

US EPA ARCHIVE DOCUMENT

4 BEGINNING THE PROGRAM

This chapter provides guidance on important first steps that you will need to take as you start your lead-safe yard program. Section 4.1 presents a brief overview of the structure of a lead-safe yard program and outlines the roles and responsibilities of program partners, based on the EMPACT Lead-Safe Yard Project model. Section 4.2 discusses the critical process of selecting program partners who can best help you meet your program's objectives within your target community. Section 4.3 presents guidance on identifying potentially impacted communities that you may want to target with your program. Finally, Section 4.4 provides tips on getting to know your target community in terms of the cultures and languages of residents, the types and conditions of housing stock, and other factors.

The information in this chapter is designed primarily for managers and decision-makers who may be considering whether to implement lead-safe yard programs in their communities, as well as for organizers who are implementing such programs.

4.1 PROGRAM STRUCTURE: OVERVIEW OF A LEAD-SAFE YARD PROGRAM

The EMPACT LSYP is a multifaceted project that engages in a variety of activities—everything from distributing flyers to planting grass. These activities can be grouped into four main categories, which make up the main components of the project: education and outreach, soil sampling, yard treatment, and program evaluation.

The following paragraphs summarize these activities to provide an overview of how the EMPACT LSYP works. These activities are described in much greater detail in Chapters 5 through 9.

Outreach During the outreach phase, the EMPACT LSYP approaches homeowners in the target community to educate them about the hazards of lead in soil and to enroll them in the project. Outreach workers make contact with homeowners through flyers, letters, phone calls, and knocking on doors. Lead hazard education is conducted using a variety of tools (printed handouts, videos, quizzes), and then homeowners are asked to enroll in the project by signing a permission form. Finally, outreach workers interview participating homeowners about the activities that take place in their yards; these yard uses are mapped on a plot plan, which is then given to the EMPACT LSYP's soil sampling team and landscaping team.

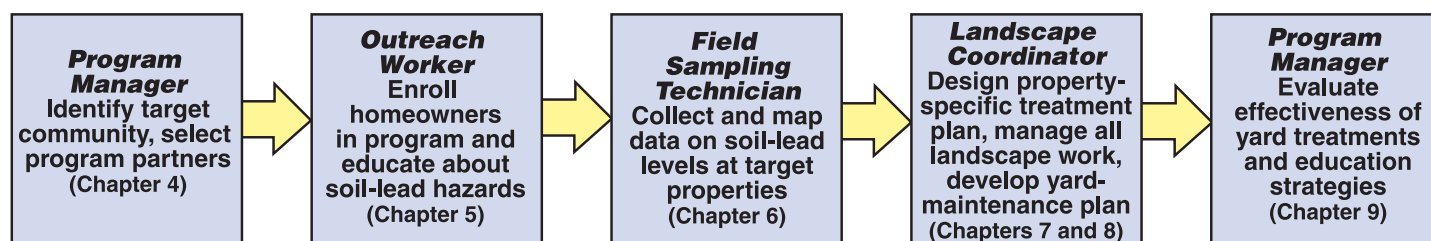
Sampling During the soil sampling phase, a field sampling technician (usually a licensed, trained lead inspector) collects data on soil-lead levels in the yards of participating homeowners, using field-portable x-ray fluorescence technology. Relying on the yard-use map created during the outreach phase, the technician develops a sampling plan that focuses on high-risk and high-use yard areas, where the potential for dangerous exposures to lead-contaminated soil is highest. Sampling results are transcribed onto a color-coded map of the property's lead levels, which is then given to the homeowner and passed on to the landscaping team.

Treatment The EMPACT LSYP provides each participating homeowner with up to \$3,000 worth of free landscaping materials and labor for yard treatment. Treatment is

conducted by one or more landscaping teams, headed by a landscape coordinator. This coordinator meets with the homeowner to go over the color-coded map of sampling results and to develop a treatment plan. A typical treatment plan combines various landscaping measures (e.g., wood-framed drip boxes, newly planted grass and shrubs, stone walkways) with changes to the residents' yard use patterns (e.g., moving a children's play area to a safe part of the yard). Once the treatment plan has been implemented by the landscaping team, the coordinator develops a property-specific maintenance manual to help the homeowner maintain the treatment measures.

Evaluation The EMPACT LSYP is currently involved in a major research study to evaluate the effectiveness of its low-cost yard treatment measures. Evaluation is the last phase of the project; however, an effective evaluation process depends on adequate documentation of the project's work during all phases. Key to the EMPACT LSYP's evaluation process is a property-specific case file begun by the outreach worker for each home, and maintained by all members of the EMPACT LSYP team.

The flow chart below summarizes the basic structure of the EMPACT LSYP. The chart identifies the main activities of the project, the team members responsible for these activities, and the flow of work between team members. It also indicates where in this handbook you can go for more information about specific activities.



4.2 SELECTING PROGRAM PARTNERS

As described in Chapter 1, the EMPACT LSYP is a partnership of several public, private, and non-profit organizations. These include a university, a federal government laboratory, a community planning agency, and private landscape contractors.

Why are so many partners needed for what is essentially a small-scale program? The activities conducted by the EMPACT LSYP demand a number of specialized skills, from communication and language skills to soil sampling, from landscape design experience to management skills. Each partner plays a different role in the project, based on the specific skills and qualifications that partner has to offer.

For example, EPA's New England Regional Laboratory, a founding partner in the EMPACT LSYP, offers the technical skills needed for analysis of soil-lead levels. The laboratory's staff also have the training to work safely in contaminated soil without endangering their own health. The Dudley Street Neighborhood Initiative, the project's community partner, does not offer these kinds of technical skills, but contributes something just as important: familiarity with the Dudley Street neighborhood and the communication skills necessary to work closely with its multilingual residents.

In starting your own lead-safe yard program, you'll need to assemble a team of individuals or organizations who offer a similar range of skills and qualifications. To select partners or team members,



LESSONS LEARNED: YOUTH EMPLOYMENT AND TRAINING

In its pilot phase, the EMPACT LSYP wished to incorporate youth employment and training into its work. The project hired high school students, who learned on the job while being supervised by adults. This system turned out to be problematic in the pilot phase. It was logistically complex, and costs changed because the on-the-job

training meant the work was accomplished more slowly than it would have with trained landscapers. For this reason, it is advisable to get your program organized and running smoothly, then determine which components of the program are a good match for youth training and employment. At that point, you can focus on this aspect of a program.

you should think about how each will fit into the overall program structure, and how different partners can work together to create a successful program. You will also need to consider their relationship to the target community. For example:

- An organization or agency that already has strong ties to the community can be ideal for conducting outreach and education for your program. Neighborhood health centers or community action programs can be a good choice.
- A nearby college or university can help with any research components of your program, or may be able to provide assistance and equipment for the sampling activities. (See Appendix B for a more detailed discussion of this type of approach.) Make sure to check with your state or tribal lead poisoning prevention agency about certification requirements for lead inspectors. See Chapter 6 for more information on finding a qualified person to conduct the sampling and analysis components of your program.
- Landscaping companies are key partners for the design and landscaping components of your program. A non-profit landscaping company specializing in community gardening and small parks can be a good choice. Another approach (being implemented by the EMPACT LSYP in Phase 3) is to develop a pool of small private landscaping companies. Encouraging companies to bid on lead-safe yard work, as described in Section 7.5, is a good way to obtain these services in a cost-effective manner. Landscaping companies should be bonded and insured, and should have the skills to manage the work involved in treating yards to meet your specifications.

As described in Chapter 1, the EMPACT program selected partners who could carry out specific activities. The community partners (Bowdoin Street Health Center, and later the Dudley Street Neighborhood Initiative) led the education and outreach work; the EPA Regional Laboratory led the sampling and analysis activities, with assistance from a certified industrial hygienist from the Health Center; a non-profit landscaping company performed the soil mitigation work; and Boston University School of Public Health led the effort to develop a template for community action for use by other programs.

4.3 IDENTIFYING POTENTIALLY IMPACTED COMMUNITIES

The first step in beginning your lead-safe yard program is to identify communities that may have homes with elevated soil-lead levels. For this purpose, you can determine where the important predictors of lead in soil are present. These predictors include large numbers of children with elevated blood lead levels; a preponderance of older wood-framed housing (generally with wooden clapboard), which is likely to have exterior lead-based paint; and heavy traffic flows, which are likely to have caused deposition of lead from leaded gasoline. These characteristics are discussed in Sections 4.3.1 through 4.3.3. Industrial emissions of lead can also cause elevated soil-lead levels at nearby residences (see Section 4.3.4).

You will also want to consider other characteristics of neighborhood life that can contribute to the success of a program, such as the presence of a community organization that can partner with you and help you get to know the community (see Section 4.3.5).

4.3.1 CHILDREN WITH ELEVATED BLOOD LEAD LEVELS

For Phases 1 and 2, the EMPACT LSYP reviewed available blood lead data for children aged six months to six years from the Massachusetts Childhood Lead Paint Poisoning Prevention Program. The target community was within the so-called “lead belt” in Boston (see map on page 3). Your city or state childhood lead program or health department likely has similar blood lead data, organized by census tract or zip code. You can look up state and local lead poisoning prevention contacts in your area on the following Web sites:

The Lead Program of the National Safety Council’s Environmental Health Center:
<http://www.nsc.org/ehc/nlic/contacts.htm>

The National Conference of State Legislatures’ Directory of State Lead Poisoning Prevention Contacts: <http://www.ncsl.org/programs/esnr/pbdir.htm>

EMPACT LSYP SITE SELECTION CRITERIA

- High incidence of lead poisoning
- Pre-1970 painted housing (generally wooden clapboard siding)
- Low-income/immigrant population
- Contiguous neighborhood (for neighborhood-wide impact)
- An existing health organization focused on the lead issue
- Existing neighborhood environmental activities the project could build on and enhance

4.3.2 OLDER HOUSING WITH LEAD-BASED PAINT

Another way to identify potential target communities is to determine which neighborhoods have older, wood-framed housing (generally with wooden clapboard siding). Such houses are likely to have lead-based exterior paint. As described in Chapter 3, some studies have found a strong link between building age and soil-lead contamination. Therefore, neighborhoods with older housing (especially homes built before 1950) are more likely than newer communities to have a soil-lead problem. The presence of lead-based paint is also considered an important predictor of elevated soil-lead levels. Both EMPACT study areas, the Bowdoin Street neighborhood in North Dorchester and the Dudley Street neighborhood in Roxbury and Dorchester, consist of predominantly older, wood-framed homes with painted exteriors.

The Centers for Disease Control provides a database, *1990 Census Data on Housing and Population* that allows you to search by county, zip code, or census tract for the percentage of houses built before 1950. The database is at <http://www.cdc.gov/nceh/lead/lead.htm>.

Keep in mind that some communities may contain vacant lots, greens, and parks in residential areas that may have historical lead contamination from gasoline deposition, past industrial activity, or former housing. See Chapter 10 for tips on applying lead-safe yard mitigation strategies to non-residential sites, such as tot lots, playgrounds, community gardens, and vacant lots.

4.3.3 HEAVY TRAFFIC FLOWS

Some studies stress the concentration of lead-contaminated yards in congested high-traffic, inner-city regions (see Chapter 3), pointing to the importance of lead accumulations from leaded gasoline. Both EMPACT study areas are in heavily traveled inner-city neighborhoods.

4.3.4 INDUSTRIAL EMISSIONS

Communities near industries that emit lead (or have emitted lead in the past), such as lead smelters, lead mines, battery recycling plants, and incinerators, may also have elevated levels of lead in residential soils. You can find out where such industries are locating by contacting your state environmental agency or EPA Regional office, or by searching EPA's Toxic Release Inventory (TRI) database for facilities in your area that have reported releases of lead to the environment. (http://www.epa.gov/enviro/html/toxic_releases.html).

4.3.5 OTHER COMMUNITY CHARACTERISTICS

The EMPACT LSYP took into account several additional factors in potential target communities that would contribute to the project's success. For example, the project targeted homes that were located on adjacent streets rather than in dispersed areas. This made the work more efficient, as well as more visible to nearby homeowners who might become interested in the project. It also meant that the neighborhood children would be better protected, because children often play in yards near their own.

The project also favored working in service areas of active community-based organizations—first the Bowdoin Street Health Center and later the Dudley Street Neighborhood Initiative (<http://www.dsni.org>). Both of the selected neighborhoods had a history of environmental health activities. The EMPACT LSYP could, therefore, build upon previous initiatives and take advantage of neighborhood connections already made by these community organizations.

4.4 GETTING TO KNOW THE COMMUNITY

Once you have identified your target community, your task is to learn more about it. Make sure you have your target area clearly mapped and marked so that you can begin planning. Next, find out the key “statistics” about the community. Some of the questions you will want to answer about the community include:

- What are the cultures and languages of the people who live there?
- What are the residents' income and education levels?
- What is the percentage of home ownership/owner-occupied dwellings?
- What is the percentage of housing built before 1978?
- What is the condition of the older housing stock?
- What organizations and agencies are active in the community?
- What prior work has gone on in the community to prevent lead poisoning?

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- What are the numbers, percentages, and location of lead-poisoned children in the community?
 - Have any homes in the area been de-leaded?
 - What are the names, addresses, and phone numbers of homeowners in the target area?

Information such as income and education levels and age of housing can be obtained from census data; other questions about the community such as cultural characteristics can be provided by your community partners. All this information will help you form a clear picture of your target community and the best ways to reach them. The EMPACT LSYP, for example, knew that many residents in the Bowdoin Street neighborhood spoke Spanish, Cape Verdean Creole, or Haitian Creole, so that conducting spoken and written outreach and education in these languages would be critical to the success of the program. Sample outreach flyers in four languages are included on pages 41 to 44 in Chapter 5.