clothing of household members that are employed in places where contact with lead commonly occurs (radiator repair, furniture refinishing, etc.) (Flattery, Gambatese, Shlag et al. 1993; Courtney, Kilpatrick, Buchannan et al. 2002).

Latino children have higher levels of exposure to hazardous air pollutants compared to non-Hispanic whites (Morello-Frosch et al., 2006). Hazardous air pollutants have been linked to a range of health conditions including cardiovascular disease (Brook, Rajagopalan et al., 2010), respiratory disease, poorer performance on neurodevelopmental tests and cancer. Air pollutants may exacerbate symptoms in children with asthma (Leikauf, 2002). Latino children living in low-income neighborhoods are more likely than children not similarly located to be exposed to air pollutants from adjacent industry such as metal finishing, manufacturing, farming and train and truck transportation corridors (Carter-Pokras, Zambrana et al., 2007).

### COMMUNITY DESIGN AND TRANSPORTATION

Community design and transportation is increasingly reported to have indirect and direct impacts on children's health. Community design that supports safety, walking and biking promotes healthy behaviors, whereas community design that favors cars and urban sprawl can be detrimental to health. For example, mounting evidence suggests that living near safe walkable green spaces, having access to public transit and the presence of sidewalks and bike lanes increases the likelihood of physical activity, including active transportation (e.g., bicycling, walking) (Frank, Andresen et al., 2004; Galea, Freudenberg et al., 2005; Frank, Saelens et al., 2007). In contrast, community and transportation design that fails to accommodate mixed-use, infill and inter-connectedness has been associated with poor nutrition and decreased physical activity, which may lead to obesity and chronic diseases (Morland, Wing et al., 2002).

Residential segregation and inequity lie at the center of the "place, space and race" basis for unequal geography of opportunity (Acevedo-Garcia et al., 2008). For Latino communities, "smart growth" has largely failed to address issues of social equity and environmental justice. The social and environmental effects of sprawl, the relationship between sprawl and concentrated poverty and community-based regionalism linking cities and suburbs need to be considered in relation to Latino children's health (Pastor, 2007).

Latino children and others living in low-income urban communities are challenged by an over-abundance of unhealthy businesses such as liquor stores and fast food outlets, poor street lighting, vacant buildings and limited access to

adequate and affordable transportation, despite sometimes being saturated with railroads, highways and diesel truck traffic (Acevedo-Garcia et al., 2008). In comparison, residents of rural areas are challenged by insufficiency of community resources, long distances to services and lack of multi-modal transportation options including sidewalks, bike lanes and public transit.

Walking to and from school is a healthy and convenient means for children to gain beneficial minutes of physical activity each day (Safe Routes to School), however walking to school may be unsafe in some Latino communities. Schools with high proportion of students of color are less likely to be served by well-maintained, continuous pedestrian facilities (Ross & Marcus, 2009). In 1999, Latinos made up almost a third of the California's population but accounted for 40% of all pedestrian injuries and 43% of pedestrian deaths (Ohland & Corless, 2000). Latino children are disproportionately at risk for motor vehicle injury due to failed immigration policy that does not allow undocumented immigrants to obtain driver's licenses—if these were allowed, immigrants could obtain training and be able to drive safely (Cooper, Wilder et al., 2005).

Bicycling has been found to be an important mode of transportation for recent Latino immigrants in California (Handy, 2009). While this type of physical activity can enhance health, it can increase risk for injury and death in places lacking bike paths, safe crossings and adequate lighting. Improving walking and biking conditions in low-income communities and communities of color would not only improve safety and lower the risk of injuries and fatalities, but would also generate economic development within those neighborhoods, bringing businesses and essential services within walking distance of residential areas (Handy, 2009).

### SAFETY AND VIOLENCE

Safety is a top environmental priority in Latino communities—that is, preventing both unintentional and intentional injury. Violence exacts a disproportionate burden on young people, families, neighborhoods and cities. Disproportionately high rates of community and street violence, as well as a common perception of higher crime are commonly attributed to low-income communities and communities of color. Whether the fear is perceived or real, concerns about neighborhood safety and violence discourage outdoor physical activity including play, walking, biking, going to the store and social interaction with neighbors, and are linked to the onset of chronic diseases (Cecil-Karb & Grogan-Kaylor, 2009; Duncan, Johnson et al., 2009).

Violence along with food and activity-related chronic diseases are most pervasive in disenfranchised communities, where they occur together and with

severity, making them fundamental equity issues. Violence influences where people live, work and shop, whether parents let children play outside and walk to school, and whether there is a grocery store or places for employment in the community.

Further, violence and the resulting trauma is linked long-term to the onset of chronic diseases, the most costly and quickly rising portion of unsustainable health care costs for individuals, businesses and government. One study found that over 75% of urban elementary school children living in high-violence neighborhoods had been exposed to community violence (Duncan et al., 2009). Among Latinos between the ages of 10 and 24, homicide is the second leading cause of death (Cecil-Karb et al., 2009). Many urban youth experience trauma and may have post traumatic stress disorder from exposure to violence (Prevention Institute, 2010).

### SCHOOL ENVIRONMENTS

Schools offer unique opportunities to teach children critical lifelong habits, including healthy eating and regular vigorous physical activity through didactic as well as normative approaches. Because schools reach most children during critical developmental periods, these settings are increasingly becoming a central focus for policy and environmental strategies to prevent childhood obesity at the population level (Sallis & Glanz, 2009; Story, Nannery et al., 2009). The food environment inside schools is shaped by multiple factors, including federal policies and programs such as the National School Breakfast and Lunch programs, as well as district and individual school nutritional policies and resources.

Although there is growing interest in and research on the multilevel associations between the school food environment, diet and obesity (Kann, Grunbaum et al., 2005; Delva, O'Malley et al., 2007; Story, Kaphingst et al., 2007), relatively little research documents the nature and magnitude of the effect of the school food environment on Latino children's health above and beyond individual and school-level characteristics. A recently published study of Latino children in K-2nd grades in three San Diego school districts did not find significant associations between school and community measures with BMI, although they identified a significant relationship between parental characteristics and child's BMI (Elder, Arredondo et al.). Longitudinal, multilevel research on the influences of the school food environment on diet, physical activity and obesity among Latino children is nearly absent from the published research.

In addition to the food environment in schools, concern is growing over the food environment *outside* schools (Gittelsohn & Kumar, 2007; Simon, Kwan et al., 2008; Zenk & Powell, 2008). Descriptive studies using national data have

shown that fast food restaurant proximity to schools was greater for high schools compared to middle and elementary schools (Simon et al., 2008; Sturm, 2008). Similarly, studies have found that the availability of convenience stores was particularly greater in high schools and schools with higher concentration of Hispanic students (Sturm & Datar, 2005).

A study using a large sample of children 12-17 years old in California found that fast food restaurant proximity to schools was associated with fewer consumption of fruits and vegetables, higher consumption of sodas and greater likelihood of overweight relative to students whose schools were not near a fast food restaurant (Davis & Carpenter, 2008). This study reported that the influence of proximity of fast food venues to schools on obesity was not different for Hispanic children.

At the local level, a study found that of all food outlets within walking distance of a school, 63% were those that offered unhealthy food (Kipke, Iverson et al., 2007) in a predominantly Hispanic California community. Additional research is needed to improve our understanding of how proximity of unhealthy food outlets close to schools with high concentrations of Latinos may impact Latino children's health.

Schools are also an important venue for children to be physically active. For many Latino children, particularly those that lack access to safe parks and other places to play, physical education in school can offer the opportunity to get the recommended daily amount of physical activity. Physical activity during school has been shown to reduce obesity, improve physical health (UCLA Center to Eliminate Health Disparities and Samuels and Associates, 2007) as well as academic performance and to promote youth development (Field, Diego et al., 2001; Coe, Pivarnik et al., 2006).

In California, where more than 49% of all public school students are Latinos, state law requires physical education (Garcia & Fenwick, 2009). Over half the school districts audited from 2004 to 2009 did not enforce physical education laws that require an average of 20 minutes per day of physical education in elementary school and 40 minutes in middle and high school (The City Project, 2010). Failure to enforce physical education requirements disproportionately harms children of color and low-income children including Latinos.

The percentage of Latino fifth-, seventh- and ninth-grade students that passed six of six fitness criteria on the California statewide physical fitness test was the lowest of any race or ethnicity for each grade tested (California Department of Education, 2010). Because Latino children are more likely to live in poor neighborhoods with limited resources for physical activities, schools may be the only public facilities where children can play safely. However, school grounds

are locked after hours in many Latino neighborhoods. As a result, some Latino children experience real barriers to regular physical activity outside of school, which could partly explain why they are less physically fit than their peers.

## **Promising Strategies for Healthier Environments**

Scientific research alone does not yet provide a sufficiently robust base of evidence to drive a policy agenda to improve environments for healthier Latino children. Certainly, more and high quality research is needed that targets Latinos and the places where Latino children live. But, we cannot wait for results from research that targets Latino children to materialize, because the problems owing to adverse environments are too great and the cost of inaction is intolerable.

Community experience and engagement in promising strategies, coupled with the best available evidence, provides the necessary catalyst for policy action to create healthier environments. Across the nation, environmental conditions are being improved in places where Latino children live, play, and go to school through a variety of policy and systems change strategies.

It is crucial to document promising models and lessons to benefit replication and sustainability. Improved nutrition and physical activity environments, tobacco-free communities and the development and implementation of policies ensuring safe, sustainable and equitable environments are measures of progress toward the ultimate goal of improved health outcomes for Latino children.

Aiming at building healthy environments through policy change, community members are developing their skills as advocates, building collaborations, influencing decision-makers and strengthening the fabric of their communities. These actions are leading to health-supportive environments and social norms that will result in healthier Latino children.

In this section, we present a selection of promising, policy-driven, practice-based models that are changing environments in Latino communities to increase opportunities for healthy eating and physical activity, prevent tobacco use and asthma triggers, engage community residents and youth in productive environmental change efforts, and improve safety and crime prevention. The models provide empirical evidence that community-driven efforts to improve environments can succeed in reducing factors associated with unhealthy behaviors and poor health outcomes, and increase factors associated with healthy behaviors and favorable health outcomes. In addition, the models provide valuable lessons that other communities can learn from and adapt to their unique circumstances. Formative and/or summative evaluations of many of these models are helping to build the base of knowledge needed to improve programs and policies aimed at creating healthier environments for Latino children.

## HEALTHY FOOD AND BEVERAGE ACCESS IN COMMUNITIES

Latino communities are using a variety of novel strategies to increase access to healthy foods and beverages in neighborhoods, including working with local restaurants to create healthier options and provide nutrition information, implementing farmers' markets in areas with limited access to fresh produce, and partnering with corner stores to offer fresh fruits and vegetables along with other healthier foods and beverages. Below are some examples of interventions that demonstrate what it takes to transform resource-poor environments into environments that make it easier for families to choose healthy foods and beverages.

### MERCADO LA PALOMA: IMPROVING THE RESTAURANT NUTRITION ENVIRONMENT

Restaurant owners at Mercado La Paloma have come together to improve the nutrition environment in a South Los Angeles neighborhood that is predominantly Latino and has one of the highest rates of obese children (37%) in the state (Madsen, Weedn et al., 2010). *La Salud Tiene Sabor* is a Mercado la Paloma program led by independently owned restaurants, Esperanza Community Housing Corporation and the Los Angeles County Public Health Department, to empower community residents and families to make healthy food choices via access to healthy selections and nutrition information on menus and menu boards. All restaurants have had their recipes professionally analyzed for nutritional content, received input on how to modify menu items that could be prepared in a healthier manner and display calorie information on their menu boards. *Promotoras* have played an important role in the Mercado to promote the needed changes. An evaluation of the *La Salud Tiene Sabor* program is currently underway with support from the Robert Wood Johnson Foundation Salud America! research program to document and disseminate lessons learned at the Mercado.

### HOLYOKE FOOD AND FITNESS INITIATIVE

*Nuestras Raíces*, a grassroots, community-based organization in Holyoke, Massachusetts, addresses environmental, economic development, substance abuse and food security issues in Latino neighborhoods (*Nuestras Raíces*). Established in 1992 by the predominantly Puerto Rican members of La Finquita community garden, *Nuestras Raíces* is currently collaborating with the Holyoke Health Center, community-based agencies, governmental institutions, community residents and youth leaders on the Holyoke Food and Fitness Policy Council (HFFPC) with funding from the W.K. Kellogg Foundation's Food and Fitness Initiative. HFFPC is pursuing a policy-driven systems change agenda to create access to healthy foods and fitness opportunities for families and

children through strategies such as land use, transportation and healthy food retailing while addressing underlying conditions of poverty, blight and social injustice.

#### HEALTHY BODEGAS: HEALTHIER OPTIONS IN NEW YORK CITY CORNER STORES

In New York City, the public health department is working to increase the availability of healthier food choices in small stores/bodegas through the Healthy Bodegas Initiative (New York City Department of Health and Mental Hygiene, 2009). Since 2005, the Healthy Bodegas Initiative has worked with more than 1,000 bodegas in primarily Latino neighborhoods in East and Central Harlem, the South Bronx and Central Brooklyn to increase access to and promote healthy foods, such as fresh fruits and vegetables, whole grain bread, low-fat milk and dairy products and low-salt and no-sugar-added canned goods. The Initiative also aims to reduce advertising of unhealthy foods and beverages.

#### CCROPP FARMERS' MARKETS: MAKING PRODUCE AVAILABLE IN FOOD DESERTS

Many of the predominately Latino and low-income residents of California's Central Valley, one of our nation's richest agricultural regions, lack easy access to the fruits and vegetables grown and harvested in the area (Samuels & Associates, 2010). Even those that work in the agricultural fields may not have markets available in their neighborhoods to access fresh fruits and vegetables nor the economic resources to afford produce of relative high quality. The Central California Regional Obesity Prevention Program (CCROPP) sites, established with the support of The California Endowment, are working to improve the nutrition and physical activity environments in these communities. In seven counties, CCROPP partners have expanded existing farmers' markets to offer more fruits and vegetables, established produce sales at flea markets and produce stands on school campuses, offered electronic benefit transactions (EBT), WIC and/or senior nutrition vouchers for use at markets and stands and engaged community support for markets. Through their work, CCROPP partners have increased local and regional access to healthy foods in the Central Valley, attracted diverse customers, increased collaboration between communities, schools, public health departments, farmers, vendors and food assistance programs, and supported production and consumption of local produce.

#### *BUEN PROVECHO*: PROMOTING PRODUCE IN PUERTO RICAN NEIGHBORHOODS IN CHICAGO

In addition to a farmers' market, a produce mobile and a physical activity program, The Puerto Rican Cultural Center in Humboldt Park, Chicago, is implementing *Buen Provecho* (Consortium to Lower Obesity in Chicago's Children, 2010). The restaurants offer healthier menu item choices that include fresh

produce, smaller portion sizes and/or cooking with healthier oils, an intervention involving promotion of healthier menus and produce-focused items in local restaurants. In return for point of purchase in-store promotion of these healthier items, businesses get a window decal identifying them as a *Buen Provecho* participant and are listed in year-round local newspaper advertisements. This intervention is creating an environment for Latino residents in this area of Chicago that allows healthy foods to be the norm.

### IMPROVING PHYSICAL ACTIVITY ENVIRONMENTS

Improving access to safe places to play and opportunities for physical activity is critical when addressing environmental strategies to improve community health. In Latino communities around the country, work is being done to improve existing parks and recreation spaces or to create new ones, make communities more walkable and bikeable, and to increase physical activity levels during physical education classes in schools. Noteworthy examples include the following:

#### THE ALBUQUERQUE ALLIANCE FOR ACTIVE LIVING

The Alliance advocates changing city and school district planning and development policies to support walking, bicycling and transit use. The focus is on increasing funding for pedestrian improvements at the city and regional level, and raising standards for street design to allow for safe and comfortable pedestrian movement.

Founded in 2001 as an Active Living by Design Program (Philip, Mark et al., 2009), the Alliance works with the predominantly Hispanic Atrisco neighborhood on targeted promotions, programs and physical projects. The *Vecinos* Bike Recycle Program has fixed and given approximately 100 used bicycles to neighborhood children and adults. The city has donated space at a vacant library for the bike repair shop, where used bikes and an office are housed. The Alliance also is helping to create a network of walking paths through the Ditches with Trails program. *Vecinos del Bosque*, a neighborhood within Atrisco is one of two pilot project areas that will improve neglected irrigation ditch right-of-ways to support pedestrian trails. Publicizing access to and improving the trails along the ditches, as well as on the streets, will greatly enhance walking routes to schools.

#### LATINO ADVOCACY FOR PARKS AND RECREATION

The urban park movement in Los Angeles and beyond has drawn on Latino community leadership to create safe places for play and physical activity in park-poor, income-poor communities. The recently established Los Angeles State Historic Park, a park in downtown Los Angeles; the Rio de Los Angeles State Park at Taylor Yard along the Los Angeles River; and the Ascot Hills Park in northeast

Los Angeles, for example, resulted in part from Latino grassroots activists and advocates fighting city hall and wealthy developers in and out of court—and winning. Successful strategies included community empowerment, multidisciplinary research and analysis, new and traditional media campaigns, policy and legal advocacy outside the courts and access to justice through the courts (Garcia & White, 2006; The City Project, 2010).

The struggles to create the Los Angeles State Historic Park and Rio de Los Angeles State Park led to the formation of the Alianza de los Pueblos del Río. The Alianza is working to ensure that the Los Angeles River Revitalization Master Plan promotes democratic participation and equitable results in greening 52 miles along the River with healthy parks, schools and communities. The Alianza formed when its leaders decided that the greening of the River was a symbolic and literal convergence of a myriad of issues confronting the Latino population and other communities of color and low-income communities. The agenda of the Alianza has grown into a comprehensive new platform of urban and Latino environmentalism, or the “browning of the green movement.” Part legal strategy, part organizing principle, this “urban greening *con salsa* movement” has put immigrants and low-income families at the center of an issue that has traditionally focused on flora and fauna (George, 2006; Garcia, Rawson et al., 2009).

#### LOS ANGELES UNIFIED SCHOOL DISTRICT—PHYSICAL EDUCATION AND CIVIL RIGHTS

Los Angeles Unified School District (LAUSD) is the second largest school district in the United States and serves over 600,000 students, 73% of whom are Latino (California Department of Education, 2010). Multiple audits by the California Department of Education found that LAUSD was not enforcing state physical education requirements requiring an average of 20 minutes of physical education in elementary schools every day and 40 minutes in middle and high schools.

In response to a community campaign, LAUSD adopted a plan to enforce physical education requirements (Los Angeles Unified School District, 2009). The school district is enforcing education and civil rights laws to help promote academic performance and youth development and reduce obesity and diabetes. The plan seeks to ensure that schools provide properly credentialed physical education teachers, meet the physical education minute requirements, maintain reasonable class size averages, and provide quality facilities for physical education (Garcia et al., 2009; Los Angeles Unified School District, 2009).

Diverse allies are advocating for the U.S. Department of Education to recognize Los Angeles as a bellwether for action to ensure that public schools across the country provide physical education (California Center for Public Health Advocacy, California LULAC et al., 2010).

#### ACTIVE LIVING LOGAN SQUARE

The primarily Latino population in the Logan Square neighborhood of Chicago is served by a neighborhood association with 48 years of experience in building partnerships (Gomez-Feliciano, McCreary et al., 2009). Their efforts enhance school environments and practices to support physical activity before, during and after the school day; and create safe, inviting places for activity that connect to surrounding communities. The partnership's participatory approach involved a variety of community stakeholders in developing and implementing affordable, accessible, culturally acceptable and sustainable physical activities for children and their families. The partnership successfully piloted Open Streets (temporary street closures) and advocated for development of an elevated rails-to-trails project. The partnership changed the culture at a local elementary school to support healthy behaviors through new policies and programs.

#### PREVENTING TOBACCO USE AND ASTHMA TRIGGERS

Community-driven efforts for healthier social norms about tobacco use provide some of the greatest public health success stories of our times. We are on the cusp of implementing landmark federal and state policies that will improve air quality, reduce environmental degradation, improve asthma management and reduce asthma triggers. In recent years, many community-level efforts have surfaced to reduce tobacco use and to reduce asthma triggers. Two noteworthy efforts are featured here:

#### INDIANA LATINO HEALTH INSTITUTE

The Indiana Latino Institute (ILI) works to address the multitude of health issues caused by the use and promotion of tobacco products among Latinos nationwide (Indiana Latino Institute, 2010). ILI has brought together local businesses and partner organizations to support clean, comprehensive air ordinances as well as establish smoke-free businesses. Their focus has been on Latino-owned businesses and businesses that employ Latinos or that are frequented by Latinos as patrons. As a result of the ILI efforts, over 200 businesses in Indiana have gone "smoke-free."

#### COMMUNITY ACTION TO FIGHT ASTHMA (CAFA): UNITING ADVOCATES

Initially focused on treating and managing the disease, CAFA has taken up policy advocacy and prevention. Affiliates throughout California are working to shape local, regional and state policies to reduce the environmental triggers of asthma for school-aged children. CAFA's statewide network serves many predominantly Latino communities, and in Southern California CAFA is supported by the National Latino Research Center (CAFA, 2009). In the Merced Mariposa Coalition, Spanish-speaking community members are critical in the coalition's strategic planning process and assist in shaping its agenda and future projects.

## COMMUNITY RESIDENT AND YOUTH ENGAGEMENT

Community resident and youth engagement are at the core of Latino communities' advocacy efforts to create healthy environments. Community residents and youth are leading change in their communities in the face of competing priorities. In many cases, they are focused on the survival of their families. Many parents work more than one job to feed and house their children. Language barriers and anti-immigrant sentiment present additional challenges. The following are but a few examples of residents and youth mobilizing to improve environments in Latino communities.

### DENVER URBAN GARDENS

Working with school officials, teachers, parents and supportive community members, The LiveWell Colorado Denver Urban Gardens (DUG) Initiative is working to promote healthy eating and active living (HEAL) in three low-income, mostly Latino neighborhoods in Denver County, CO (Leeman-Castillo, 2010). DUG provides opportunities for participants to supplement their diet with produce grown in nearby public gardens integrated with other environmental approaches to promote changes in their community food systems. For example, the Fairview school garden and youth market is a learning laboratory for students, as well as a place to address neighborhood needs for access to fresh produce, job skills and to connect with neighbors.

More than 50% of community gardeners meet national guidelines for fruit and vegetable intake, compared to 25% of non-gardeners. As well as eating better and being more active, gardeners are more involved in social activities, view their neighborhoods as more beautiful and have stronger ties to their neighborhoods. Ninety-five percent of community gardeners give away some of the produce they grow to friends, family and people in need; 60% specifically donate to food assistance programs (University of Colorado Denver School of Public Health, 2008). Organizations like Denver Urban Gardens, are increasingly needed to inform local government institutions, private developers and policy-makers about the complex web of sustainable practices and policies needed to support urban agriculture ranging from water conservation, land tenure, waste management, recycling and community building—all essential ingredients for a sustainable food production system.

### PIÑEROS Y CAMPESINOS UNIDOS DEL NOROESTE

In the rural town of Woodburn, Oregon, where the population is more than 50% Latino, the farm workers union has a history of organizing and advocacy for labor and housing issues. The 5,700+ members of the union, as well as farm

workers' spouses and children, are now using community engagement to address healthy food access and physical activity right along with voter registration and immigration reform, as shared priorities (Ashley, Aboelata, Sims et al., 2008) through the "capaces" coalition. As a result, children in Woodburn have greater opportunities for healthy nutrition and physical activity.

**GREENFIELD WALKING GROUP: BAKERSFIELD, CALIFORNIA**

A parent-led walking group serves as the local resident task force to the Central California Regional Obesity Prevention Program and is reversing barriers to healthy eating and safe walking in their rural, predominantly Latino neighborhood in Kern County, California (Samuels, Schwarte et al., 2009). Walking group members have increased access to safe physical activity, improved neighborhood safety, cleaned the park of trash and drug paraphernalia, decreased gang activity, gained support from local government leadership, increased social support among Greenfield walking group members and built overall community cohesion. Along the way, their energy, success and fun have attracted many new participants. Now famous, they are also showing communities throughout the region how to mobilize for a healthier, safer environment.

**JUNTAS PODEMOS: POLICY RECOMMENDATIONS FOR LATINO CHILDREN**

*Juntas Podemos* brings together public health researchers, Latino community leaders and families to develop effective policy recommendations for physical activity in a growing settlement of recent immigrants from West Columbia, South Carolina (Torres, 2009). Photovoice is being used to collect data from mothers and community stakeholders, and document and analyze the issues. Based on the findings from the data collection, involved residents are developing recommendations targeting physical activity among Latino children, and are disseminating them to local and state-level policy-makers.

**VIOLENCE PREVENTION AND SAFETY**

Recognizing the link between violence prevention and health-supportive environments, those working to improve health in Latino communities have focused on reducing violence and creating safer places for community residents and families to live, work and play through strategies such as crime prevention through environmental design (CPTED) (see for example, Center for Crime Prevention Through Environmental Design).

The following strategies have not only created access to places to play and learn, but also helped to deter criminal activity and the perception of crime. A unified approach to addressing safety and violence issues that assembles people

from multiple fields (including healthy eating and active living advocates) and combines their strengths can forge a path that simultaneously promotes safety, health and health equity. Such collaboratives have the capacity to solve complex root problems, benefiting society overall and, in particular communities of color and low-income communities (Prevention Institute, 2010).

#### RECLAIMING LAUDERBACH PARK

Friends of Lauderbach Park, in Chula Vista California, is a group of students, *promotoras*, community organizations, city staff and elected officials, that collaborated to revitalize a favorite community park that had deteriorated over the years (Samuels & Associates, 2010). Improvements to Lauderbach Park included reducing the height of bushes and lowering the chain-link fence to make a once-hidden area more visible and thereby less inviting to criminal activity. Other changes included new landscaping and lighting, a children's play area and restrooms, drinking fountain, more picnic tables and trash cans and enhanced pedestrian pathways. As a result of these changes and a stronger partnership with city officials including law enforcement, residents have gained a greater sense of hope and pride which has helped to sustain the health promoting changes at Lauderbach Park.

#### CULTIVATING PEACE IN SALINAS

Libraries are not often considered when thinking about violence prevention. However, a simple, yet innovative, change in practice has resulted in more young people reading, engaging in meaningful opportunities, having a safe place to gather and connecting with their community (Prevention Institute, 2008). A partnership between the library and schools in Salinas, California, was established to provide all students with library cards, free of charge and application-free. The library has seen a significant increase in library usage by young people and their families since this change in city policy. In order to continue to build momentum and draw more young people to its safe and imaginative space, the library has eliminated fines and fees for the first year to enable students to learn about using the library. Through cross-sector collaboration and implementation of one element of a broader plan for violence prevention for the entire city, community residents and local public officials have created safe spaces for youth.

## Conclusions

This chapter presents both scientific evidence and real-life examples of environmental conditions that shape the health and wellness of Latino children. Descriptive and cross-sectional studies provide evidence that Latino children confront multiple inequitable conditions within the social and physical environ-

ments that surround them where they live, go to school and play. Critical examination of the impact that adverse environments can have on health outcomes suggests that the health and wellness of millions of Latino children is being compromised.

It is evident that community-driven measures to create equitable and health-supportive environments in Latino neighborhoods constitute a growing body of promising practices ripe for broad replication. The most successful approaches are those that use community organizing to strengthen the democratic process by creating space for voices that are not in positions of power to push for change. Community and organizational leaders in many places have stepped forward to promote the health of Latino children by championing environmental policy and systems changes that have the potential to benefit many children for generations to come.

In recent years, Latino-elected officials in California and elsewhere have authored some of the nation's most significant legislation for healthy school and community nutrition environments including environmental justice. Appointments of Latino community residents to influential civic decision-making and advisory bodies are striking evidence of achievement and sustainability of the movement for healthy environments. Still, too many Latinos are deterred from civic engagement, and there is a relative dearth of Latinos prominent in the smart growth and regional equity movements (Pastor, 2007).

To drive policy improvements, both rigorously scientific as well as empirical evidence is needed from various disciplines to elucidate how environments influence health outcomes of Latinos along the lifecourse. Carefully constructed longitudinal studies are also needed because it could take many years for the impact of environmental exposures on Latino children's health to manifest. However, even good science sometimes is not sufficient to create the political will for change, especially if there are countervailing forces that stand to benefit from the widespread socioeconomic, racial/ethnic and environmental disparities that mirror health inequalities.

While the initiative of Latino communities and the leadership of key elected officials are laudable, the nation's economic downturn presents a formidable but not impossible challenge to communities needing resources for environmental improvement. There is unprecedented opportunity to advance healthy and equitable environments through well-resourced policy efforts such as the national priorities for childhood obesity prevention, health care reform, environmental protection including green economy and equitable transportation system reform.

Furthermore, given the size, growth and youth of the Latino population, efforts to improve environments in Latino communities must be considered a smart and necessary investment for the health and wellbeing of the nation.

*Bienestar* underlines the need for policy and systems change to create equitable and health-supportive social and physical environments. To generate sustainable improvements in the health and wellness of Latino children, we propose several policy goals as follows:

### **Policy Goals for Latino Children’s Health and the Environment**

Social and physical environmental policies promote health and equity for all Latino children. The public, policy makers and business are aware and support high quality health care and schools, along with efforts to change environments to improve health.

Decision-makers enact federal, state and local policies only after thoroughly considering the impact on health and equity (i.e. “health in all policies”) to ensure a standard of living adequate for the health and wellbeing of all people.

Latino families, community leaders and systems serving Latino communities have the tools and resources to work together to ensure healthy and safe environments for children. Grassroots leaders, *promotoras*, community and health organizations, public agencies, schools and businesses contribute expertise and energy to catalyze and monitor healthy and safe environments where Latino children live, go to school, develop and play.

Latino communities are full partners in the development of a green economy and sustainable environment. Green jobs, smart growth, environmental planning, sustainable agriculture, community development and transportation system reform aim for equitable involvement of and benefit to Latinos as the nation’s largest minority and stewards of the environment for generations to come.

A robust research agenda elucidates the nexus of Latino children’s health and the environment. Government and private foundations support multidisciplinary research from a systems science approach, and culturally competent community-engaged research that involves indigenous investigators to inform policy and environmental improvements and purposeful community engagement.

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