

# 3

## Program Design

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- Eligibility Requirements

- Recruitment

- Priorities for Assessment and Intervention

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Evaluation and Program Performance Measures





**T**he design of your healthy homes program should reflect priorities identified during the community planning process, which explored community concerns and reviewed health and housing data.

The program plan starts with defining your target population and specifying health and housing outcomes you hope to achieve. Ideally, the design process and program plan development are collaborative activities, involving community partners and stakeholders. Chapter 6 discusses logic models for linking your desired outcomes to activities and resources. These can be useful frameworks in the program planning stage.

Program design calls for decisions on such factors as:

- Goals and objectives
- Target population
- Geographic target area
- Eligibility requirements
- Participant recruitment and retention
- Staffing
- Organizational structure
- Home assessment methods
- Intervention protocols
- Resource availability
- Partner roles and responsibilities

### Key Messages

- Conduct program planning in collaboration with partners, agencies and community stakeholders.
  - Mainstreaming your healthy homes activities and leveraging partnerships can allow healthy homes initiatives to expand and move forward without dedicated funding.
  - Multiple strategies are required to recruit and retain program participants—residents, property owners, and contractors.
  - Staffing and organizational structure of healthy homes programs vary based on individual program goals, resources, and partnerships.
  - Program evaluation must be considered early in the program planning process.
- Leveraged resources (including service systems)
  - Development of service delivery protocols

- Compliance with and utilization of existing laws and regulations
- Data collection
- Evaluation plan

## Program Design Questions

The program design process answers the following questions:

- **Why:** Why is a healthy homes program needed? What priority health and housing problems exist in the community? What does a healthy home mean to the community? What is the vision and mission of the program?
- **Who:** Who is most affected by housing based health hazards? Who is most likely to benefit from healthy housing activities? Who is the target population? Who will refer participants to the program? Who will provide leadership for administering the program? Who is responsible for coordinating the work of program partners and stakeholders? What agencies have resources, service systems or regulations that can be leveraged? Who will provide program services? What staff are needed? Who among elected officials and local decision makers will champion the program?
- **What:** What are the program's goals and objectives? How will the program assess home hazards? What services and interventions are

needed to make a home healthier and safer? What education and support do residents, homeowners and the community need?

- **When:** What is the program timeline for achievement of short-, intermediate- and long-term goals? What is the schedule for target housing and residents from intake to case closure? When will data be available that demonstrate program outcomes?
- **Where:** Where is the high-risk housing located in the community? What is the program's geographic target area? What assets exist in the target area and community at large?
- **How:** What resources and partnerships are needed to implement the program? What level of funding is needed? What sources of funding will be targeted? What infrastructure or service systems can be leveraged? What systems or public policies need to be developed or revised? What immediate actions can be taken to initiate healthy housing activities? If effective, how will the program be sustained?

## Mainstreaming Healthy Homes Activities

As you begin planning your healthy homes program and working with community partners, it can be helpful to brainstorm actions that can be taken immediately to advance the healthy



homes movement in your community. Gather your partners and stakeholders together to explore the question: What can our community do without dedicated healthy homes funding to accelerate healthy homes activities?

Examples of such activities include:

- Recruiting the fire department to assist with fire safety education and provision of smoke alarms and carbon monoxide detectors.
- Partnering with code enforcement agencies to take advantage of existing enforcement systems and resources to make homes healthier and safer.
- Cooperating with local childhood lead poisoning or lead hazard reduction programs to remediate lead-based paint hazards in target properties.
- Working with existing housing rehabilitation programs to prioritize healthy housing assessment and interventions as a part of their funding requirements.
- Advocating for funding “set asides” for healthy homes within CDBG-funded housing rehabilitation programs.
- Working with public housing agencies as they implement building upgrades and address pest management issues.
- Promoting smoke-free multifamily housing to property owners and managers, and residents.
- Cooperating with sustainable and green housing initiatives to prioritize housing rehabilitation treatments or new construction practices that result in health improvements.
- Collaborating with weatherization and energy efficiency programs.
- Contacting local law schools or bar associations to recruit volunteers to work with target populations on legal issues that impact public benefits and/or housing habitability.
- Redirecting existing funding where possible.
- Identifying a researcher or evaluation specialist interested in healthy homes issues.

- Sponsoring an intern to focus on a healthy homes mini-project.
- Exploring health plans and HMO reimbursement options for home visits and environmental services in homes of children with poorly controlled asthma.
- Exploring the donation of cleaning supplies, mattress and pillow covers, and vacuum cleaners.

“Mainstreaming” your healthy homes activities within existing service systems and programs promotes sustainability of these efforts. When partners and stakeholders work strategically to establish a healthy homes program prior to dedicated funding, they are laying the groundwork for securing resources as well as piloting and cost estimating interventions. These activities can be used to leverage funding when applying for healthy homes grants.

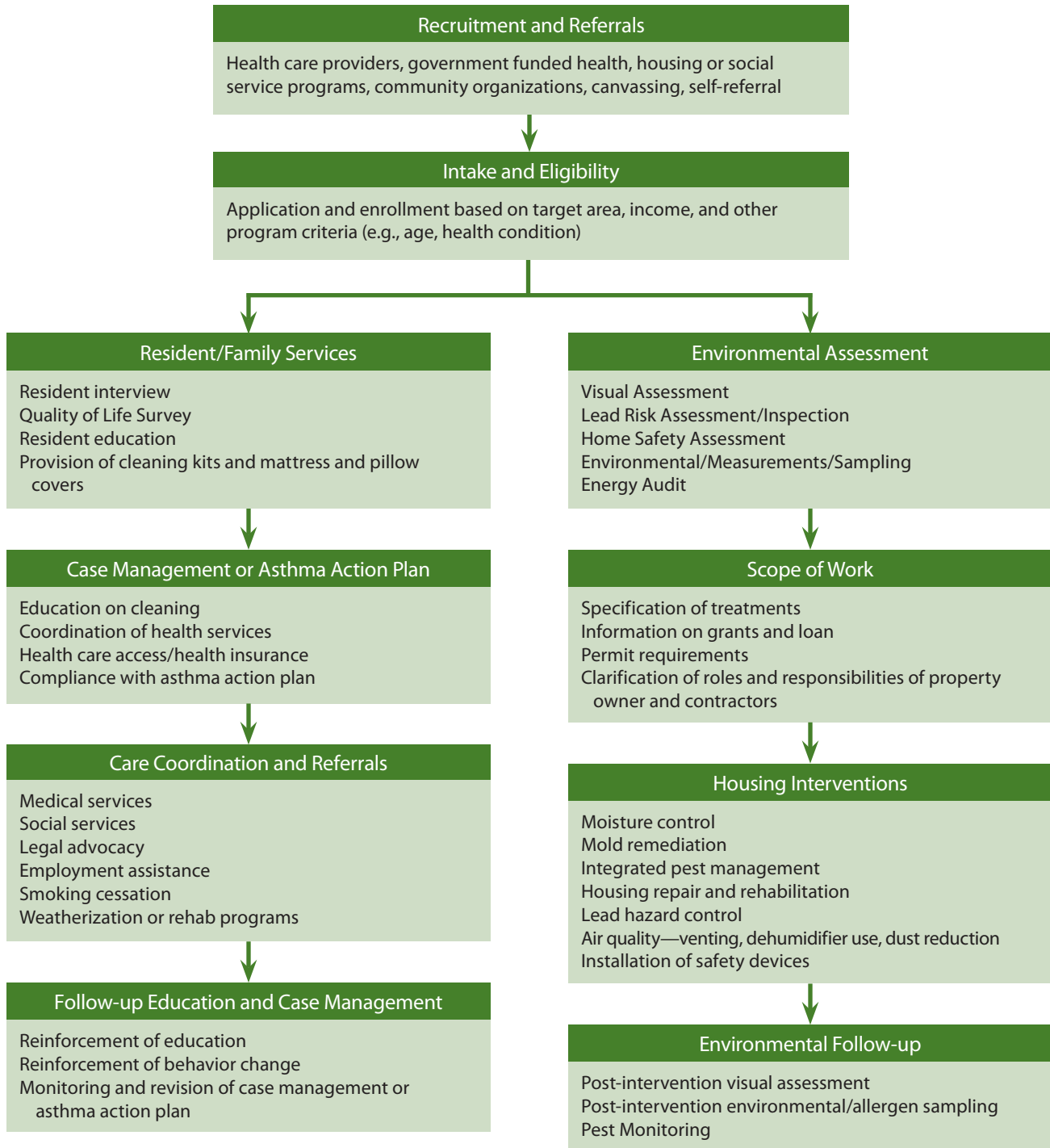
## Healthy Homes Program Components

A healthy homes program includes some or all of the following functions:

- Identification of program participants
- Establishment of referral systems
- Establishment of intake and eligibility criteria
- Resident education, behavior change, and interviewing
- Visual assessments
- Environmental measurement/sampling
- Asthma action or case management plans
- Scope of work development
- Housing interventions
- Community education
- Environmental follow-up

Each healthy homes program will look different depending on your program’s resources, strategies and partners. The flow chart in Figure 3.1 depicts each programmatic stage from referrals and intake through family education and case management and housing intervention.

Figure 3.1 Flow Chart of Program Stages



## Program Parameters

Determining program parameters includes:

- Defining eligibility criteria for program services;
- Identifying recruitment partners, referral systems, and retention strategies; and
- Determining assessment methods and intervention priorities.

While some of this planning activity can occur as part of the process to secure funding, the program “start up” phase requires an additional level of detail to prepare policies, protocols, and program materials. Most programs can expect an additional three to six months to get underway.

## Eligibility Requirements

Eligibility—who is qualified to receive program services—involves determination of the following:

- Geographic location of target housing;
- Target populations for services: children with asthma, older adults, and/or families residing in substandard housing;
- Inclusion/exclusion criteria such as income levels, property tenure (owner-occupied versus rental property), private versus public housing, level of housing deterioration; and
- Availability of documentation needed to demonstrate eligibility.
- Review of applicable requirements related to federal grant funds (i.e., criteria under the HUD Lead Hazard Control Grant Program).

Eligibility decisions involve tradeoffs and include criteria for families, property owners, and properties themselves. A broader definition makes it easier for the program to meet its target numbers for recruitment in a timely manner, but may make it more difficult to demonstrate specific health benefits and target services to those most in need. For example, criterion such as “rental units housing families of children with asthma who agree to remain in their residence for 12 months after renovation,” may be too



Figure 3.2 Most Common Recruitment Challenges Reported by HUD Healthy Homes Grantees

- Difficulty in reaching the target population (related to client transience or fear of authorities)
- Overly strict enrollment criteria
- Over-reliance on partners for referrals and lack of back-up recruitment strategies

Source: HUD, 2007, pp 36–37.

restrictive resulting in the program not reaching its benchmarks for enrollment. On the other hand, eligibility defined as “families living in substandard housing within a specific geographic area” may not yield the health outcomes central to the goal of healthy homes programs.

An Evaluation of HUD’s Healthy Homes Initiative: Current Findings and Outcomes reported that the majority of grantees surveyed defined unit eligibility by using a combination of specific population groups and housing conditions.<sup>1</sup> Many of these programs explicitly required enrolled families to have a child with physician-diagnosed asthma.

Based on these experiences, several eligibility issues deserve special attention:



Table 3.1 Recruitment and Eligibility Strategies Used in Model Programs

Project Name	Recruitment Strategy	Eligibility Criteria				
		Geography	Income	Age	Housing	Illness, Health Condition or Other Criteria
Baltimore City's Transition from Lead to Healthy Housing	Recruited families of EBLL children receiving case management services from the Health Department and women with high-risk pregnancies referred by non-profit programs.	City of Baltimore only	Low-income	Children 0–6 years and pregnant women	Owner-occupied and rental housing units with a focus on rental property	EBLL or pregnancy
Boston Breathe Easy Home Program	Web-based referrals provided by doctors, nurses, BPHC, other health professionals, and asthma home visiting programs.	Boston area neighborhoods with highest rates of asthma and multi-family rental housing	Low-income	Adults and children	Public housing and private rental housing	Have physician-diagnosed asthma.
Case Western Healthy Homes and Babies	Families recruited through Case Western pediatric, family medicine, and geriatric clinics by attending medical residents.	City of Cleveland and first ring suburbs served by Case Western clinic	Low-income	Children, pregnant women, and "frail" seniors	Owner-occupied and rental housing units with a focus on rental property	Diagnosis of asthma for children and seniors at risk for falls
Esperanza Community Housing Corporation, South Central Healthy Homes Demonstration Project	Referral by St. John's Well Child and Family Center and door-to-door recruitment of families in the buildings that housed referred families (some resulting from tenant-organizing activities of Strategic Actions for a Just Economy.)	13 Census tracts in City of Los Angeles	Low income	Families with children under six and at high risk for lead poisoning	Substandard housing	At risk for lead poisoning; diagnosis of asthma



Project Name	Recruitment Strategy	Eligibility Criteria				
		Geography	Income	Age	Housing	Illness, Health Condition or Other Criteria
Philadelphia Healthy Homes for Child Care	Recruited through word of mouth, child care resource, and referral agencies, and advocacy groups that work with children and youths.	19 zip codes in Philadelphia with large numbers of EBLL children, high rates of asthma, and large numbers of home-based child care providers	Child care providers must meet HUD income guidelines for Lead Hazard Control Grants	Licensed child care providers, enrolled in Keystone Stars quality improvement program	Licensed home-based child care providers (primarily owner-occupied)	One or more children in the providers' care had to have an EBLL or diagnosis of asthma
Opportunity Council Weatherization Program	Recruited primarily from client families served by Opportunity Council's weatherization or Head Start programs.	Four-county area in northwest Washington state	125% of federal poverty level	At least one child with clinically diagnosed asthma	Owner-occupied units and family child care homes that served children from these units	Asthma diagnosis  Units with pets or cigarette smokers were excluded

- **Use of community health workers or Promotores de Salud can increase the effectiveness of recruitment and retention.** Because they live in the neighborhood being served, they are familiar with the community and credible to families enrolled in the program. (See Seattle/King County and Esperanza Community Housing Corporation case studies located in Appendix 1.)
- **Strict limits on geographic location can make it harder to recruit, especially if multiple family and health factors are required.** Thirteen (20 percent) of the grantees surveyed in HUD's evaluation had to broaden their geographic target areas over time.<sup>2</sup> The use of multiple eligibility criteria related to health and family factors may require a broader geographic target area to assure recruitment success.
- **Rental units can be challenging to serve, especially if major structural interventions are needed.**
  - ▶ Most healthy homes programs include rental properties because the high-risk geographic locations targeted usually have a high percentage of rental units with maintenance

**Figure 3.3 Criteria for Targeting Most Likely to be Used by HUD Healthy Homes Demonstration Grantees**

- Families with children in a specific age range
- Families with children with medically-diagnosed asthma or at risk for respiratory illness
- Housing units located in specific geographic and census tracks

Source: HUD, 2007 p.15

issues that result in health and safety hazards. The degree of cooperation between the owner and the owner's relationship with the tenant may impact the time to recruit, obtain documentation to verify eligibility, assess conditions, and complete and finance structural interventions.

- ▶ Scheduling low-level interventions (e.g., cleaning, education, provision of safety and cleaning supplies, small-scale repairs)



can incentivize the property owner's involvement to more intensive housing interventions. Both the Case Western Reserve Healthy Homes and Babies and the Children's Mercy Hospital Environmental Health Program (CMH-EHP) staged lower level education and environmental interventions before more intensive structural interventions (Appendices 1.5 and 1.9). Many healthy homes programs combine their funding with lead hazard control grants and/or loans as both an incentive and means to conduct comprehensive housing interventions.

- ▶ Any recruitment strategy that targets families from rental units must account for resident mobility and more frequent unit turnover. This may result in more units and/or families lost to long-term follow-up.
- ▶ Some healthy homes programs require rental property owners to share the cost of structural remediation. Strategically, this makes sense if the program is helping the property owner comply with lead hazard control or building code requirements. In these cases, the benefits of the program and the amount of funding to be leveraged from the owner needs to be communicated clearly at the point of recruitment.
- Multiple sources of funding pose a challenge based on disparate eligibility requirements. A program that seeks to use both Department of Energy (DOE) weatherization program and HUD funding must recognize that DOE typically uses household income of 125 percent of the area poverty level as a cutoff, whereas HUD Healthy Homes Grants use the

designation of low income, and HUD Lead Hazard Control Grants use a household's percentage of the Area Median Income (AMI).<sup>3</sup>

- ▶ Use an application process that collects and evaluates all relevant income data at one time. This may include verification of the occupants' age and the income of all adults living in the housing unit.
- ▶ Establish Memoranda of Understanding (MOUs) with partnering programs to ensure your income verification process meets all requirements and to clarify roles and responsibilities.
- Exclusion criteria need to be specific.
  - ▶ Identify the minimum conditions for units enrolled in the program. For example, the housing unit is structurally sound; there are no outstanding building code violation orders; property owners have the required insurance and are current on their property taxes; and the loan-to-value ratio is acceptable if owners are asked to agree to forgivable loans.
  - ▶ Provide a list of resources of other housing programs and services for applicants deemed ineligible for your healthy homes program.
- Give owners and tenants a fixed period for completing all program phases. If the program establishes a "first come, first served" approach, be clear about how long an application will remain on the waitlist, and what will be needed to reactivate the application. Once program interventions are initiated, tenants and owners need to be compliant with project timeframes to continue to receive services. This will serve as extra incentive for sustained behavior change, property owner contributions, and ultimately assure program cooperation.
- Provide application support to tenants and property owners to streamline the application process.
  - ▶ If needed, identify a staff person who can assist with the application process and serve as a contact for follow-up. This individual must possess good problem-solving skills, be diligent in providing follow-

up, and have the ability to work with all parties to facilitate enrollment.

- ▶ Develop mechanisms to reduce the time needed to verify income. This can include training outreach workers or program staff to function as notary publics and developing affidavits of income sources for tenants.
- ▶ Prepare all applications and supporting materials to serve low-literacy populations.
- ▶ Ensure that a bilingual staff person or translator accompanies program staff on home visits to families who do not speak English, and all written materials are translated into the predominant languages of populations in healthy home program target areas.

## Recruitment

### 1. Setting Benchmarks

Program benchmarks, resources, and evaluation strategies all affect recruitment methods:

- **Expect attrition when setting benchmarks for recruitment.** The longer the time between recruitment, service provision, completion of interventions, and post-intervention follow-up/evaluation, the more likely applicants will drop out. To compensate, programs should use a common practice in survey research—recruit at least 30 percent more units or families than they ultimately expect to serve. Regularly monitor progress to determine if program changes are needed.
- **Understand how available resources limit enrollment.** The more costly the set of interventions planned, the fewer the number of housing units and families that can be served.
- **Determine what factors the program will evaluate, and if conducting research, what statistical power and precision are needed to assess outcomes.** Higher-level statistical analyses and the number of comparisons planned across groups will require more participants or units to be enrolled. If a program wants to draw confident conclusions, there must be a large enough sample size of participants for the statistical significance needed to determine whether outcomes are due to chance or the program.

- **Understand the role and self-interest of rental property owners.** If structural remediation will be taking place, the property owner's permission and involvement is required even if resident families (tenants) have already agreed to participate. If the owner is unable or unwilling to participate, education, case management, installation of safety items, and supplies can still be offered to families in need. Some programs provide relocation assistance to assure a healthier living environment for the family.

Lessons learned from healthy homes programs are highlighted in Figure 3.4

### 2. Strategies

There is no single “right way” to recruit. Almost half the grantees surveyed for HUD's Evaluation reported delays in meeting program benchmarks related to recruitment. Three-quarters of the grantees used one-to-three

#### Figure 3.4 Recruitment—Lessons Learned

- Find the right organizations, especially community health workers (e.g., Promotores de Salud), who live in the target neighborhood to conduct recruitment.
  - ▶ Identify a trusted individual within the target community to assist with recruitment.
  - ▶ Ensure that all partners understand and value the priorities of the project.
- Be realistic in expectations, especially about the time needed to recruit.
- Be prepared to re-evaluate and change recruitment strategies.
- Time distribution of incentives to retain participants (e.g., offer “big ticket” items such as vacuums later in the project cycle).
- Piggyback onto recruitment activities of existing programs.
- Demonstrate how this program addresses needs of potential clientele by reducing home-based health hazards threatening the health of family members.

methods of recruitment (see Figure 3.5). The evaluation also highlighted successful recruitment methods and factors influencing achievement of outcomes:

- A majority, 58 percent, reported referrals from health care providers and other agencies as a successful or very successful recruitment method.
- Almost half, 48 percent, reported distribution of informational materials to schools, community organizations, and health care providers as successful or very successful.
- A total of 29 percent reported recruitment through public meetings or other public events as successful or very successful.
- Door-to-door recruitment was used much less frequently, but the majority of those who used it found it successful.<sup>4</sup>

Over 80 percent of the Evaluation grantees offered incentives for property owner and tenant recruitment and retention; 88 percent reported the use of incentives as effective. Grantees differed in what they considered incentives, with some identifying the grant funding or other financial assistance for the costs of the intervention. Costs of incentives ranged from five dollar gift certificates to up to \$8,000 in grant funding to property owners for structural interventions.

### 3. Key Partners

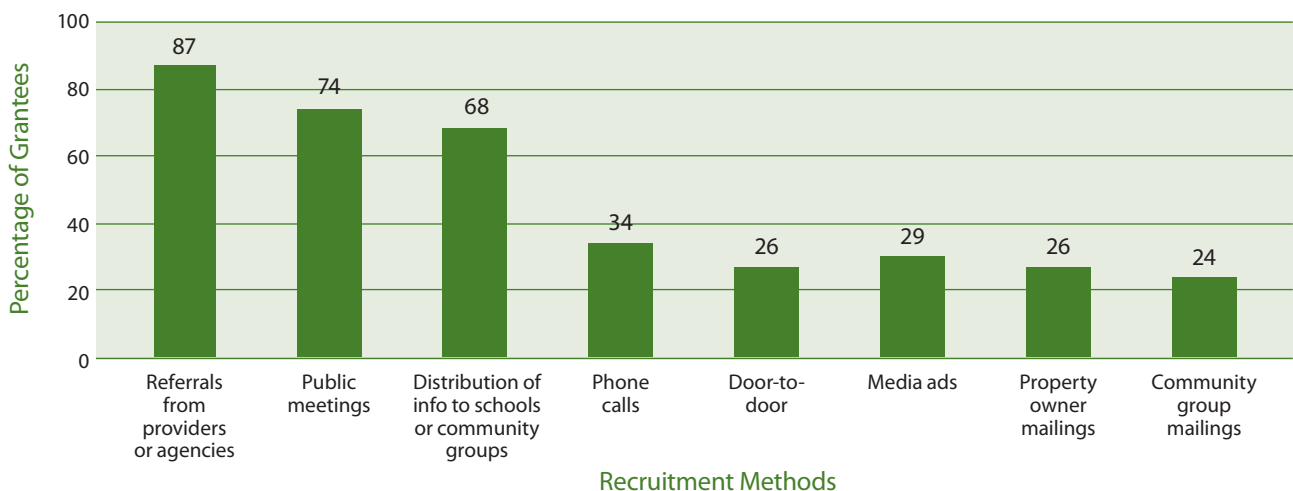
HUD Demonstration grantees reported using partners most frequently as a recruitment strategy (80 percent of all respondents). Key recruitment partners included health care providers, health departments, clinics, hospitals, and asthma coalition partner organizations, followed by community-based organizations and housing programs.

#### A. Health Care Providers

The majority of model healthy homes programs focusing on asthma trigger management reported more success when they partnered with health care providers to conduct recruitment. This is consistent with findings of the EPA's Asthma Health Outcomes Project (AHOP 2007)<sup>5,6</sup> conducted by the Allies Against Asthma initiative and EPA's Communities in Action for Asthma-Friendly Environments Change Package.<sup>7</sup> See Figure 3.6 for highlights of AHOP findings.

When anticipating an ongoing relationship with a health care partner, a liaison should be assigned to the project and kept up to date on program progress and involved in problem solving. It is important to ensure that medical staff is educated about health impacts of housing hazards and program services. As partner health care organizations gain more understanding

Figure 3.5 Percentage of HUD Demonstration Grantees Using Various Recruitment Methods (n=38)



Source: HUD, 2007, p.A.5–6.

of and commitment to healthy homes issues, there may be opportunities to provide technical assistance in developing or revising protocols.

Health care providers should be given information on healthy homes program services that their patients are receiving such as case management and housing interventions. This will strengthen the relationship and help the provider feel like part of the team.

Esperanza Community Housing Corporation, South Central Healthy Homes Demonstration Project's partnership with St. John's Well Child and Family Centers, reports a strategy that involves recruiting families through door-to-door canvassing and then referring and sometimes transporting them to the clinic. The clinic then prescribes a Promotora home visit and obtains the patient's permission to share medical information.

Conversely, health care funders and health clinics can consider providing leadership for

comprehensive asthma management programs by providing home visits as an extra level of support. EPA's guide, *Implementing An Asthma Home Visit Program: 10 Steps To Help Health Plans Get Started*, offers step-by-step instructions on how to start an asthma home visit program with particular emphasis on environmental risk factor management.<sup>8</sup>

### B. Community-Based Organizations and Community Health Workers

Community-based organizations located in the target area can serve as meaningful partners for recruitment. Community Action Agencies (CAAs) usually house a variety of programs in at-risk communities, including weatherization (Figure 3.7), Head Start, anti-poverty, and a variety of other social service programs. Because residents are familiar with these offices and program staff, they are likely to be trusted sources for information and referral.

HUD Healthy Home's grantees and evidence-based research agree on the effectiveness of Community Health Workers (CHWs) for recruitment and education related to management of asthma triggers and implementation of Integrated Pest Management.<sup>9, 10, 11, 12</sup> Krieger et al. note that the value of CHW visits is attributed to multiple factors. The CHW:

- Shares the clients' community experience, culture, and lifestyle—especially important factors for Spanish-speaking and other minority communities;

#### Figure 3.6 AHOP Findings on Health Care Provider

Partnerships with health care providers have the most tangible effects on asthma health outcomes when they have the following:

- Offices in the affected community;
- Time or staff dedicated to asthma education; and
- Compensation to local healthy homes program for providing extra asthma-related services since most health care insurance policies do not reimburse for the additional time devoted to this effort.

EPA's Asthma Forum suggests that high-performing asthma programs are characterized by five key factors:

- Committed leaders and champions;
- Integrated health care services;
- Strong community ties;
- High-performing collaborations; and
- Tailored environmental interventions.

Source: EPA, 2008, p. 1.

#### Figure 3.7 CBO Partnership Example

The Opportunity Council in Bellingham, Washington developed a successful Healthy Homes Demonstration program based on their ability to supplement services offered with their existing weatherization program. This organizational structure allowed them to recruit through their existing network of clients (Head Start and weatherization services). The program is now a model known as Weatherization Plus Health.



- Serves as role models for clients related to both project aims and the larger goal of economic self-sufficiency;
- Has time to communicate information that is often not addressed in health care visits, such as individualized asthma trigger management;
- Demonstrates and observes the client’s implementation activities, and reinforces proper techniques; and
- Addresses the individual’s most pressing concerns in the context of the home visit.<sup>13</sup>

CHW and Promotores de Salud are often less costly to hire than nurses or asthma educators. However, programs that employed them with the greatest success engaged in rigorous and continual training (Figure 3.8), hands-on and accessible supervision, visit quality control, and competitive compensation. Seattle/King County’s Community Health Worker Guidelines can be found at <http://www.kingcounty.gov/healthservices/health/chronic/asthma/resources/hcp.aspx#chw>. The Healthy Homes Training Center’s Community Health Worker training curriculum (English and Spanish) can be found at <http://www.healthyhomes training.org/chw/>

#### 4. Recruitment and Educational Messages

**Strategies:** Successful recruitment and retention start with understanding what motivates

##### Figure 3.8 Knowing the Target Audience

Baltimore’s transition from a Childhood Lead Poisoning Prevention Program into a Healthy Homes Program began with community meetings and focus groups to garner community feedback on current services and discuss expectations of the new approach. This input resulted in extensive revisions to protocols, assessment tools, and client education. The outcome is a client-driven approach whereby families identify their top health and housing concerns and CHW provides a combination of referrals to other agencies, education, and low-level interventions tailored to the clients’ stated needs.

target families and property owners (Figure 3.9). Conduct focus groups, key informant or stakeholder interviews, and/or community meetings to collect these insights. Attend to the immediate concerns of residents at the same time that program concerns and issues are addressed.<sup>14</sup> To respond to these concerns, establish referrals to appropriate resources for issues that are outside the program’s scope. Families and property owners may be motivated by any or all of the following issues:

- **Health concerns.** Residents may value program services to improve existing conditions or to prevent illness or injury from occurring.
- **Improved housing.** Owners may be motivated by such factors as cost, compliance with regulations, satisfying outstanding code violations, liability, unit turnover, and ease of maintenance issues involved with improving and maintaining properties.
- **Strengthening of the owner-tenant relationship.** Programs can provide incentives such as cleaning supplies, equipment, and training that support tenant responsibilities. Here, it is important to distinguish between tenant and property owner roles and responsibilities. Many programs include a Statement of Tenant Responsibilities in recruitment materials. (See Figure 3.10 for guidance in preparing materials.) Identify local agencies that mediate conflicts between property owners and tenants, especially those that focus on preventing eviction.

##### Figure 3.9 Motivating Tenant Involvement

Environmental Health Watch (Cleveland, Ohio) reports that when tenants observed the immediate outcome of integrated pest management, they were more motivated to maintain a clean living environment. Most families have had long experience with intractable problems and felt hopeless about controlling their environment. An integrated approach calls for tenants, property owners and contractors to work together to improve the health of the home environment.

### Figure 3.10 Strategies for Improving Written Materials

- Identify user's understanding before, during, and after the provision of information and services.
- Acknowledge cultural differences and practice respect.
- Limit the number of messages. Use plain language, and focus on action.
- Supplement instructions with pictures.
- Make written communications look easy to read.
- Make sure information placed on the Internet is easy to find (minimize searching and scrolling needed).

Source: Quick Guide to Health Literacy, Improving the Usability of Health Information. <http://www.health.gov/communication/literacy/quickguide/>

- **Program Materials:** Low literacy and culturally appropriate recruitment materials and educational messages should be used (Figure 3.10).
- **Existing Materials.** Whenever possible, use existing program materials. For example, the Healthy Homes Partnership, an initiative between the United States Department of Agriculture (USDA) National Institute on Food and Agriculture's Extension Services and HUD, includes a growing network of state coordinators who provide information about home health hazards. This partnership has produced a self-help guide, Help Yourself to a Healthy Home, that is available in English, Spanish, Hmong, Vietnamese, Arabic and Bosnian, and is appropriate for low literacy audiences. There is also a Native American version of the guide. [http://www.csrees.usda.gov/nea/family/in\\_focus/housing\\_if\\_healthyhomes.html](http://www.csrees.usda.gov/nea/family/in_focus/housing_if_healthyhomes.html). Another resource is The National Center for Healthy Housing's National Healthy Homes Training Center & Network, which brings together public health and housing practitioners to promote practical and cost-effective methods for making homes healthier through the use of the Seven Principles of Healthy Housing. It also serves

as a forum for exchanging information on new research and best practices. <http://www.healthyhomestraining.org>

- **Literacy.** Materials should be evaluated according to standards for health care communications, reading level, and "plain language." The HHS's Office of Disease Prevention and Health Promotion, Health Communications Activities, Health Literacy Improvement website offers links to fact sheets and other materials: <http://www.health.gov/communication/literacy/default.htm>.
- **Cultural Appropriateness.** Materials should be screened for cultural appropriateness. In addition, it is necessary to educate recruitment partners, CHWs, inspectors, and contractors about behavior that could be considered offensive to target groups. These can include attitudes toward roles for men and women, dress, body language, and physical/eye/hand contact. Other cultural factors can include differing values concerning traditional versus Western medicine, and practices related to food and housekeeping.
- **Communication methods.** Multi-media communication methods should be employed whenever possible. Appendix 3.1 has examples of multi-media campaigns that can be adapted for your needs. Healthy homes programs are encouraged to develop a formal "Distribution Plan" to raise awareness of their services.

### 5. Confidentiality and Ethical Concerns

Since healthy homes programs include interactions with individuals and collection of private information, it is important that programs be knowledgeable about the rights of participants and how to protect them from harm. For example, all confidential health information needs to be protected so that it is not disclosed inappropriately. Appendix 6.1 provides detailed information on informed consent, Institutional Review Boards (IRB), and HIPAA. It is important to note that a healthy homes program is voluntary. Program services and interventions need to pose minimal risk to participants so that they are not harmed as a result of voluntary cooperation. Take time to explain to residents/families what their roles, responsibilities and rights are if they choose to



### Figure 3.11 Resources

HHS's Office of Human Research Protections provides a variety of guidance materials on application of the Common Rule, including decision charts for individual projects:

<http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.htm>

As a matter of good practice, all healthy homes project staff should undergo training on the protection of human subjects. Free training can be found at <http://ohrp-ed.od.nih.gov/CBTs/Assurance/login.asp>.

The Agency for Healthcare Research and Quality (AHRQ) has developed a toolkit for informed consent in research that poses minimum risk: <http://www.ahrq.gov/fund/informedconsent/>

participate. Research studies on the outcomes of interventions should undergo an IRB review before recruitment begins.

## Priorities for Assessment and Intervention

As noted in Chapter 1, healthy homes projects often have multiple desired outcomes: health improvement, resident behavioral change, repairs and rehabilitation to housing, community capacity building, system change, and policy development. Chapters 4 and 5 will address assessment and intervention methods in detail. However, there are several program design issues that apply to decisions about home assessments and interventions that must be considered in the program design phase.

### 1. Assessment Considerations

Home assessment for health and safety hazards can be achieved in three ways:

- Resident interviews;
- Visual assessment/comprehensive health and safety assessment (e.g., HUD's Healthy Homes Rating System); and
- Environmental measurement and sampling, and building performance testing.

Most grantees who participated in the HUD Healthy Homes Initiative Evaluation reported that well-designed resident interviews and visual assessments were sufficient to collect the data needed for their programs. This was echoed by grantees interviewed for this manual. Environmental sampling was more likely to be used as part of research and to show the housing impact of interventions. Long-term environmental sampling and any post-intervention follow-up can pose challenges because residents may move or not permit reentry to collect post-intervention samples. Also, clinical measurements in non-clinical settings, such as pulmonary function measures, can be difficult to standardize. Repeat environmental assessments or clinical measures are subject to residents' schedules and commitment to the project; the more precise the time intervals required to collect repeat samples, the greater the challenge.

During the first few years of HUD Healthy Homes Grant funding, more emphasis was placed on collecting allergen samples to measure their levels in dust and document intervention effectiveness. At this point in the evolution of healthy homes programs, there is reduced focus on environmental sampling.

The Evaluation suggested the following practices to improve assessments:

- Gather only the information that you plan to use;
- Use established validated tools whenever possible; and
- Set clear parameters for pre- and post-remediation assessment.<sup>15</sup>

Healthy homes programs also noted the importance of:

- Training (Figure 3.12), rigorous supervision, and tight quality control for data collection;
- Following equipment calibration and maintenance standards faithfully;
- Treating CHW, Promotores de Salud, and other field staff as respected community experts who are a valued part of the team and free to suggest revisions to protocols and procedures;

- Piloting all procedures and making revisions as needed. Once protocols are established, all changes should be carefully documented;
- Establishing a tracking system to ensure assessments proceed on schedule. Delays in this process impact all other phases of the project; and
- Assuring that program participants fully understand the importance of the assessment in developing specific scopes of work (interventions) that meet their health needs and needs of the property. This can be reinforced by sharing the assessment results with both the families served and property owner.

## 2. Intervention Considerations

If this is your first experience with healthy homes work, there is an advantage to starting small. Figure 3.13 includes a list of common healthy homes interventions. Intervention options should be tied directly to hazards found as part of the home assessment. Most of HUD's Healthy Homes Demonstration grantees surveyed in the Evaluation did not undertake major improvements initially. As programs developed and additional funding became available, the work evolved into higher-level structural interventions, such as replacement of ventilation systems.

Programs are encouraged to capitalize on existing health and housing programs to leverage their resources and provide more comprehensive housing interventions. These programs and services include case management/home visiting programs, weatherization, lead hazard control, and CDBG-funded housing rehabilitation programs. There is a lack of research showing that individual "low-level interventions" (e.g., education, cleaning, mattress enclosure, resident pest management), when conducted in isolation are effective. Such efforts should be incorporated into a multi-faceted strategy that includes multiple interventions.

The Community Guide Branch of the CDC recommends home-based, multi-trigger, and multi-component environmental interventions to control asthma for children and adolescents (see <http://www.thecommunityguide.org/asthma/multicomponent.html>). The Task Force reviewed 23 studies for effectiveness and found that education combined with minor or moderate

### Figure 3.12 Training of Research Assistants

Tulane University hired neighborhood residents as research assistants who participated in participant recruitment and retention and took responsibility for survey administration, collection of blood samples, and environmental sampling. To assure collection of valid and reliable data, they participated in a two-month training program, were required to pass an oral and written test, were evaluated in the field, and participated in refresher training.

### Figure 3.13 Common Interventions

- Education
- Provision of Cleaning and Safety Kits and Mattress and Pillow Covers
- Promoting Smoke Free Homes
- Integrated Pest Management
- Lead Hazard Control
- Moisture Control
- Mold Remediation
- Home Repair and Rehabilitation
- Dust Reduction
- Ventilation Interventions
- Installation of Safety Devices
- Weatherization

environmental remediation resulted in more symptom-free days, savings in asthma care, and improved productivity.

**Intervention Challenges.** Some of the intervention challenges programs face include:

- **Lack of property owner compliance.** Property owners' cooperation is needed to obtain consent to work in rental properties and to perform maintenance and repair activities. Therefore, the following should be built into your program design:

- ▶ Presentations to realtors and property owner groups to raise awareness of the project and funding availability. Provide clear cost data and information on benefits expected from the interventions. Discuss the benefit of a reduction of liability as a result of fewer risks of poisonings and injuries.
  - ▶ Inclusion of property owners in the planning process to identify issues that will encourage participation. Having a voice in selecting intervention needs can reassure owners that they are valued participants.
  - ▶ Perform joint field visits with code inspectors or other agencies. Identify how your program can link services to remediating code violations. Programs can offer compliance assistance to help owners proactively satisfy an “order” or use enforcement procedures to correct structural defects.
  - ▶ Offer funding from your local lead hazard control program for window replacement in exchange for the property owner conducting maintenance and repair activities that are health-oriented.
  - ▶ Offer incentives to residents and property owners such as safety items (smoke detectors, carbon dioxide detectors, or batteries), cleaning supplies, injury prevention devices (cabinet locks, non-slip rug pads, stair gates), and paint, paintbrushes, plastic and primer.
  - ▶ Offer free training in lead-safe work practices.
  - ▶ Perform interventions that do not require owner consent, such as installing smoke or carbon monoxide detectors and providing supplies (Figure 3.14).<sup>16</sup>
- ▶ Partnering with community-based organizations to assist and support referral, recruitment and retention, and conflict resolution or mediation.
  - ▶ Branding the program through development of an image or theme that distinguishes the program from other governmental initiatives and raises awareness of its availability. This may reduce residents’ concerns that program personnel are really police, protective services, or immigration officials.
  - ▶ Provide a calendar with all scheduled visits documented for residents/families. Provide incentives for completing appointments as scheduled. Get as many contact numbers as possible for target families and use multiple methods to communicate with them.
  - ▶ Use centralized scheduling to coordinate visits between outreach workers and other staff, such as risk assessors to minimize the number of home visits and disruption to the family.
  - ▶ Provide information to tenants about their rights and responsibilities under the program (Figure 3.15).
  - ▶ Engage CHW and Promotores de Salud for recruitment, retention and education.
- Building a strong base of contractors. Unless guaranteed a steady and profitable source of work, many contractors will avoid the required

### Figure 3.14 Incentives

The Columbus, Ohio Health Department customized the provision of Healthy Homes supplies based on a family’s need. In all, the supplies cost less than \$500 and included items such as baby gates, storage bin for clothing, cleaning supplies, mattress and pillow encasings and window locks. Combined with education, this type of intervention can be conducted without property owner consent and can be used as an incentive for physical interventions and Integrated Pest Management to be conducted at a later time.

training, insurance, or perceived costs of “working healthy.” The quality and timeliness of the work must be closely monitored by program staff. This is especially true when combining HUD Healthy Homes funds with Lead Hazard Control Grants and federal rehabilitation funding (e.g., CDBG). Moreover, small contractors may have difficulty keeping a tight production schedule and funding up-front costs. Consider the following remedies:

- ▶ The HUD Section 3 program requires that recipients of certain HUD financial assistance grants, to the greatest extent possible, provide job training, employment and contract opportunities for low- or very low-income residents in connection with projects and activities in their neighborhoods. <http://www.hud.gov/offices/fheo/section3/section3.cfm>
- ▶ It may be possible to partner with community-based and non-profit organizations to develop contracting crews comprised of residents from the target community. This approach advances economic development within high-risk communities and increase community support.
- ▶ For small interventions, hiring a “handyman” that your program will train and fund may be preferable.
- ▶ Make expansion of the contractor base a project benchmark, supported by free training and problem-solving discussions as needed. Provide training delivered at convenient times, such as evenings and weekends.
- ▶ Pre-qualify a select group of contractors and develop an equitable method to rotate work.
- ▶ Provide ongoing technical assistance. Make frequent visits to project sites at different phases of work in progress.
- ▶ Consider issuing a Request for Proposal asking for a fixed unit price contract for specific interventions. This helps manage program costs and can also guarantee steady work for the contractors selected.

### Figure 3.15 Sensitivity to Tenants’ Rights

In order to protect the tenancy of renters, Esperanza Community Housing Corporation and project partners in the South Central Healthy Homes Demonstration Project coupled home-based environmental risk management education, including cleaning and pest control products, with education on tenants’ rights. Units were also referred to code enforcement after home visits, but only if there was an established relationship between the tenants and a tenants-rights organization to assure protection from landlord retaliation should enforcement action result from the referral.

- ▶ Consult other housing rehabilitation and weatherization programs to determine whether their contractors could be trained to perform interventions during “down time,” thus keeping contractors fully employed.
- ▶ Encourage contractors to diversify services through training and certification to conduct multiple interventions.
- ▶ Work with workforce development programs to train and apprentice staff to perform interventions. Many high school and college vocational education programs offer a construction track. Partner with Youthbuild, or other youth development programs.
- ▶ Assure timely payment at job completion. Smaller contractors may require partial or progress payments.
- ▶ Set a standard of performance for contractors. If a contractor fails to meet the timelines or quality of work expected, take steps toward performance improvement or initiate action to drop the firm from the approved contractor list.
- ▶ Ensure that contractors have necessary training and qualifications. For example, lead hazard control activities must be conducted by persons qualified according





to 24 CFR Part 35, subparts B-R (possessing certification as abatement contractors, risk assessors, inspectors, abatement workers, or sampling technicians; or others having been trained in a HUD-approved course in lead-safe work practices), and firms and persons certified in accordance with the EPA's Renovation, Repair, and Painting (RRP) Rule (see 40 CFR 745 and <http://www.epa.gov/lead/pubs/renovation.htm>). Programs often assist small contractors by covering the cost of required training.

- **Cost Overruns and Funding Limitations.** New services and interventions require practice to achieve optimal efficiency and effectiveness. Field staff, contractors, and community partners will likely need to pilot and refine services and interventions at the beginning stages of the project or intervention. Recognize early experiences as a training ground for the entire project and expect the process to move more efficiently after the first 10–15 units.<sup>17</sup>

- ▶ Accompany field staff on initial home visits and assessments and visit contractors at the job site early and often to provide technical assistance. Keep records on the cost of supplies, job specifications, intervention protocols, and lessons learned to identify savings or cost overruns and support future planning. Managers, supervisors, and coordinators should continue to make field visits after the pilot or beginning stage of programs to assure quality.
- ▶ Recognize that some grant sources may set maximum amounts for intervention costs and others require documentation of a minimum percentage of grant funds devoted to administrative costs.
- ▶ Leverage other sources of funding by partnering with other health, housing and social service programs to increase the comprehensiveness of your interventions and support program sustainability.

## Organizational Structure

Organizational structure—how a program operates, how managers and staff relate to each other and how program decisions are made—reflects the culture and size of the primary agency, clarifies roles and responsibilities, and can affect a program’s effectiveness and efficiency. Simply put, organizational structure defines the “chain of command” and specifies the span of control of participating staff and agencies. Government health and housing departments are often influenced by bureaucratic structures that can be hierarchical in nature. This can be a challenge to healthy homes programs that need to be multi-disciplinary and implemented by a team of professionals in cooperation with community partners. Decisions related to organizational structure flow from answering the following questions:

- Will healthy homes program staff be located in the same organization, department and division or separated by function (health, housing, or environmental)?
- How will decisions be made—top down or in a team environment?
- How much authority will be granted to managers, coordinators, and field staff?
- What formal role will partner agencies and community agencies fulfill?
- What commitments have been secured for intra- and interagency coordination?

## Staffing

Healthy homes programs have different organizational structures and staffing. However, they usually involve some or all of the following functions that can be reflected in job titles.

- **Program Direction.** The Program Director is often responsible for multiple health/housing initiatives. This individual provides high-level oversight to assure that the program is funded, implemented within its timeframes and budget, adheres to all requirements, and advocates for the program internally and with program partners.
- **Program Coordination and Supervision.** This individual, often referred to as the Program Manager, is usually dedicated to the program full-time and responsible for day-to-day activities, partnership coordination related to service systems, and staff supervision.
- **Intake Coordination.** This individual is responsible for receiving applications from residents/families or property owners. She or he can be an administrative assistant or a program coordinator. Responsibilities include screening applications for eligibility and ensuring all required documentation is obtained and in the case file.
- **Community and Family Education.** Educating the community at large and residents that live in target housing is essential to the success of healthy housing programs. Community education can be conducted by health educators, nurses, social workers, outreach workers and/or CHWs. Similarly, these disciplines can provide one-on-one education and support behavior change as a part of home visits. Health behavior change for occupants in housing units served by healthy homes programs is important. For more information see Chapter 5, page 115, for interventions aimed at resident knowledge and education.
- **Case Management.** Case manager(s) can be nurses, social workers, public health educators or sanitarians. Some programs use CHW or Promotoras de Salud that are supervised by nurses or social workers as they represent and are trusted by the target population. Case management includes the assessment of health and social service needs, development of an action plan, and ongoing referral and support. Case managers provide a coordination role to assure that a family’s multiple needs are met.
- **Environmental Assessment.** Visual assessment, administering a standard questionnaire to residents, and environmental sampling are conducted by properly trained persons qualified to do the work. Sometimes these positions are referred to as sanitarians, environmental health technicians, or environmental hygienists.

- **Laboratory analysis.** If a program is collecting samples for laboratory analysis, it needs the services of an analytical laboratory with all the appropriate certifications.
- **Data Management.** Data management staff can be administrative assistants, information system specialists or epidemiologists, depending on their role and responsibilities. Administrative assistants can enter program data into health or housing data bases. Information systems specialists can provide oversight for the entire data collection system from service delivery to the production of process and outcome evaluation reports. Epidemiologists or biostatisticians usually take responsibility for data analysis.
- **Evaluation.** Evaluation can be conducted by a third party—often an academic partner—or in-house by a team that commonly includes individuals with training in epidemiology or biostatistics.

All staff should understand how their productivity and responsibilities affect the overall project. Regular staff meetings are important to assure that small delays or implementation issues do not become large. Case reviews are an especially effective tool to identify program strengths and weaknesses and refine program protocols. Healthy homes programs require innovative staff with good problem-solving skills. All staff need opportunities for skills training and continuing education. Since the program staff are often the most effective ambassadors for the initiative, it is important to build in opportunities for attendance and presentations at professional conferences.

### Clarifying Roles and Responsibilities

Healthy homes programs are characterized by many moving parts. Whether your program remains small or expands to include other organizations and activities, failure to clarify roles among staff and partner organizations leads to inefficiencies, confusion, and frustration. The optimum way to do this is through regular team and partner meetings and project-wide use of a Policies and Procedures Manual (Figure 3.16). Memoranda of Understanding and/or subcontracts should be executed with partner organizations as a means of ensuring

accountability and timely performance. Secure data-sharing agreements early in the process and be sure that your IT systems are compatible for data transfer. The policy and procedures manual should cover:

- The project work plan including goals and objectives;
- Recruitment and enrollment procedures and materials, including guidelines for documentation to determine when eligibility criteria are met;
- Assessment forms with annotations about how to record observations;
- Chain-of-custody forms when environmental or biological sampling are part of the project;
- Relocation policies, if needed;
- Sample contracts, scopes of work, and occupant protection plans for contractor use;
- A master schedule of activities for each housing unit and the project as a whole;
- Job descriptions and work flow charts that clearly define which staff are responsible for project activities;
- Procedures for collecting and submitting environmental or clinical samples for analysis;
- Procedures for submitting and approving vouchers;
- Data collection and analysis plans;

**Figure 3.16 Tulane Policy and Procedures Manual**

Tulane University developed a Manual of Operation that detailed its Healthy Homes Technical Study Grant project’s internal policies and procedures. All study personnel received the Manual and brought it to the weekly staff meeting. If any changes were made in policies and procedures as a result of problem solving and project discussion, changes were immediately and carefully documented in the Manual.





- Quality control procedures; and
- Field safety.

## Budget Priorities

Programs planners often underestimate the administrative time and costs necessary to implement their programs. Programs also need to scrutinize their own payment mechanisms for vendors, subcontractors, and housing contractors. Because contractors usually cannot afford to wait long periods for reimbursement, programs should consider partial or progress payments. The HUD Evaluation suggests new programs should consider the following budget strategies:

- Identify a cap for total housing unit and specific intervention costs at the start of the project. Track these costs carefully for future planning purposes.
- Weigh the costs and the quality of work when selecting contractors. If possible, establish a bidding procedure that allows the program to factor in contractors' past performance both in terms of timeliness and quality.

- Consider low-cost interventions in the context of resident behavior. One grantee found that cheaper fans installed in the bathroom or kitchen area were not effective because they were so noisy that many families chose not to use them. Families receiving quieter fans were much more likely to use them.
- Explore funding (leveraging) from partner resources such as nursing case management through health insurance/HMO reimbursement. Other sources include weatherization funds, lead hazard control grants and loans, CDBG-housing rehabilitation programs and Prevention and Maternal and Child Health Block Grants.
- Dedicate staff and/or a portion of the project budget to develop and maintain partnerships and coalitions.

Program managers should be aware that under many of HUD's grant programs, grantees must expend a certain portion of grant funds on direct remediation activities and have an administrative cost cap of 10 percent of the grant.

## Evaluation and Program Performance Measures

Plans for evaluation must be built into the earliest phases of project design and used as a management and process improvement tool (Figure 3.17). While Chapter 6 addresses program evaluation in detail, it is important that decisions about health and housing outcomes and what to assess and monitor be an ongoing part of your

### Figure 3.17 Benefits of Working with an Academic Institution

One grantee identified the benefits of working with an academic institution as responding, in part, to their self-interest in publishing study results. This kind of partnership lends itself to healthy homes programs' producing peer-reviewed scientifically valid outcomes. The grantee reported that this level of evaluation rigor sharpened their critical thinking skills as they institutionalized project results and piloted and expanded their healthy homes interventions.

program plan. Two kinds of evaluation—process and outcome—should be included:

- Process evaluation focuses on the programmatic actions and services needed to achieve a particular outcome.
- Outcome evaluation focuses on whether the program achieved the desired health and housing outcomes.

Decisions about project evaluation should take place early in the planning process. Programs must decide:

- Whether to perform the evaluation in-house or to use an outside (third-party) evaluator. Costs may be lower in-house but outside evaluators may bring credibility to controversial decisions and a higher level of skills.
- How much weight to place on qualitative versus quantitative data. Qualitative data gives

richness to the understanding of the process; quantitative data helps put performance into perspective and is necessary for cost/benefit calculations.

- What outputs (activities) and health and housing outcomes will be used for program evaluation?
- How long a time frame should be established for program evaluation? For instance, should results be examined over a six- or twelve-month period post intervention, or over a longer period?
- Who will the program target for dissemination of progress and findings and how will this information be provided? It is important for programs to demonstrate accountability and value to funders, policymakers, health care providers, and beneficiaries of services.

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