Effective Recruitment Strategies for Lead Hazard Control and Healthy Homes Programs

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Abstract **Recruitment of participants into any community-based project can be a significant challenge, particularly for Lead Hazard Control and Healthy Homes grantees funded by the U.S. Department of Housing and Urban Development. One of these grantees, the 2013–2016 Henderson Lead Hazard Control and Healthy Homes Program, implemented six recruitment strategies: 1) person-to-person referrals, 2) direct mail, 3) door-to-door neighborhood canvassing, 4) child-oriented community event outreach, 5) passive program information, and 6) general event outreach. Program staff reached more than 10,000 individuals via these methods, and 136 participants ultimately were enrolled. The success of each method was determined by its percentage yield of enrolled participants. Community event outreach resulted in the greatest number of contacts, while person-to-person referrals and direct mailings yielded the most enrolled participants with minimal staff time required. Landlords were essential to the enrollment of rental units. These results might help provide insight to some of the most effective strategies for recruitment into Lead Hazard Control and Healthy Homes programs.**

Introduction

The success of a community-based research study or program often depends on its ability to engage the community and meet participant enrollment objectives. Recruitment strategies vary depending on the specific population or goals of a project, but similarities have been observed among health-related projects seeking to engage, describe, and/or assist target populations. UyBico and coauthors (2007) conducted a systematic review of 56 studies evaluating recruitment interventions specific to certain populations, such as minority and low socioeconomic status communities. Paskett and coauthors (2008) similarly reviewed recruitment methods utilized by 21 health-focused studies involving minority and underserved populations. Both research teams reported the frequent use of outreach strategies focused on community healthcare providers, organizations, churches, events, referrals, and door-to-door canvassing (Paskett et al., 2008; UyBico, Pavel, & Gross, 2007). Both reviews also included multiple examples of recruitment strategies using mail and the media to distribute program information. Many of these methods can also be utilized in community-based participatory research, which involves community partners in planning every stage of the recruitment process (Horowitz, Brenner, Lachapelle, Amara, & Arniella, 2009).

Background

Understanding successful recruitment strategies is particularly relevant for grant-funded projects with specific participant eligibility requirements, including grants funded by the U.S. Department of Housing and Urban Development (HUD). Since 1999, HUD has funded research and demonstration efforts aimed at addressing lead-based paint, asthma triggers, and other in-home health hazards through its Office of Lead Hazard Control and Healthy Homes (OLHCHH) (Ashley, 2015). Published literature regarding recruitment methods for OLHCHH grantees is limited. Published methodologies of select OLHCHH-funded grants provide brief insights into their approaches to community-based outreach and recruitment; there are multiple common strategies (Table 1). Prominent recruitment strategies include communication with community partners and leaders, outreach at community events and faith-based organizations, clinic or healthcare provider referrals, elevated blood lead level testing referrals, local government office collaboration/referrals, and passive program information dispersal (Brand, Caine, Rhodes, & Ravenscroft, 2016; Dixon et al., 2009; Galke et al., 2005; Polivka, Chaudry, Crawford, Bouton, & Sweet, 2011; Turcotte, Alker, Chaves, Gore, & Woskie, 2014). While these grantees each had different specific objectives and populations, they share the goal

TABLE **1**

Methods of Recruitment and Community Outreach Employed by Published U.S. Department of Housing and Urban Development Office of Lead Hazard Control and Healthy Homes (OLHCHH) Grantees

OLHCHH Grantee	Recruitment Strategies
Marion County Public Health Department, Indianapolis, Indiana • Healthy Homes Demonstration Grant (Brand, Caine, Rhodes, & Ravenscroft, 2016)	• Communication with community partners and leaders • Outreach at community events • Outreach at faith-based organizations • Target populations based on income
City of Phoenix, Arizona • Healthy Homes Demonstration Grant (Dixon et al., 2009)	• Arizona Head Start • Clinic or healthcare provider referrals • Local government office collaboration/referrals • Elevated blood lead level testing referrals
14 state/local agencies throughout the U.S. • Lead Hazard Control Grant (Galke et al., 2005)	• Clinic or healthcare provider referrals • Communication with community partners and leaders • Door-to-door canvassing • Target populations based on income
Columbus Public Health, Columbus, Ohio • Healthy Homes Demonstration Grant (Polivka, Chaudry, Crawford, Bouton, & Sweet, 2011)	• Clinic or healthcare provider referrals • Elevated blood lead level testing referrals • Local government office collaboration/referrals • Passive program information dispersal (e.g., phone number) • Outreach at faith-based organizations • Target populations based on income
Lowell Healthy Homes Program, University of Massachusetts, Lowell, Lowell, Massachusetts • Healthy Homes Demonstration Grant (Turcotte, Alker, Chaves, Gore, & Woskie, 2014)	• Clinic or healthcare provider referrals • Communication with community partners and leaders • Door-to-door canvassing • Media publication(s) • Outreach at community events • Passive program information dispersal (e.g., flyers)

of improving the health of residents in low-income housing.

In 2013, the City of Henderson, Nevada, was awarded a Lead Hazard Control and Healthy Homes grant (NVLHB0558-13) with the University of Nevada, Las Vegas, as a subgrantee. The resulting Henderson Lead Hazard Control and Healthy Homes Program (HLHCHHP) was restricted to participants living within the City of Henderson in housing constructed before 1978, the year the Consumer Product Safety Commission ban on the use of lead-based paint in residential structures took effect (Consumer Product Safety Commission, 1977). Additionally, homes had to include at least one bedroom, be a permanent structure, and be located within Henderson city limits. For owner-occupied properties, the program required either a) the presence of a child who lives in or frequently visits the home or b) the presence of a pregnant woman in the home. Following a November 2014 change in HUD policy for these grants, rental units did not have to meet these requirements regarding children and/or pregnant women (U.S. Department of Housing and Urban Development, 2014). Finally, residents of the home were required to meet HUD income guidelines requiring the total household income (aged 18 or older) to fall below 80% of annual median income for Clark County, adjusted to household size.

In 2010, the City of Henderson had approximately 260,000 residents, 23.1% of which were racial and ethnic minorities, and an annual median income of $63,830 in 2014 U.S. dollars (U.S. Census Bureau, 2014). Target census tracts were selected using the City of Henderson Consolidated Plan (City of Henderson Neighborhood Services, 2010) for their low-income and very low-income residents, as well as their high percentage of older housing stock (Figure 1).

A unique characteristic of southern Nevada is its historically limited blood lead testing (Burns, 2010). To address low blood lead level testing rates in 2006, the Southern Nevada Health District implemented the Southern Nevada Childhood Lead Poisoning Prevention Program with grant funding from the Centers for Disease Control and Prevention (Southern Nevada Health District, 2006). Though blood lead testing rates increased substantially during this program, lead screening remains relatively low in southern Nevada (Breunig & Gerstenberger, 2013). In the absence of referrals to the program from blood lead testing, the HLHCHHP was forced to focus on other recruitment and outreach strategies in Henderson.

Methods

Recruitment Strategies

HLHCHHP recruitment strategies included 1) person-to-person referrals, 2) direct mail, 3) door-to-door neighborhood canvassing, 4) outreach at child-oriented community events, 5) passive program information, and 6) outreach at general events. Each effort is described in detail as follows:

Person-to-person referrals: HLHCHHP staff encouraged all interested and enrolled community members to refer additional individuals to the program. Participants were considered to be recruited via person-to-person referral if they contacted the HLHCHHP after a referral from their landlord, an acquaintance, or a community or social-service partner. HLHCHHP staff members were unable to quantify the total number of estimated community contacts by this method, as some individuals might have been referred to the program, but never contacted the program.

Direct mail: A total of three direct mailing attempts were made during the HLHCHHP. The first mailer was sent to past and current participants, encouraging them to recommend this program to friends, neighbors, and others. This letter also included additional flyers for them to disseminate. The second and third direct mailings targeted landlords who participated in the HLHCHHP and/or owned a property constructed prior to 1978, as identified using publicly available records from the Clark County Assessor's Office. Direct mail sent to landlords included less educational information and focused more

on the long-term benefits of the program for property owners and their tenants.

Door-to-door neighborhood canvassing: Door-to-door outreach was conducted primarily in select census tracts (Figure 1) contained within postal codes 89011 and 89015. At each home, a staff member engaged with the resident if the resident answered the door, or left a flyer attached to the front door knob if the resident did not answer. Properties excluded from this recruitment method were those displaying a "No Soliciting" sign, those fenced with a locked gate, and those fenced with dogs in the front yard.

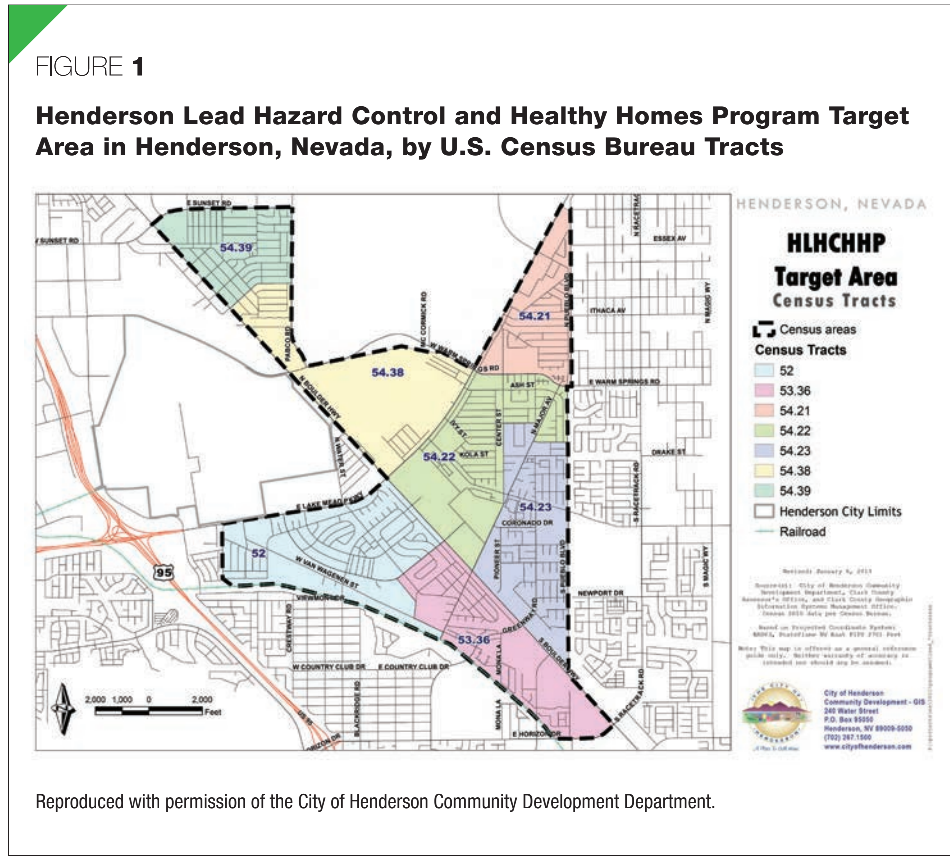
Outreach at child-oriented community events: Child-oriented community events took place in target neighborhoods providing resources or entertainment to children and their families. To spread program information at these locations, HLHCHHP staff provided an information/activity table and gave educational presentations at local schools, child care centers, recreation centers, and public and private social-service centers offering child-focused services.

Passive program information: Passive provision of program information constituted a major outreach strategy for the HLHCHHP. This outreach strategy included program yard signage, contact with local media outlets, and mass dissemination of program flyers, all of which did not involve in-person interaction with staff.

As a condition of the HLHCHHP, contractors performing lead hazard control work on participating homes were required to design and provide a sign for the participating property's front yard to be displayed for 90 days postconstruction. The signs listed a brief description of the program and relevant contact information and were clearly visible from the street. Program participants had the right to decline the placement of the yard sign. Due to the placement of the signs along a variety of participant streets for this extended period of time, there was no reliable way to quantify the total number of people who saw the signs. HLHCHHP program information was also the focus of online and print news articles in 2013 and 2014, and the HLHCHHP was also featured on a television news segment that aired in December 2013. Each of these local media outlets has a substantial potential audience in the Henderson area, but HLHCHHP staff members

FIGURE **1**

Henderson Lead Hazard Control and Healthy Homes Program Target Area in Henderson, Nevada, by U.S. Census Bureau Tracts



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were unable to obtain reliable data regarding total views for each media item. Program flyers were disseminated at community partner locations. Flyers were also placed in a clear box attached to HLHCHHP yard signage. Each flyer included a description of the program, its requirements, and the relevant contact information. HLHCHHP staff maintained records of how many flyers were given to local businesses and community partners.

Outreach at general community events: These events included events of general community interest in the target area. Similar to the child-oriented events, these general events provided staff with an opportunity to engage the community and communicate the benefits of the HLHCHHP.

Prescreening and Enrollment

Once a participant expressed interest in the program and indicated that he or she met eligibility requirements (i.e., property, occupancy, and income requirements), HLHCHHP staff visited the participant's home to complete the application and verify program eligibility by obtaining identification documents and proof of income (i.e., tax returns, pay stubs, documentation of benefits, etc.). Once applications were complete and all required documents were received, the participant was considered enrolled.

Data Collection and Analysis

Data were collected and analyzed with the approval of the University of Nevada, Las Vegas (UNLV) Institutional Review Board (Protocol 710692-4) for biomedical and social-behavioral human subjects research. HLHCHHP staff maintained records of recruitment efforts and asked all prescreened and enrolled applicants how they heard about the program. This analysis evaluated the success of each method based on its percentage of participant enrollment.

Results

Extensive data were collected for each participating property under the terms of the program (Table 2). The majority of enrolled properties were rental units, with nearly 98% of them located in the 89015 ZIP code. Of the 123 occupied, enrolled units, the median annual income was $23,145, and the average household size was four people. Enrolled

TABLE **2**

Demographic Data for Enrolled Henderson Lead Hazard Control and Healthy Homes Properties and Participants

Property Characteristics (*N* = 136)	*n* (%)
Occupant type	
Owner occupied	43 (31.6)
Renter occupied	80 (58.8)
Vacant	13 (9.6)
ZIP code	
89015	133 (97.8)
89011	2 (1.5)
89002	1 (0.7)
Decade of construction	
1940–1949	37 (27.2)
1950–1959	44 (32.3)
1960–1969	36 (26.5)
1970–1977	19 (14.0)
Housing unit type	
Single family	106 (77.9)
Apartment	22 (16.2)
Duplex	6 (4.4)
Manufactured home	2 (1.5)

Participant Characteristics (*N* = 123)*	*n* (%)
Primary participant gender	
Female	65 (52.8)
Male	58 (47.2)
Race	
American Indian/Alaska Native	4 (3.3)
Black	6 (4.9)
Native Hawaiian/Pacific Islander	3 (2.4)
White	99 (80.4)
Black and White	1 (0.8)
Other/multi-race	6 (4.9)
Refused to answer	4 (3.3)
Ethnicity	
Hispanic/Latino	20 (16.3)
Non-Hispanic/Latino	102 (82.9)
Declined to answer	1 (0.8)
U.S. Department of Housing and Urban Development income limits	
≤30% (extremely low)	37 (30.1)
≤50% (very low)	38 (30.9)
≤80% (low)	48 (39.0)
# of children assisted	
≤5 years old	124
6–17 years old	98
Median income	$23,145
# of families assisted	123
Average household size	4 people
Median primary participant age	47 years
# of expectant mothers	10

*Excludes 13 vacant units.

participants were largely representative of the Henderson community, particularly with respect to race and ethnicity.

More than 10,000 individual community contacts in the target area were completed using the six recruitment strategies employed at 32 individual community events and through 52 community partnerships involving community centers, businesses, government offices, schools, child care programs, and healthcare centers. Five local media outlets collaborated to share program information as well. Table 3 details the community contacts, prescreened, and enrolled participants by each method.

Person-to-person referrals accounted for the greatest portion (45.6%) of total enrollment. These referrals typically occurred between landlords, tenants, neighbors, friends, and family members. Direct mailings, which yielded almost 23% of HLH-CHHP enrollment, included one direct mailing attempt to 50 past participants, as well as two direct mailing attempts to 1,120 landlords in the area. Door-to-door canvassing was conducted on 56 streets in the target area and included 1,394 homes, 20 of which were ultimately enrolled. Program staff attended 22 child-oriented community events, including community health fairs, City of Henderson-sponsored seasonal events, a nonprofit organization awareness walk, and a Salvation Army holiday toy drive. On multiple occa-

sions, program staff also visited several elementary schools, after-school learning centers, and child care facilities; 14 participants were recruited by targeting child-oriented events and community partners. Though passive program information potentially reached a large population, it produced only 6% of enrolled program participants. It is important to note that six of the eight individuals in this category indicated that they had seen program yard signs, and the other two individuals had learned of the program through local media outlets. Despite the dissemination of 2,634 flyers, no participants indicated that a program flyer contributed to their enrollment. The 10 general community events attended allowed program staff to contact nearly 1,000 individuals, but this method produced only one enrolled participant. General events included a women's clinic and local neighborhood meetings and forums, as well as additional events hosted by the City of Henderson. Program staff also volunteered numerous times at two local food pantries and volunteered to teach a class on in-home hazards to health at a local recreation center.

TABLE **3**

Percent of Henderson Lead Hazard Control and Healthy Homes Program Participants Enrolled by Outreach Method

Outreach Method	Estimated Community Contacts	Prescreened Individuals[a]	Enrolled Participants[b]	% Enrolled by Outreach Method
Referrals	*	135	62	45.6
Direct mail	1,170	186	31	22.8
Door-to-door	1,394	54	20	14.7
Child-oriented events	3,938	126	14	10.3
Program information	2,634[c]	14	8	5.9
General events	994	3	1	0.7
Total	10,130	521	136	100

*The total number of referrals within the Henderson community could not be estimated reliably.

[a]Prescreened individuals are those who expressed interest in the program and met initial eligibility requirements, but had not yet completed an application or verified their eligibility.

[b]Enrolled participants are those who completed an application and provided documentation verifying their eligibility for the program.

[c]Local businesses and community partners were provided 2,634 flyers. Total community contacts could not be estimated reliably for the yard signs or media coverage.

Discussion

Recruitment and community outreach are important concerns of programs such as HUD-funded Lead Hazard Control and Healthy Homes grants, which have multiple, highly specific participant eligibility requirements. Although all grant objectives were met or exceeded during the HLHCHHP, outreach and recruitment constituted a significant challenge throughout the grant.

Based upon the enrollment data, it is clear that person-to-person referrals yielded the most enrolled participants. These referrals likely were successful because they relied on a trusted community connection with program participants or between landlords and their tenants. Landlords were particularly integral to the referral process, as multiple participating landlords referred several of their properties. Though program staff strongly encouraged participants to refer others, the person-to-person referral method ultimately relied on the past participants and landlords to take the initiative. Program staff time investment for this method, therefore, was minimal, making it highly efficient in terms of staff effort.

The integral role of landlords also contributed to the success of the direct mailing efforts. The program letter mailings simultaneously reinforced the benefits of the program and encouraged the recipients to refer others to the program. This outreach method was also efficient with respect to staff effort, as it did not require travel to the target area or in-person meetings. There are, however, unavoidable limitations associated with mailing efforts, including incorrect addresses and individuals who did not read the letter sent to them.

Although door-to-door neighborhood canvassing allowed for clear documentation of contact with potential participants, it was time-intensive for program staff, and it yielded only 15% of total enrollment. Canvassing 56 streets required significant staff time, including time spent to prepare and travel to the area.

Outreach at both child-oriented and general community events offered a useful opportunity for personal interaction between many potential participants and program staff. Participation in these events also strengthened the relationship between program staff and community partners, which translated into additional support for the program. Outreach at events, however, often required significant staff time for scheduling and preparation, travel, and participation in the events. Finally, many of these events were scheduled during the evening or weekends, further adding to the total amount of staff time required.

Compared with the door-to-door canvassing and event outreach strategies, passive dissemination of program information required little recurring staff effort once the materials were developed. The flyers likely contributed to the community's familiarity with the program, and aided the other outreach strategies. The yard signs themselves were more successful, as they contributed to awareness of the program while also facilitating exchange of program information between neighbors. Though a select few participants declined the sign, the vast majority of participants accepted the sign placement in their yards. Though many of the signs likely reached only grant target neighborhoods, the local media announcements of program information had much greater audiences in the larger metropolitan community. These announcements in the media, however, could have been improved; the television news segment on the HLHCHHP contained an incorrect phone number, for example. Like the other information outreach strategies, the local media out-

lets ultimately helped to increase awareness of the program.

It is important to note that there were several challenges to data collection for this study. The very nature of some of the outreach strategies, such as the referrals and yard signs, made it difficult to quantify the total reach of the method in the community. Additionally, prescreened and enrolled participants self-reported which outreach method ultimately contributed to their enrollment. There also may have been overlap of HLHCHHP outreach methods for certain individuals in the community, as a resident of the grant target area might have encountered program information multiple times through multiple strategies. HLHCHHP staff members assumed that whichever method the participant indicated was the most meaningful or relevant to them.

Conclusion

The recruitment methods detailed in this analysis and their relative successes provide potential models to HUD-funded Lead Hazard Control and Healthy Homes grantees. Encouraging person-to-person referrals and directly mailing landlords proved to be the most effective strategies in terms of eventual enrollment and staff involvement, though the other methods have the potential to increase awareness of the program in the community. The strategies detailed here are particularly relevant for communities such as Henderson, Nevada, where many of the homes were built in the 1940s or later and child blood lead testing is rare.

Outreach required substantial staff time and effort, including one part-time position entirely devoted to tracking outreach attempts, following up with interested individuals, and ensuring all property, occupancy, and income requirements were met as mandated by HUD. Though HUD altered eligibility requirements for rental units throughout the course of the grant, program requirements remained very specific. Only one fifth of prescreened individuals eventually progressed to enrollment; individuals were excluded typically as a result of failure to meet a basic requirement or failure to provide adequate documentation to complete the application process.

Future grantees should consider implementing a community-based participatory research strategy that engages community members at every step in the recruitment and research process, similar to the work of Horowitz and coauthors (2009). The results presented here, however, are specific to the City of Henderson, and all grantees must consider the unique demographics, property characteristics, and needs of their communities in developing recruitment strategies.

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