

Lead Poisoning
Prevention Fund
Evaluation Report

2010

A report of findings from the evaluation period:
January 2009 through June 2010
Executive Summary

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Executive Summary

Introduction

The following report presents evaluation findings from activities supported by the Lead Poisoning Prevention Fund (LPPF) during the 18-month period between January 1, 2009, and June 30, 2010.

The evaluation results are for the eight areas of activity supported by the LPPF and aimed at eliminating lead poisoning in Maine. Results presented in this report are for the initial phases of LPPF-supported activities. Long-term health and behavior outcomes will be addressed in future evaluation reports as the required data and analyses become available.

Background

In 2005, the Maine Legislature established the Lead Poisoning Prevention Fund (22 MRSA c. 252 §1322-E) to provide resources to support educational, outreach and training programs to enable the public to identify lead hazards and take precautionary actions to prevent exposure to lead. Revenue for the LPPF is obtained from a \$0.25 per gallon fee imposed on manufacturers or wholesalers of paint sold in Maine. The LPPF is administered by the Healthy Homes and Lead Poisoning Prevention Program (HHLPPP) within the Maine Center for Disease Control and Prevention (CDC) of the

There's a first time for everything...

The LPPF has created a fundamental shift in lead poisoning prevention in Maine. With the LPPF, we can act to identify and prevent potential lead hazards before any children are harmed through several new prevention initiatives. Following are some of the most significant "firsts" that occurred during the evaluation period covered in this report.

Because of the LPPF, for the first time in Maine:

- Communities throughout the state have resources for lead poisoning prevention activities.
- Prevention efforts are targeted in the areas with the highest burden of lead poisoning thanks to Maine's Environmental Public Health Tracking Network.
- Landlords are getting free lead dust testing for their rental units before any children are identified with lead poisoning.
- The state is conducting environmental lead investigations in other units in multi-family buildings where children have been identified with lead poisoning.
- All families with 1- and 2-year-olds receive lead poisoning prevention messages in their homes through direct mail.
- Partners and the public have a robust and centralized repository of educational material available online and through multiple distribution channels.

Maine Department of Health and Human Services (DHHS).

In a sense, the legislation establishing the LPPF is a landmark, representing a major expansion to the way Maine addresses lead poisoning. Prior to the LPPF, the state had statutory authority and resources to address lead when a child was identified with lead poisoning and very few resources for preventing lead poisoning from happening in the first place.

The Maine Legislature created the LPPF to accelerate progress towards lead poisoning elimination by leveraging resources for community- and population-based primary prevention activities. With LPPF resources state agencies and local organizations have greatly expanded prevention efforts to identify and address lead hazards and risks *before* children are identified with lead poisoning. This expansion includes not only new and more targeted resources for parents of young children, but also significant, new opportunities and free services for landlords to test for lead in their units, obtain training on maintaining lead-safe housing and market their properties as lead-safe.

Approximately 40 percent of all cases of identified lead poisonings are found in just five Maine communities—Bangor, Greater Portland, Lewiston/Auburn, Sanford, and Biddeford/Saco. These communities are called High Density Areas and within them, upwards of 80 percent of lead poisoning cases occur in rental housing.

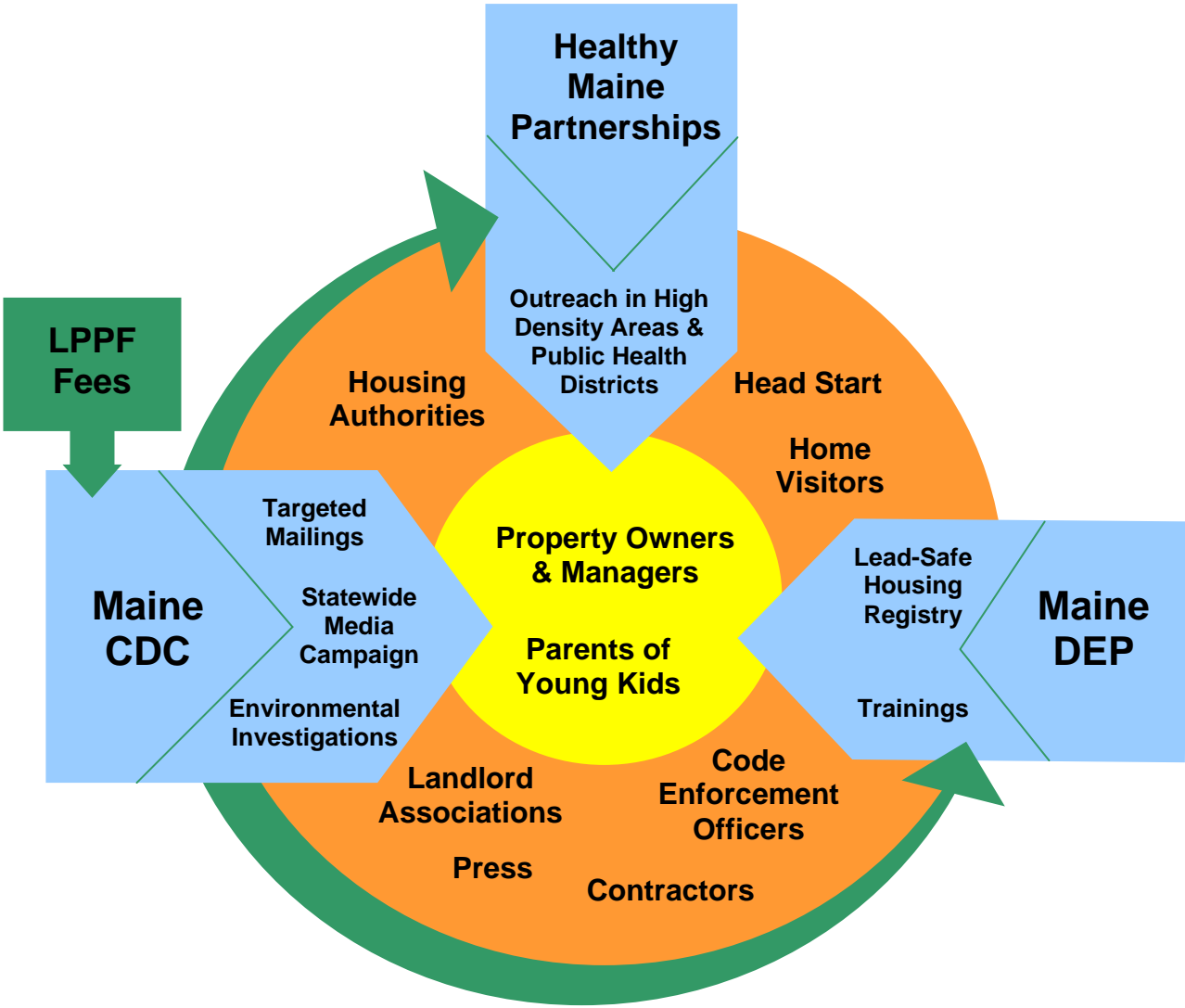
Based on these and other factors, more LPPF resources go to community-level activities in these five communities than to any other activity supported by the LPPF. In all, about half of LPPF resources support activities such as free lead dust testing in rental units and landlord and tenant outreach in the five High Density Areas and in communities in every part of the state. The other half of LPPF expenditures are used for statewide activities.

Both state agencies and community organizations receive LPPF funds to implement activities and develop partnerships designed to:

1. help parents of young children who live in homes likely to have lead hazards live safely with lead so that their children never become poisoned;
2. help property owners and managers of rental units likely to have lead hazards provide and maintain lead-safe housing so that child occupants never become poisoned; and,
3. help property owners of rental units likely to have lead hazards avoid the high costs associated with lead abatement.

Maine CDC and the Maine Department of Environmental Protection (DEP), as well as the community organizations (i.e., Healthy Maine Partnerships) that receive LPPF funds, strategically implement activities to reach parents of young children and property owners and managers. Activities complement and support each other and use multiple channels and consistent messages to reach primary target audiences and other audiences that may influence the primary audiences. The figure below illustrates this strategy and the relationship between agencies, activities and audiences.

Lead Poisoning Prevention Fund Agencies, Activities, & Audiences

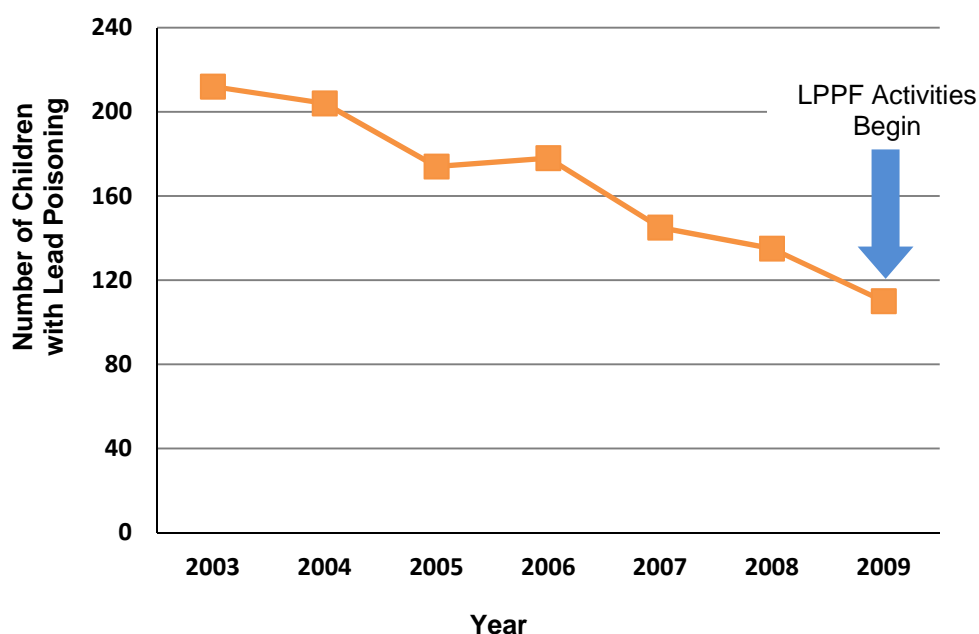


Legend					
	Flow of LPPF Funds		Organizations & Activities		Primary Target Audiences
					Secondary Target Audiences & Partners

Measuring Success

An important component of the LPPF strategy is the evaluation of LPPF-supported activities and their outcomes. Findings from the evaluation determine improvements and modifications to activities, help prioritize the use of LPPF resources, and measure changes in the number of children with lead poisoning—the ultimate success of the LPPF will be the elimination of lead poisoning in Maine.

The figure below presents the number of children under 6 years of age newly identified with lead poisoning¹ in Maine, by year from 2003 through 2009, the time period prior to the implementation of most LPPF activities. The number of children identified with lead poisoning has been decreasing over time with just over 100 Maine children identified with lead poisoning in 2009.



Using these data as a baseline, we should be able to see the impact of the LPPF by examining the rate at which this trend continues. If activities are successful, we would expect that the number of children identified with lead poisoning will begin to decrease at a faster rate. Because there is a lag time of about one year between when activities occur and when lead poisoning data become available, we will be able to begin evaluating these time trends and impacts of the LPPF on the community level in future years.

In addition to measuring the ultimate success of the LPPF, the evaluation of LPPF activities includes measuring outcomes related to the behaviors of parents of young children and property owners. The Healthy Homes and Lead Poisoning Prevention

¹ Children with lead poisoning are defined as children under the age of 6 who have a blood lead level greater than or equal to 10 µg/dl.

Program is responsible for managing the evaluation of LPPF activities. To that end, HHLPPP contracted with the Center for Governmental Research Inc. to develop an evaluation plan² for LPPF-supported activities. For each activity, the evaluation plan covers the measures and data required to evaluate progress toward meeting activity objectives. Each objective, in turn, was established to direct activities toward the ultimate goal of the LPPF—the elimination of lead poisoning.

For the initial years of activity, the evaluation of LPPF activities focuses on intermediate outcomes, using process and impact measures. Results from the initial evaluations will be used to determine the best uses of LPPF resources and ways to adjust activities to maximize potential for meeting long-term outcomes. Looking beyond the first five years of LPPF-supported activities, the evaluation will measure progress toward meeting long-term health and behavior outcomes across the state and in the five High Density Areas.

The following table is an example of a logic model included in the evaluation plan, showing intermediate and long-term outcomes and their associated evaluation measures.

High Density Areas - Landlord Outreach			
OBJECTIVES			
1. Targeted landlords are knowledgeable regarding lead hazards, landlord responsibilities, state responsibilities, and available resources;			
2. Targeted landlords are able to take advantage of available resources			
ACTIVITY			
Develop, Implement and Maintain Educational Outreach and Trainings for Landlords to Promote Lead Safe Housing.			
Intermediate Outcomes (1-5 yrs)	Evaluation Measure	Long-Term Outcomes (5+ years)	Evaluation Measure
1. HDAs plan and implement ongoing outreach activities targeting landlords of pre-1978 units	1.1. Completed HDA outreach plan		
2. HDAs host at least 2 outreach events each year	2.1 Number of outreach events completed; 2.2. Number of landlords attending events	2.1.1. Targeted landlords are aware of their responsibilities for maintaining a lead safe property and are able to take advantage of the available resources to do so.	2.1.1.1 Pre and post event surveys
3. HDAs collaborate with other community groups to reach landlords	3.1. Number of community groups involved in working with landlords.		
4. Targeted landlords complete EMP / RRP courses	4.1. Number of trainings offered 4.2. Number of landlords trained	4.1.1. Trained landlords maintain lead-safe units	4.1.1.1. Number of units owned by trained landlords placed and re-registered on LSHR 4.1.1.2 Number of children with EBLLs living in units owned by trained landlords
5. Trained landlords perform EMP in at risk units at turnover as confirmed by lead dust testing.	5.1. Number and location of LDTs submitted for pre/post EMP testing 5.2 Number of trained landlords performing EMP at unit turnover	5.1.1. The number of lead-safe units in high density areas increases 5.1.2. The number and rate of children with EBLLs in high density areas decreases	5.1.1.1. Number of units owned by trained landlords placed and re-registered on LSHR 5.1.1.2 Number of children with EBLLs living in units owned by trained landlords
6. Trained landlords register units with LSHR	6.1. LSHR is operational 6.2. Number of units on LSHR	6.1.1. LSHR is populated with units that are lead-safe and affordable for tenants in high-risk areas	6.1.1.1. Number of units on LSHR 6.1.1.2. Number of affordable units on LSHR

² The evaluation plan is available online at: <http://www.maine.gov/dhhs/mecdc/environmental-health/cohp/lead/lppf.shtml>

The evaluation results that follow in this executive summary present an overview of findings from process and outcome measures associated with following eight areas of primary prevention activity supported by the LPPF.

1. Funding Community Partners in high density areas (HDAs), where cases of elevated blood lead levels (EBLLs) are concentrated;
2. Funding Community Partners in eight Public Health Districts (PHDs) throughout the state;
3. Trainings for landlords, homeowners and contractors provided by the Department of Environmental Protection (DEP);
4. The DEP's Lead Safe Housing Registry (LSHR);
5. Environmental investigations in the homes of children with blood lead levels from 15 to 19 $\mu\text{g}/\text{dl}$;
6. A statewide multimedia campaign;
7. A targeted mailing to parents of 1- and 2-year-olds, with an offer of a free lead dust test kit; and,
8. A targeted mailing to parents of 1- and 2-year-olds, without an offer of a free lead dust test kit.

Complete results, discussions and recommendations are included in the full report.

The report is intended to inform agency staff, advisory board members and other stakeholders about the accomplishments, progress and limitations of the LPPF and provide recommendations for continuing, improving, changing or ceasing activities. The report should be used as a tool to strengthen efforts to prevent lead poisoning in Maine.

Moving forward, the Maine Healthy Homes and Lead Poisoning Prevention Program will conduct periodic updates to certain portions of this report. Updates may focus on a particular activity such as lead dust testing, community outreach in High Density Areas or the targeted mailings. HHLPPP will issue its next comprehensive evaluation report in 2016.

Summary of Evaluation Results and Recommendations

Community Partnerships

The LPPF legislation calls for contracts to support “community outreach programs to enable the public to identify lead hazards and take precautionary action to prevent exposure to lead.” Based on this directive the community organizations that make up Maine’s local public health infrastructure-- Healthy Maine Partnerships (HMPs)-- receive contracts from the Maine CDC to target resources and directly engage and empower communities in lead poisoning prevention.

These community partnerships are the first of their kind in Maine to be used for lead poisoning prevention. With LPPF resources, HMPs:

- greatly expand the ability to reach families and landlords most at risk;
- are successful at identifying lead dust hazards before children are poisoned;
- are building capacity and expertise at the district and community level related to lead poisoning prevention.

Evaluation results of community-based activities are divided between those that took place in High Density Areas (i.e., areas with the highest burden of lead poisoning) and those conducted in Maine’s eight Public Health Districts. Results from each are summarized below.

High Density Areas

The five High Density Areas (HDAs) are: Bangor, Biddeford/Saco, Greater Portland, Lewiston/Auburn, and Sanford. Forty percent of all children identified with lead

Top LPPF Accomplishments

The following represent the most significant achievements that occurred because of the LPPF during the evaluation period.

1. 50% of LPPF resources distributed to community organizations, establishing capacity and infrastructure for education and preventive lead dust testing in homes throughout the state and expanding prevention efforts to far more people than ever before possible.
2. More than 350 homes tested for lead dust—the most common cause of childhood lead poisoning in Maine. These tests help residents and landlords identify lead dust and protect children from getting lead poisoning. Prior to the LPPF homes were tested only if a child was poisoned there.
3. Increased number of lead investigations in rental units or owner-occupied homes from 25 in 2007 to 115 during the evaluation period.
4. 370 landlords completed lead training required by the U.S. Environmental Protection Agency. These landlords own at least 2,900 units, two-thirds of which were built before 1950. Pre-1950 buildings often have lead paint that can turn into poisonous lead dust.

poisoning in Maine live in these five areas. Because upwards of 80 percent of children identified with lead poisoning in these areas live in rental housing, funding to these communities is used to promote lead hazard awareness among landlords and tenants, and identify lead dust problems in rental units.

The most significant finding to come out of the evaluation of the Community Partner activities in the High Density Areas was that 238 rental units were tested for lead dust before any children were identified with lead poisoning. One-third of the units tested had elevated levels of lead dust and landlords of those units were given education, training, or resources to address the lead dust found in their units. This is significant for two reasons. First, these landlords were provided with information and resources to take steps to protect children that live in their units. Second, by addressing lead problems proactively, these landlords could drastically reduce their chances of facing a mandatory and very costly (e.g., about \$10,000 per unit) lead abatement, ordered when a child is identified with lead poisoning in a rental unit.

While the goal for the evaluation period was to test a total of 500 units, testing in 238 units represents significant forward progress towards identifying and addressing lead dust problems before any children are harmed. HHLPPP staff worked with Community Partners to identify barriers to meeting testing goals and ways to increase enrollment in the program.

Additional results from the evaluation indicate that Community Partners in the High Density Areas were able to:

1. form and leverage partnerships with 48 different community organizations throughout the state to reach landlords and tenants;
2. hold at least 2 landlord and 2 tenant outreach events in each area;
3. provide U.S. EPA Renovation, Repair and Painting training to a total of 180 landlords in the High Density Areas;
4. identify barriers to reaching landlords and develop new strategies to overcome barriers.

Recommendations from the evaluation include:

1. continue to provide contracts to HMPs to conduct landlord and tenant outreach in High Density Areas;
2. continue to monitor locations of residences of children identified with lead poisoning to target community activities;
3. continue lead dust testing in rental units, using strategies identified to reduce barriers and increase enrollment.

Public Health Districts

Organizations in Maine's eight Public Health Districts (PHDs) address lead in communities that are outside of the five High Density Areas. Community Partners in the Public Health Districts develop, implement and maintain outreach to target audiences to promote lead-safe housing and work with local community groups. Specifically, LPPF funding is used by PHD Community Partners to develop a district-wide outreach plan, provide training and education to staff and hold outreach events.

Results from the evaluation indicate that Community Partners in the Public Health Districts were able to:

1. form and leverage partnerships with more than 50 different community organizations throughout the state;
2. hold a total of 21 outreach events;
3. distribute more than 26,600 pieces of educational material.

Recommendations from the evaluation include:

1. continue to provide capacity and knowledge building activities for HMPs in the Public Health Districts;
2. continue to provide materials to partners to distribute throughout the state to target audiences.

Trainings

The Lead Poisoning Prevention Fund legislation calls for contracts to support “worker educational outreach programs and funding of educational programs and information for rental property owner.” The Maine Department of Environmental Protection (DEP) receives LPPF resources to offer lead training at no or reduced charge to Maine landlords, contractors and homeowners.

During the evaluation period covered by this report, a new rule from the U.S. Environmental Protection Agency took effect. This Renovation, Repair and Painting (RRP) rule requires that people working on homes or child-occupied facilities built before 1978 be certified and follow specific lead-safe work practices. The new rule applies to the estimated 350,000 Maine houses built prior to 1978, and more than 180,000 built prior to 1950 and therefore likely to have lead paint. In addition, the new rule applies to landlords of pre-1978 units if they do their own work on their units.

The buildup to the effective date of the RRP rule produced an enormous demand for training among landlords and contractors. With LPPF resources the DEP was able to help meet that demand, providing vouchers to landlords to reduce training fees. However, due to the overwhelming demand for RRP training, very few LPPF resources were available

for other trainings, such as the Essential Maintenance Practices course, during the evaluation period.

Results from the evaluation show that:

1. LPPF funds supported 105 RRP classes;
2. 370 landlords were trained in RRP classes supported by the LPPF, representing at least 2,900 units, 74% of these were built before 1950;
3. 901 contractors trained using LPPF funds.

Recommendations from the evaluation include:

1. continue to encourage Community Partners to recruit landlords into LPPF supported trainings;
2. develop trainings that have more appeal and are more accessible for homeowners.

Lead Safe Housing Registry

The LPPF legislation calls for the Maine Department of Environmental Protection (DEP) to create a Lead Safe Housing Registry (LSHR) to enable tenants to locate lead-safe housing. The DEP receives LPPF resources to develop the LSHR, an online searchable database which property owners can use to list their lead-safe rental properties, and potential tenants can use to locate lead-safe housing.

The LSHR is not complete but was in development during the evaluation period covered by this report. DEP expects the Lead Safe Housing Registry to be ready for enrollment in 2011.

Environmental Investigations

State law requires the Maine Department of Health and Human Services to conduct environmental lead investigations in homes where children identified with lead poisoning reside. The law also speaks to preventively testing all units in a multi-unit dwelling if a child in any unit is identified with lead poisoning. These investigations help to identify sources of lead exposure and help landlords and homeowners understand areas in the home that need to be addressed.

Until the LPPF, these services were limited by available resources. Notably, the Maine CDC's Healthy Homes and Lead Poisoning Prevention Program (HHLPPP) only had resources to provide full environmental investigations to children with significantly elevated blood lead levels (i.e., above 20 µg/dL or persistently between 15 and 19 µg /dL over time). For families with children with lower levels, HHLPPP was only able to provide modest support to help them reduce exposures. HHLPPP did not have resources

to investigate other units in the building if a child with lead poisoning lived in a multi-unit building.

LPPF funds have allowed HHLPPP to greatly expand its environmental investigations and come closer to meeting its statutory mandate. With LPPF support, HHLPPP now performs investigations for all children with confirmed blood lead levels above 15 µg /dL. In addition, LPPF funds have allowed HHLPPP to investigate other units in a building if an investigation has been ordered for one unit.

The evaluation results showed:

1. an increase in environmental investigations in units where children had elevated blood lead levels from 25 units in 2007 to 65 units during the evaluation period;
2. an additional 50 *preventive* investigations conducted in multi-unit buildings when the original unit was determined to have lead hazards;
3. of the 115 total units investigated, 90 were ordered to be abated and the rest were either determined to be free of lead hazards or were private homes with lead hazards where the owners were provided with technical assistance to address the lead hazards.

Based on these findings, the report recommends that HHLPPP continue to use LPPF funds to conduct environmental investigations.

Media Campaign

The Healthy Homes and Lead Poisoning Prevention Program has been using LPPF funds to conduct a media campaign that includes: 1) development and distribution of a brochure, 2) development and maintenance of a website, 3) maintenance of a toll-free phone number, 4) development and distribution of tipsheets, 5) retail store posters, and 6) press release templates. While the true impact of a media campaign is often difficult to determine, the media campaign supports all prevention activities and has provided new opportunities to reach audiences with consistent and targeted messaging.

Further, the process measures used to evaluate the media campaign indicate that while some components of the campaign such as the toll-free phone number, are not heavily used, others such as materials distribution through HMPs and press outreach are working well.

For example, results from the evaluation indicate that:

1. Community Partners are well positioned to distribute lead poisoning prevention materials; Community Partners gave out more than 26,000 pieces of educational material throughout the state;

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2. HHLPPP and Community Partners are able to use the press to draw attention to lead poisoning prevention messages through press announcements and other outreach, with at least 75 media placements throughout the state during the evaluation period.

Recommendations from the evaluation include:

1. continue to distribute educational materials through Community Partners;
2. continue to issue press announcements to support other outreach activities.

Targeted Mailings

The LPPF legislation also requires targeted educational mailings to families with children that occupy dwellings built prior to 1978. The Healthy Homes and Lead Poisoning Prevention Program developed a direct mail campaign for all parents of 1- and 2-year-olds living in Maine, bringing lead poisoning prevention information to all families with young children throughout the state for the first time.

There were two versions of the mailer; both offering the same lead poisoning prevention information, but only one offering a free lead dust test (LDT) kit. Lead dust test kits allow families to find out if they have poisonous lead dust in their homes. HHLPPP provides follow-up support, education and resources for families that do a lead dust kit, helping families with lead dust problems find solutions and keep their children safe.

Comparing results from the two mailers shows that the mailer with the offer for a free LDT kit elicited a far better response rate from the direct mailing and that the direct mailing was, by commercial marketing standards of 3 to 5 percent, an effective way to deliver lead poisoning information directly to households.

Specifically, results from the evaluation include the following.

1. A 3.5% response rate from the direct mailing to 25,358 households with the offer for a free LDT kit; compared to a 0.7% response rate from the mailing without the offer to 20,500 households.
2. Nearly 3,000 tipsheets requested through the direct mail campaigns: 2,354 through the mailing with the offer for a free LDT kit and 501 through the mailing without the offer.
3. 853 households requested a free lead dust test kit, of these 131 (15.4%) returned the kit for analysis; 34 households identified with high levels of lead dust.
4. One-third of the lead dust test kits were returned by tenants with 37% of them identifying elevated levels of lead dust. Among homeowners, only 14% found elevated levels of lead dust.
5. None of the children living in homes with elevated dust levels had elevated blood lead levels.

Recommendations from the evaluation include:

1. discontinue targeted mailing without the offer for a free lead dust test kit;
2. continue the direct mailing with the offer for a free lead dust test kit at least one more year in order to measure effects on blood lead screening rates;
3. investigate ways to encourage appropriate families to request and return test kits for analysis.

Conclusion

Taken as whole, the results from this first evaluation period reveal three principal conclusions. First, the evaluation results are helping to determine what activities are working well, what activities should be discontinued and how to modify activities to improve outcomes. And while many of the results from these early stages of activities reflect purely process measures, they are important building blocks that can help put the LPPF in the best possible position to reach health outcome objectives.

Second, because of the resources made available by the LPPF, Maine has established a strong model for community-based lead poisoning prevention through the Healthy Maine Partnerships. For example, the evaluation revealed that developing strong partnerships with HMPs expands the reach of lead poisoning prevention activities to far more people through outreach events, educational materials and community collaborations.

Finally, with the infusion of primary prevention resources from the LPPF, Maine is breaking new ground and finding success in getting into homes to identify and address lead dust concerns before any children are harmed. Through the dust testing in rental units and targeted mailings as well as the environmental investigations—all supported by LPPF resources—lead dust testing occurred in nearly 500 units throughout the state during the evaluation period. The testing in these units found more than 150 units with lead dust problems without first finding a child with lead poisoning.

From these conclusions, and as more lead poisoning data become available, the agencies that use LPPF resources will continue to adapt activities and prioritize resources to improve outcomes so that Maine moves closer and closer to the elimination of lead poisoning in the state.