

Henderson, M.A., Sanchez, Z.C., Koegel, K.A., Zawacki, L., Martinez, G., Ingram, M. / *Californian Journal of Health Promotion* 2012, Volume 10, Special Issue: Health Disparities in Latino Communities, 37-51

Community Profiles: An Evaluation and Planning Tool for Neighborhood Systems and Environmental Change Efforts

Melissa A. Henderson, Zoila C. Sanchez, Kevin A. Koegel, Lua Zawacki, Griselda Martinez, and Maia Ingram

University of Arizona

Abstract

Purpose: Latinos in the US experience health disparities in obesity and related disease outcomes. There is national recognition that modifiable risk factors are influenced by the places that people work, live and play. Latinos are more likely to live in areas with limited access to affordable healthy food and recreational facilities. **Design:** This paper describes the development and use of neighborhood profiles as a tool for (1) assessing neighborhood built environments and (2) planning for neighborhood-based efforts focused on systems and environmental change. Our neighborhood profiles united four diverse data sources: secondary data, observational assessments, neighborhood connector interviews and resident surveys. **Subjects:** Twelve mostly urban, largely Latino neighborhoods of high economic disparity in Pima County, Arizona were included. **Analysis:** Secondary data was analyzed to describe sociodemographic characteristics of neighborhoods, while observational assessments were used to quantify and qualify aspects of the built environment. Neighborhood surveys and connector interviews were analyzed using frequency distributions and content analysis. **Results:** Neighborhoods varied in healthy food availability and physical activity infrastructure. Overall, residents indicated that community gardens and healthy food options in local stores are priorities. **Conclusion:** Neighborhood profiles demonstrated potential as an evaluation and community-planning tool to assist communities to create healthy environments.

© 2011 Californian Journal of Health Promotion. All rights reserved.

Keywords: community engagement, community assessment, built environment, food environment, evaluation

Introduction

Obesity has negative implications for the prevention and control of chronic disease, as well as overall quality of life and social wellbeing (Kumanyika, 2008). Latinos in the US experience health disparities in both obesity and related disease outcomes (Perrin, Bloom, & Gortmaker, 2007; Bond Huie, Hummer, & Rogers, 2002). There is national recognition that modifiable risk factors such as obesity, nutrition and physical activity are influenced by the places that people work, live and play. Experts recommend that communities be transformed into places where healthy choices are easy and affordable (NPS 2011, Frieden, Dietz, & Collins, 2010; Wang & Beydoun, 2007). In this paper, we describe a method for developing an assessment and planning tool that focuses on

physical activity and food environments at the neighborhood-level.

Local Environment and Impact on Diet and Physical Activity

Latino communities in the US experience inequities in their immediate food and physical environments (Ver Ploeg et al., 2010; Miller, Pollack, & Williams, 2011). Latinos are more likely to live in food deserts, or areas “that lack access to affordable fruits, vegetables, whole grains, low-fat milk and other foods that make up the full range of a healthy diet” (CDC, 2012). In these communities, fast food sources and convenience stores with limited healthy food options predominate over larger grocery stores or supermarkets that carry greater quantity and variety of nutritious foods (Shaw, 2006). These unsupportive food environments act as a barrier

to a healthful diet (Larson, Story, & Nelson, 2009), which in turn has negative implications regarding health (Michimi & Wimberly, 2010). Latinos also have lower access to neighborhood parks and other recreational facilities. Wolch, Wilson, and Fehrenbach (2002) determined that low income areas and neighborhoods dominated by ethnic minorities had markedly lower levels of access to parks when compared to white-dominated areas of Los Angeles; a finding that has been replicated nationally (Gordon-Larsen, Nelson, Page, & Popkin, 2006; Powell, Slater, Chaloupka, & Harper, 2006). Given that living near parks, playgrounds and recreational areas has been shown to be related to physical activity in both children (Sallis & Glanz, 2009) and adults (Evenson, Sarmiento, Tawney, Macon, & Ammerman, 2005), equitable distribution of healthy food and physical activity opportunities are key components in creating healthy communities.

Community Engagement in Transforming Environments

Public engagement and community participation are an effective means of addressing social conditions impacting health (May, Mendelson, & Ferketich, 1995; Labonte, 1994) and creating healthy community environments (Miller, Pollack, & Williams, 2011). In partnership with public health practitioners, the participation of community members in both the identification of local health problems and the process by which they are improved upon or resolved has shown to effect systemic change at the community level (Wakefield & Poland, 2005). Several studies suggest that neighborhood factors, such as neighborhood reputation, perceptions of local community, and willingness of neighbors to assist one another are associated with health behavior and mental health (Altschuler, Somkin, & Adler, 2004). This approach may be particularly relevant to Latino neighborhoods as a form of collective efficacy, which is a cultural focus on group rather than individual success and the importance of group membership (Trafimow & Finley, 2001). While

not conclusive, this evidence suggests that neighborhood approaches that seek to involve residents in short-term projects that contribute to local environmental transformation, such as safe routes to school and community gardens have the potential to subsequently encourage longer-term efforts. The neighborhood profile was an assessment tool developed through the Pima County Communities Putting Prevention to Work Initiative (CPPW) designed to measure changes in physical activity and nutrition environments in several urban, largely Latino neighborhoods in Tucson, Arizona.

Pima County Communities Putting Prevention to Work

With funding from the American Recovery and Reinvestment Act of 2009, the Communities Putting Prevention to Work Initiative (CPPW) asserted that achieving changes in social and physical environments had the greatest potential for reducing childhood obesity (Frieden, Dietz, & Collins, 2010). In 2010, the Pima County Health Department received a CPPW grant to create policy, systems and environmental changes to increase access to physical activity and improve nutrition in Pima County through a broad spectrum of community agencies representing education, urban planning, agriculture, community development and health and human services. While the broader focus of CPPW funding was to address obesity, the emphasis on systems and environmental changes offered an opportunity to engage neighborhoods in addressing the context of health behaviors rather than the behaviors themselves. This paper describes the efforts of PRO Neighborhoods, a local community capacity-building organization, and the CPPW evaluation team at the University of Arizona Prevention Research Center (AzPRC) to develop neighborhood profiles, which were then used by residents in local planning processes such as 'visioning' meetings to develop neighborhood projects. Neighborhood representatives were invited to participate in the planning, development, and reporting of the neighborhood profiles.

Neighborhood representatives were interested in participating in the process because it provided them with various opportunities to get input from residents about ways to improve their neighborhood.

Methods

Neighborhood Selection

Pima County is diverse demographically, with a large Latino population (33.7%), and geographically, with both rural and urban areas (United States Census Bureau, 2009). In an effort to concentrate resources in areas of greatest need and health disparity, the Pima County CPPW team used Geographical Information System (GIS) software mapping to identify census tracts characterized by relatively low socioeconomic status (per capita income less than \$20,000) and high density of ethnic minority residents (greater than 25%). Areas with both characteristics were then drawn based on neighborhood boundaries, which varied slightly from the census tracts. Additionally, the CPPW team selected areas in both urban and rural areas of Pima County. Of those neighborhoods that fit the criteria, 15 target areas were selected based on existing relationships between CPPW partners in order to increase the potential for CPPW impact over the 2-year grant period. For the purpose of this paper, we highlight 12 areas with a large percentage of Latino residents.

Neighborhood profiles integrated four diverse data sources: (1) secondary data; (2) observational assessments; (3) interviews with neighborhood connectors; and (4) community member surveys. Independently, each method provided useful insights into different aspects of the community environment. Woven together in a unified profile document, they comprised a comprehensive snapshot of the physical activity and nutrition environments of the neighborhood. Table 1 lists the four data collection methods, existing data collection instruments or sources utilized, and the information collected through each method.

Secondary Data

Profiles were structured to describe both the community environment and the people residing

within it. As shown in Table 1, census data was used to describe the geopolitical features, population characteristics, and neighborhood characteristics such as house ownership and vacancy. Stress indicators such as crime and poverty were also included (United States Census Bureau, 2009). Online mapping tools identified community resources. Schools within or just beyond the community boundaries were identified. Maps of recreational facilities and transportation infrastructure were included.

Observational Assessments

The observational assessment provided context for the secondary data. The tool itself was constructed from selected portions of existing environmental assessments (Brownson tool, Physical Activity Resource Assessment (PARA), Community Health Index (CHLI) and the Americans with Disabilities Act (ADA) Bus Stop Accessibility Study) that collectively sought to describe neighborhood conditions, resources, transportation routes, food and recreational facilities, as described in Table 1 (Kim et al., 2010; Brownson, Hoehner, Day, Forsyth, & Sallis, 2009; Mueller, 2009; Lee, Booth, Reese-Smith, Regan, & Howard, 2005; Brownson et al., 2004)

The observational assessment was conducted by driving and walking throughout each neighborhood, stopping to assess each observed recreational facility and food vendor. In order to efficiently collect the data, teams of two carried one main observational assessment form, multiple food vendor and recreational facility assessment forms, and one printed map marking the area's schools and parks. Evaluators first walked or drove the perimeter of the neighborhood boundary, then systematically through each street, working together to capture an inventory of the perimeter's commercial and public destinations. Food vendors, recreational sites and other features that were located across the boundary street, but were within a half-mile were not included in order to maintain a consistent methodology across profiles. Upon completing the perimeter assessment, the evaluators entered observable food establishments and recreational facilities together dividing the tasks of photographing and

completing the food vendor and recreational facility assessment forms. Photographic observations included neighborhood conditions

and attributes, elements that captured cultural characteristics of the neighborhood (religious shrines in front-yards and community artwork),

Table 1

Neighborhood Profile Data Sources

Methodology and Data Collected	Data Collection Tools
1. Secondary data	
a. Geographic boundaries & neighborhood characteristics	a. U.S. Census
b. Population Characteristics	b. U.S. Census
c. Health Indicators	c. U.S. Census
d. Stress indicators (i.e. crime)	d. U.S. Census
e. Community resources (schools, community & faith-based, health & human service providers)	e. Online Mapping Tools (Google Maps, Walk Score, Map quest)
f. Recreation infrastructure	f. Online Resources
g. Food Infrastructure Groceries & farmer's markets)	g. Online Resources
h. Transportation infrastructure (bus, bike routes)	h. Regional Transit Provider, City of Tucson Bicycle Advisory Committee
2. Observational Tool	
a. Commercial public and residential locations	a. Brownson Tool
b. Neighborhood infrastructure & conditions (sidewalks, lighting, graffiti, signage)	b. Brownson Tool; Physical Activity Resource Assessment (PARA)
c. Recreational facilities (parks community centers, places of worship schools)	c. PARA
d. Food vendor (visibility, frequency, variety and quality of fruits and vegetables, low-fat, whole grain and low-sugar products)	d. Community Health Index (CHLI)
e. Active transportation (Bus stops, walking and bike paths, road condition)	e. Brownson tool, Americans with Disability Act Bus Stop Accessibility Study
3. Neighborhood Connector Interview	
a. Neighborhood assets and resources	Interview Guide
b. Neighborhood opportunity for environmental, structural improvements	
c. Challenges to neighborhood development	
4. Neighborhood Survey	
a. Attitudes toward community health issues	Drachman Institute Neighborhood Survey
b. Identification to environmental assets and barriers	
c. Prioritization of neighborhood issues related to physical activity and nutrition	

observable assets (parks and places of worship), opportunities for improvement (vacant lots and

abandoned buildings), and other items related to the condition of the neighborhood (stray dogs

and graffiti). Each evaluator documented notes throughout the assessment, followed by an exchange and comparison of observed characteristics. The duration of each observation

ranged from 6-12 hours depending on the size of the area, the number of overall destinations, and the number of resources. Figure 1 provides an example of the food vendor assessment page.

Figure 1

Food Vendor Assessment Tool

Neighborhood Food Accessibility: Fill out for each food vendor

Neighborhood Name: _____ Neighborhood ID: _____
 Name of Vendor: _____ Accepts: ___ WIC ___ SNAP

Type (check all that apply):
 Deli Dollar Store Local Sit-Down Restaurant
 Coffee Shop Pharmacy Fast Food Restaurant
 Bakery Liquor Store Chain Sit-Down Restaurant
 Juice Bar Bar Taqueria/ Mobile Stand
 Grocery Store/Super Center
 Small Grocery/Market/Convenience Store (w/i Gas Station)
 Small Grocery/Market/Convenience Store (w/o Gas Station)

Accessibility (Circle One):
 Bike Rack Y N Sidewalk Y N
 Bike Route Y N Bus Route Y N
 Adequate Lighting Y N

Legend:

Visibility	Frequency	Variety	Quality
0 - not visible	0 - none	0 - no	0 - poor
1 - visible	1 - infrequent	1 - some	1 - adequate
2 - very visible	2 - frequent	2 - a lot	2 - good

Local Food Vendors have the following:	Visible? (0,1,2)	Frequent? (0,1,2)	Variety? (0,1,2)	Quality? (0,1,2)	Comments/ Examples
1. Fruits & vegetables					
2. Low fat products (dairy, snacks, meat)					
3. Whole grain products					
4. Low sugar products					
5. Price incentives for healthy items					
6. Promotional displays & signage to help people buy healthy food					
7. Healthy food products are located at adult/child eye level			Y	N	
8. Products nearest to checkout ('impulse buys') are healthy			Y	N	

Additional Comments:

Neighborhood Connector Interviews

Pima County CPPW partner PRO Neighborhoods was responsible for identifying and supporting a neighborhood connector in each CPPW target areas. Neighborhood connectors, or community representatives, were tasked with engaging residents in prioritizing and designing projects in their communities, and were contacted by PRO Neighborhoods based on previous relationships (e.g., previous work on a neighborhood project or attendance at a PRO Neighborhoods workshop or training). Approximately half of the connectors were members of their neighborhood association,

while others were recruited through local events and agencies. PRO Neighborhoods provided the connectors with a small stipend, training and staff support, and an allocation of \$6,000 for a neighborhood project.

The evaluation team conducted face to face interviews at a convenient public location in order to accommodate interviewee preference. Connector interviews included questions about local attitudes toward community health issues and identification of environmental assets and barriers to health and wellness, as well as neighborhood resources and support. The

evaluator recorded the 30 to 60 minute interview and took additional notes throughout the session. Evaluators conducted a content analysis of transcribed interviews, and incorporated direct quotes into relevant sections of the neighborhood profile. Quotes highlighted interviewees' perceptions of the neighborhoods' strengths, assets, opportunities and challenges.

Community Surveys

Evaluators partnered with neighborhood connectors to develop and conduct community surveys with the dual purpose of providing collective insight into the neighborhood environment and contributing to the neighborhood visioning process. The survey was based upon a community development tool designed by the University of Arizona Drachman Institute, a Pima County CPPW partner, which was revised to include questions about food accessibility. While most neighborhoods used the same survey, some tailored the survey slightly to reflect identified priorities. As part of the community-driven approach, survey distribution was at the discretion of each neighborhood connector. Some chose to distribute and collect surveys door-to-door while others distributed surveys at neighborhood events such as block parties or neighborhood meetings. The surveys did not attempt to capture a representative sample of their neighborhoods, but rather the opinions of those most likely to be engaged in planning and implementing a project. The number of surveys varied based on the methods used by each connector and the size of the neighborhood being surveyed. The surveys were available in English and Spanish. Evaluators analyzed surveys using simple frequency distributions for closed-ended questions, while open-ended questions were analyzed based on content.

Analytic Plan

Data from each of these four sources was organized into distinct neighborhood profiles. Secondary data was analyzed by combining the

census tracts that existed within the geographic boundary of each participating neighborhood and included area, demographic and health indicators: indicators of community stress, and

community resources (transportation (active and passive), recreational facilities, food resources). Data from the observational survey was tabulated and presented as pie charts, bar charts, frequency tables, and photographs. Content analysis was used to analyze connector interviews based on the themes of neighborhood strengths, challenges and opportunities. For the neighborhood survey, frequencies and percentages were calculated for the following items: what do you like best about your neighborhood; what is the greatest concern to you; what changes would you most like to see; what would help people in your neighborhood to get healthy food; and do you bike/walk in your neighborhood.

Results

The neighborhood profile evolved through the cooperative efforts of PRO Neighborhoods and AzPRC and emerged as a tool for neighborhood residents and stakeholders. The tool provided an analysis of neighborhood challenges, priorities and opportunities associated with healthy eating and an active lifestyle from a range of perspectives, which they then used in local planning efforts.

Table 2 provides a comparative overview of secondary and observational data collected in the neighborhood profile. The neighborhoods varied in size, with the majority being between one to two square miles, and the largest, a rural community, was nine square miles. Six of the target communities were over 50% Latino with a range of 26% to 79%. Neighborhood levels of home ownership and per capita income fell close to or far below respective Pima County averages. Indicators of the physical activity environment included the number of public recreation sites per square mile, which varied between 0.3 and 6, and the presence of bike and bus routes, which were present in most areas. With respect to the nutrition environment, four of the twelve areas had no large grocery store,

Table 2

Indicators of the Physical Activity and Nutrition Environment from Secondary data, Observational Assessment and Resident Interviews

N=12 Neighborhoods Surveyed													
Target area	1	2	3	4	5	6	7	8	9	10	11	12	Pima
Survey N	n=43	n=43	n=93	n=72	n=42	n=134	n=34	n=71	N/A	n=65	n=58	n=253	County
Demographics (Census data)													
Population	3,253	11,678	14,815	5,432	23,991	12,457	7,792	13,954	5,918	8,125	33,084	11,099	990,213
Land area (square mile)	9	1.5	1.63	0.5	6	1	1	3	1.3	1.5	4.3	1	
Hispanic	47.1%	48.6%	46.7%	25.2%	35.0%	26.7%	61.1%	76.3%	71.9%	58.6%	89.4%	83.6%	32.8%
Other than English at home	49.5%	41.8%	44.8%	-	26.4%	30.5%	-	61.5%	61.0%	53.7%	79.2%	74.9%	28.0%
Home ownership	68%	20%	27%	27%	70%	28%	33%	66%	35%	74%	65%	56%	66%
Per capita income	\$19,472	\$13,969	\$12,798	\$14,646	\$17,104	\$17,053	\$12,429	\$11,910	\$7,849	\$7,334	\$11,808	\$12,944	\$24,556
Physical Activity Environment (Observational Assessment; Neighborhood Survey)													
Public rec. sites per sq. mile	0.33	0.67	2.5	6	0.33	1	3	2	3.08	1.3	0.7	3	-
Bus stops	no	26	22	12	N/A	17	12	53	34	0	43	11	-
Most frequent type of business	N/A	Auto shop 18%	Auto shop 24%	Other service* 30%	N/A	Other service* 31%	Restauran t 25%	Abandoned Vacant lot 22%	Auto shop 22%	N/A	Other service* 22%	Other service* 28%	-
Bike route	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	-
Bus routes	no	6	5	4	4	5	4	4	3	no	7	7	-
Walk or bike in neighborhood	84%	77%	60%	74%	74%	80%	33%	13%	N/A	40%	72%	N/A	-
Nutrition Environment (Observational Assessment; Neighborhood Survey)													
Large grocery	0	1	4	0	2	4	2	0	1	0	1	1	-
Convenience mart	5	4	3	2	11	2	3	3	5	2	8	1	-
Farmer's Market	2	0	0	0	1	0	0	0	0	0	1	1	-
Want/able to grow food?	49%	51%	64%	28%	38%	48%	N/A	N/A	N/A	55%	50%	37%	-

*salon/beautician, lawyer, laundry; N/A-Not documented

while all the areas had convenience stores or small markets. Farmer’s markets were present in four areas.

There was a high level of commonality across the neighborhoods in terms of the concerns and priorities presented in Table 3. Ten of the twelve neighborhoods implemented a neighborhood survey and the questions varied slightly by neighborhood based on preference of the connector. Only two connectors chose to include socio-demographic questions. Low levels of noise, friendliness and location were cited as the most valued aspects of neighborhoods. Traffic was the most frequently cited concern regarding the outside environment. Night lighting and walking paths were the most commonly desired

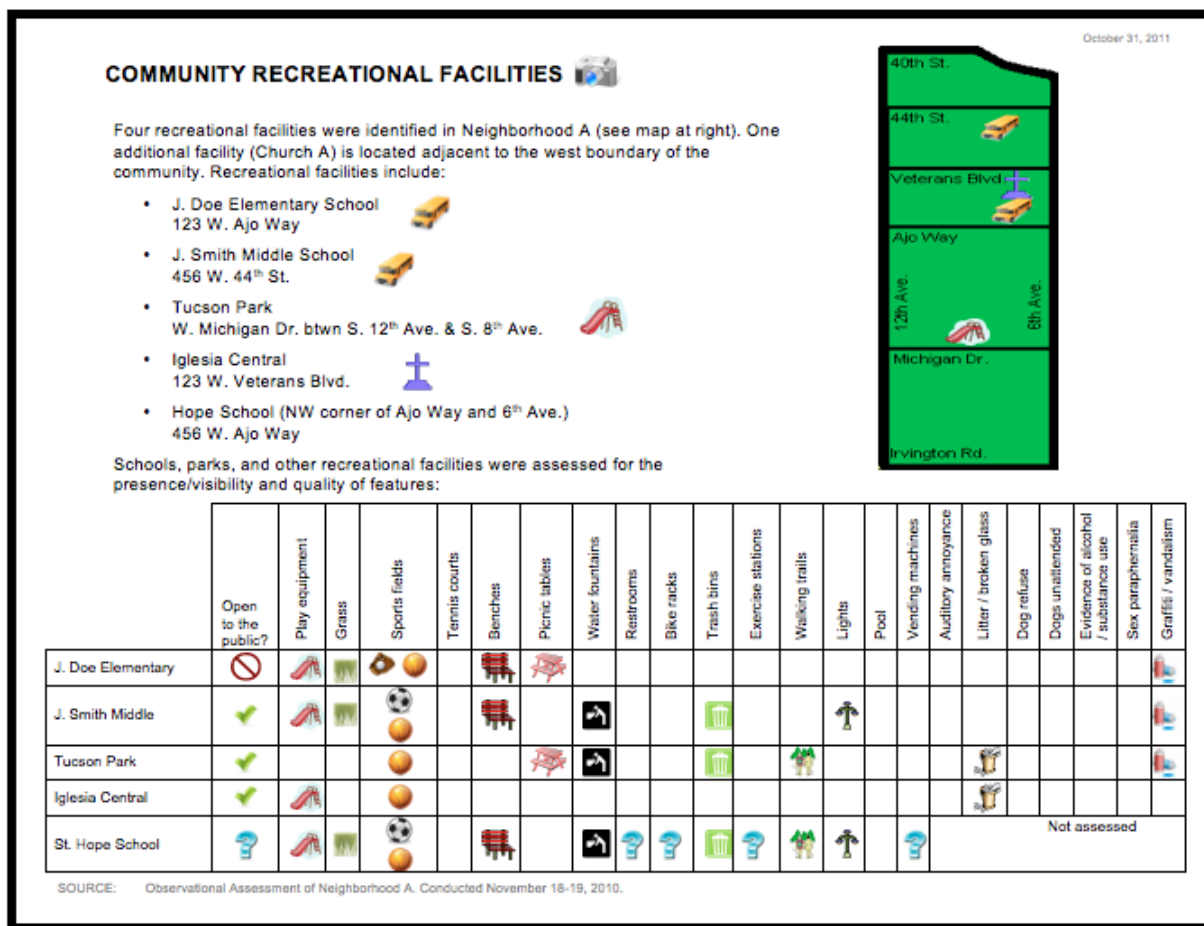
improvements. In response to what would help people eat more healthily, eight of nine neighborhoods surveyed prioritized having healthier foods available in local stores. Community gardens, cooking or gardening classes and affordable food were also frequently mentioned.

Recreational Facilities

Recreational sites were identified online. However, observational data was critical in assessing aspects relevant to utilization, including litter, vandalism, animal refuse, evidence of alcohol/substance use or auditory annoyance. Figure 2 presents the results of the observational assessment of recreational facilities in a specific target area shown in a

Figure 2

Sample Recreational Resources Profile Page



profile page. Most facilities had multiple types of spaces for sports, grassy fields or areas, play equipment, benches and trashcans, but few had publicly accessible restrooms. Overall, fewer than half of observed recreational facilities were open to the general public, and observation provided further clarification of structural deterrents to recreational facility use such as fences, locks and signage. Schools, parks, or churches identified online by evaluators often possessed signs limiting or prohibiting public use of facilities. Few sites had Spanish language signage. The community-wide effects of such obstacles were reflected in the neighborhood connector interviews:

“We have mini parks, but mini – smaller than a classroom - and mini parks have gates and walls around them. When the parks were unveiled, they got heavily vandalized... So the City decided they needed to guard our parks, our property, so they put up walls and gates and locks.”

Survey results denoting community priorities reflected widespread value placed on community recreational facilities and amenities. Playgrounds and parks were among the most frequently prioritized neighborhood improvement options by survey respondents.

Food Environment

Integration of data sources allowed researchers and community members to more clearly perceive local food environments. While secondary and observational data confirmed the existence and quality of food sources, interviews and surveys affirmed whether the food environment was important to key informants and community members. Food availability varied across the target areas. Urban areas were more likely to have food, but lacked abundance and quality. In most areas, the majority of food vendors included fast food chains, taquerías and gas station mini-markets. Other types included small stand-alone markets, chain local restaurants, large groceries and dollar stores. All areas included at least some type of locally owned establishment, presenting greater opportunity for intervention. Photos were an important method of providing visual insight

into food availability and quality. Across the areas, the majority of grocery vendors stocked fruits and vegetables, almost half sold low fat products and whole grains, and a minority offered low sugar products. However, these items were sparse and often lacked variety. In neighborhoods with several locally-owned and operated vendors, such as *carnicerías*, common products included meat, cheese, tortillas and vegetables that might be used in salsas or as garnishes, such as tomatoes, limes and onions. Lemons and limes were often the only fruit available. Key informant interviews and neighborhood surveys indicated that lack of quality food is widespread issue throughout the areas of focus and is viewed as a leading barrier to health. As one connector expressed:

“I just hate the AmPms and the Circle K. They surround our neighborhood, and I think there are maybe five things that are considered food in that store... they had milk and bananas, they were the only things I would even consider eating, and I thought, gosh this store is taking up so much room, so much concrete, yet they have nothing to offer people. Yet they’re busy constantly...”

Advertising for healthy foods was nearly nonexistent, except for a few large-scale local grocers, while signage varied by location. In some instances, a store displayed WIC signage even though qualifying products (e.g., milk and bread) were expired or found amidst junk food or alcohol. Healthy products, if available, were often placed out of eye level view. Few vendors offered discounts on healthy items, and healthy food items were rarely located near checkout. The majority of neighborhood focus areas lacked farmers’ markets or community gardens, though identification of these resources was limited due to the absence of a comprehensive registry.

Transportation

Community transportation infrastructure was divided into public transportation and active transportation (biking and walking) for the purposes of the community profile document. In each case, firsthand observation added a layer of detail unattainable via secondary data research.

Table 3

Neighborhood Priorities (Combined Results of Neighborhood Surveys) N=10 Neighborhoods		
What do you like most about your neighborhood? (Top 3) n=8	Quiet	63%
	Friendly Neighbors	63%
	Location/Close to resources	38%
What is your greatest concern when you are OUTSIDE in your neighborhood? n=9	Traffic	67%
	Garbage/Litter	44%
	No sidewalks	44%
	Stray dogs	44%
What improvements would you like to see in your neighborhood? n=10	Night lighting	90%
	Walking paths	70%
	Park/playground	30%
	More trees	30%
	Neighborhood projects/events	30%
What do you think would help people (to get the food they need) to eat more healthily? n=9	Healthier foods in local store	89%
	Community gardens	78%
	Cooking/gardening classes	44%
	Affordable food	44%

Road quality, for instance, was observed to vary among bike routes. Often, designated bike routes were found to be located on high-traffic motorways. Traffic was a frequently cited concern in the neighborhood surveys. While many bus stops were observed to have shade, a bench and a trashcan, few featured adequate lighting. The observational assessment process also yielded unique fixtures not located on the route map. In one community, a “home-made” bus stop was in better condition and possessed more features than most other bus stops in the neighborhood. Local ownership of this stop was protective of graffiti and vandalism as compared to municipally maintained fixtures. Survey

respondents did not prioritize bus stops and rarely prioritized bicycle-related neighborhood improvements. More frequently, neighborhood residents selected infrastructural changes aimed at improving walk ability. Again, the key informant interviews reinforced the desire for such improvements:

“When they put in the other portions of the lights, we saw more people going for walks, ... in the evening or even early in the morning before daylight. They aren’t afraid to go out when it’s lit up.”

In these cases, the need for sidewalks and better

lighting was often aligned with community-articulated concerns regarding neighborhood crime.

Community Stress

Poverty rates in target areas were substantially greater when compared to Pima County, with a few exceptions. When compared to all of Tucson, a portion of these high-risk areas displayed greater proportions of crime such as robbery, aggravated assault and larceny. Evaluators' observational photographic assessments complemented secondary data and captured physical conditions of neighborhood environments. Photographs included observed incidences of vandalized properties, often tagged with graffiti. In-depth interviews with neighborhood connectors provided a voice for these images. Key informants provided insight into community experiences and concerns contributing to environmental stress, including financial stress, safety, crime and heightened fear due to the political climate. For example, some connectors mentioned the anti-immigrant environment in some areas of Pima County, which potentially serves as a barrier to residents' willingness to access community resources. Neighborhood surveys provided further insight into the findings from the key informant interviews and solicited valuable information regarding community concerns, priorities and desired improvements. Neighborhood surveys also created an opportunity for residents to share concerns about environmental stressors, including lack of lighting, poor safety and infrastructure. The tool helped to identify residents' main priorities, which generally included increased lighting, parks and community cohesion.

Community Resources

Identification of health service providers, faith-based organizations and neighborhood centers highlighted the community resource section of the profile document. Observational assessment photographs captured distinctive cultural assets, which incorporated a sense of neighborhood identity into profiles. In some communities, religious influence was evidenced by religious shrines, tiles and other artwork. In most neighborhoods, vibrant artwork enriched the

appearance of parks, schools, churches and major streets. Neighborhood connectors filled observational gaps with insight into community organizations and facilities that are an integral part of the community but were less apparent to observers as well as community plans and projects in progress or in development. Survey respondents shared what they considered to be community strengths, which commonly included fellow residents, quietness and atmosphere. Surveys revealed residents' perceived access to available neighborhood resources, which illustrated awareness of and perceived barriers to existing resources. Unused vacant spaces, identified via observation, were recommended by connectors and residents as opportunities for community efforts.

Discussion

This paper documents a comprehensive process for evaluating nutrition and physical activity environments at the neighborhood level and describes a process in which the neighborhood profile can be used in community-engaged planning. The compilation of four data sources provided residents with a comprehensive view of their community. Secondary data provided a foundation of demographics, infrastructure, stress indicators, and community resources. Observational assessments, interviews and surveys contributed contextual perspectives to the quantitative data. Concern over crime expressed in the surveys was mirrored in the census data. Neighborhood surveys echoed the lack of food options and need for an infrastructure uncovered by the secondary data—streets, lights, sidewalks and flood control. The importance of multiple data sources was conveyed by the fact that singular sources did not accurately capture community needs. In several neighborhoods, secondary data indicated that recreational sites were available, while the observational assessment revealed that many were closed to the public. Key informants then explained that sites had been open to residents, but were currently closed due to budget cuts or vandalism and gang activity. Neighborhood surveys indicated that residents were often unaware of whether or not facilities were available to the public, and some residents

expressed frustration that while their children spent so much of the day at school, it seemed unfair that grounds were unavailable after class.

Neighborhood connectors used the neighborhood profiles to identify community resources, involve community members in a planning process, and leverage local resources. The connectors were responsible for coordinating a visioning process, which varied in each neighborhood but generally consisted of a series of meetings with neighborhood residents. With CPPW and leveraged funding, the neighborhoods developed proposals for small projects that included developing community gardens, rainwater harvesting for shade trees and pedestrian corridor enhancements. As an example of this process, in one neighborhood survey, residents responded that they were traveling 30 minutes or more to buy food. After results were shared by the connector, residents began talking to the Community Food Bank about starting a mobile farmers' market.

Overall, findings from this study demonstrate that while these urban, largely Latino neighborhoods are challenged by lack of affordable, healthy food vendors and safe, accessible recreational opportunities, they also have numerous community resources and opportunities. The neighborhood surveys revealed common concerns among city residents in prioritizing night lighting, walking paths, community gardens and healthy food vendors as priorities for improvements, which could be addressed at a city level. While not directly responsible for policy change, the profiles contributed to these changes through the identification of small projects funded by CPPW, which in turn impacted the ability of neighborhoods to leverage city funding for infrastructure improvements or to work with local organizations to open their grounds to the public for recreational purposes.

Limitations

Further use of the neighborhood profile will reveal its effectiveness as an evaluation tool for environmental and systems change at a

neighborhood level. Challenges in the development and implementation of the tool included having a diverse neighborhood geography, neighborhood density, street and census boundaries and language. Larger target areas required multiple days of meticulous observational assessment. Evaluators attempted to assess the food availability and quality of every food vendor, which quickly became the most time-consuming effort. Evaluators were challenged with ensuring that key informants could speak on behalf of the entire areas and striving for representative neighborhood survey samples. Resolving geographical boundaries and community resources was also challenging. In order to maintain consistency, resources were not included if they were located across the street from a designated neighborhood boundary. If the profiles were being compiled for a specific neighborhood, this issue could be addressed with community residents. Although the survey data was collected in Spanish and English, the neighborhood profile documents were only made available in English due to grant-related time constraints, which potentially limited usefulness to non-English speakers or foreign-born individuals.

Implications

Neighborhood profiles offered communities a locally generated, comprehensive view of community identity, strengths, weaknesses and opportunities. In Pima County, CPPW provided resources and expertise to neighborhoods to help visualize and obtain these goals as demonstrated by a collaborative visioning process between the neighborhoods and PRO Neighborhoods Connectors. Given the results of this initial experience with largely Latino communities in Southern Arizona, these neighborhood profiles demonstrated potential as both an evaluation and a community planning tool to assist diverse communities to address prioritized issues of health and wellbeing.

Acknowledgements

Funding for this project was made possible in part by FOA CDC-RFA-DP09-912ARRA09 from the Centers for Disease Control and Prevention (CDC). The views expressed in this publication do not necessarily reflect the official

policies of the Department of Health and Human Services; nor does mention of trade names,

commercial practices, or organizations imply endorsement by the US Government.

References

- Altschuler, A., Somkin, C. P., & Adler, N. E. (2004). Local services and amenities, neighborhood social capital and health. *Social Science & Medicine*, 59, 1219-1229.
- Bond Huie, S. A., Hummer R. A., and Rogers R. G. (2002). Individual and contextual risks of death among race and ethnic groups in the United States. *Journal of Health and Social Behavior*, 43, 359-38.
- Brownson, R. C., Hoehner, C. M., Brennan, L. K., Cook, R. A., Elliott, M. B., & McMullen, K.M. (2004). Reliability of two instruments for auditing the environment for physical activity. *Journal of Physical Activity and Health*, 1, 189-207.
- Brownson, R. C., Hoehner, C. M., Day, K., Forsyth, A., & Sallis, J. F. (2009). Measuring the built environment for physical activity: State of the science. *American Journal of Preventive Medicine*, 36(4S), S99-S123.
- Centers for Disease Control and Prevention (CDC). (2010). Food deserts. Retrieved from www.cdc.gov/features/fooddeserts/
- Cutts, B. B., Darby, K. J., Boone, C. G., & Brewis, A. (2009). An integrated analysis of physical and social barriers to walkable streets and park access. *Social Science & Medicine*, 69, 1314-1322.
- Evenson, K. R., Sarmiento, O. L., Tawney, K. W., Macon, M. L., & Ammerman, A. S. (2003). Personal, social, and environmental correlates of physical activity in North Carolina Latina immigrants. *American Journal of Preventive Medicine*, 25(3), 77-85.
- Frieden, T. R., Dietz, W., & Collins, J. (2010). Reducing childhood obesity through policy change: Acting now to prevent obesity. *Journal of Health Affairs*, 29(3), 357-363.
- Gordon-Larsen, P., Nelson, M. C., Page, P., & Popkin, B. M. (2006). Inequality in the built environment unlies key health disparities in physical activity and obesity. *Pediatrics*, 117(2), 417-424.
- Hoffrichter, R. (2003). The politics of health inequities. In R. Hoffrichter (Ed.), *Health and social justice: Politics, ideology and inequity in the distribution of disease* (pp.1-56). San Francisco, CA: John Wiles and Sons
- Kim, S., Adamson, K. C., Balfanz, D. R., Brownson, R. C., Wiecha, J. L., Shepard, D., & Alles, W. F. (2010). Development of the community healthy living index: A tool to foster healthy environments for the prevention of obesity and chronic disease. *American Journal of Preventive Medicine*, 50(1), S80-5.
- Kumanyika, S. K. (2008). Environmental influences on childhood obesity: Ethnic and cultural influences in context. *Physiology & Behavior*, 94, 61-70.
- Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice. *Health Education & Behavior*, 21, 253-268
- Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments: Disparities in access to healthy foods in the U.S. *American Journal of Preventive Medicine*, 36(1), 74-81
- Lee, R. E., Booth, K. M., Reese-Smith, J. Y., Regan, G., & Howard, H. H. (2005). The Physical Activity Resource Assessment (PARA) instrument: Evaluating features, amenities, and

- incivilities of physical activity resources in urban neighborhoods. *International Journal of Behavioral Nutrition and Physical Activity*, 2, 13
- May, K. M., Mendelson, C., & Ferketich, S. (1995). Community empowerment in rural health care. *Public Health Nursing*, 12(1), 25-30
- Michimi, A., & Wimberly, M. C. (2010). Associations of supermarket accessibility with obesity and fruit and vegetable consumption in the conterminous United States. *International Journal of Health Geographics*, 9(1), 49
- Miller, W. D., Pollack, C. E., & Williams, D. R. (2011). Healthy homes and communities: Putting the pieces together. *American Journal of Preventative Medicine*, 40(1), 48-57.
- Mueller, D. (2009). ADA bus stop accessibility study report. Retrieved from <http://www.pagnet.org/documents/committees/TPC/2010/PAGTPC-2010-01-06-ADABusStopReport.pdf>
- Perrin, J. M., Bloom, S. R. & Gortmaker, S. L. (2007). The increase of childhood chronic conditions in the United States. *Journal of the American Medical Association*, 297(24), 2755-2759.
- Powell, L. M., Slater, S., Chaloupka, F. J., & Harper, D. (2006). Availability of physical activity-related facilities and neighborhood demographic and socioeconomic characteristics: A national study. *American Journal of Public Health*, 96, 1676-1680.
- Sallis, J. F., & Glanz, K. (2009). Physical activity and food environments: Solutions to the obesity epidemic. *Milbank Quarterly*, 87(1), 123-154.
- Shaw, H. J. (2006). Food deserts: Towards the development of a classification. *Geografiska Annaler: Series B, Human Geography*, 88(2), 231-247.
- Trafimow, D., & Finley, K. A. (2001). The importance of traits and group memberships. *European Journal of Social Psychology*, 31, 37-43.
- United States Census Bureau. (2009). American Community Survey. Retrieved from <http://www.census.gov/acs/www/>
- United States Census Bureau. (2009). State & County Quick Facts. Retrieved from <http://quickfacts.census.gov/qfd/states/04/04019.html>
- Ver Ploeg, M., Breneman, V, Farrigan, T., Hamrick, K., Hopkins, D., Kaufman, P., . . . Tuckermanty, E. (2009). Access to affordable and nutritious food: Measuring and understanding food deserts and their consequences. Retrieved from <http://www.ers.usda.gov/Publications/AP/AP036/>
- Wakefield, S., & Poland, B. (2005). Family, friend or foe? Critical reflections on the relevance and role of social capital in health promotion and community development. *Social Science & Medicine*, 60, 2819-2832.
- Wang, Y., & Beydoun, M.A. (2007). The obesity epidemic in the United States – gender, age, socioeconomic, racial/ethnic, and geographic characteristics: A systematic review and meta-regression analysis. *Epidemiologic Reviews*, 29(1), 6-28.
- Weiss, C. C., Purciel, M., Bader, M., Quinn, J. W., Lovasi, G., Neckerman, K. M., & Rundle, A. G. (2011). Reconsidering access: Park facilities and neighborhood disamenities in New York City. *Journal of Urban Health*, 88(2), 297-310.
- Wolch, J., Wilson, J. P., & Fehrenbach, J. (2005). Parks and park funding in Los Angeles: An equity mapping analysis. Retrieved from http://college.usc.edu/geography/ESPE/documents/publications_USC_parks.pdf

Author Information

*Melissa A. Henderson, MPH
3112 SW 11th Avenue
Portland, OR 97239
Email: henders2@email.arizona.edu
Telephone: (520) 404-9896

Zoila C. Sanchez, MPH Candidate
Evaluation Team, Communities Putting Prevention to Work,
Mel and Enid Zuckerman College of Public Health,
University of Arizona, Tucson, Arizona

Kevin A. Koegel, MPH
Evaluation Team, Communities Putting Prevention to Work,
Mel and Enid Zuckerman College of Public Health,
University of Arizona, Tucson, Arizona

Lua Zawacki, MPH
Evaluation Team, Communities Putting Prevention to Work,
Mel and Enid Zuckerman College of Public Health,
University of Arizona, Tucson, Arizona

Griselda Martinez
Evaluation Team, Communities Putting Prevention to Work,
Mel and Enid Zuckerman College of Public Health,
University of Arizona, Tucson, Arizona

Maia Ingram, MPH
Deputy Director, Arizona Prevention Research Center
Evaluation Team, Communities Putting Prevention to Work,
Mel and Enid Zuckerman College of Public Health,
University of Arizona, Tucson, Arizona

* corresponding author