Safe Keeping: HUD' Relocation & Re-occupancy Guidelines
Under HUD's Lead Hazard Control Grant program, more than 1,000 households responded to questionnaires about their experiences
By Jonathan Wilson

Since the days of Lewis Carroll's Mad Hatter, elevated levels of lead in the bloodstream have been associated with long term physical, neurological and behavioral problems in children. Research has indicated that large increases in children's blood lead levels can occur as a result of lead abatement activities unless special precautions are taken to keep children away from the work area during intervention.

The Department of Housing and Urban Development (HUD) used these findings to develop relocation and re-occupancy guidelines for grantees under its Lead Hazard Control (LHC) Grant program. For example, occupants are prohibited access to work areas or designated adjacent areas while lead hazard control activities are taking place. The guidance further states that residents cannot reoccupy a work area or adjacent area until post-lead hazard reduction clearance standards have been met. Further, residents are to be relocated from the building when LHC work requires more than eight hours to complete.

When grantees do not relocate all families, they are required to prepare detailed descriptions of their occupant safety strategies. Relocation is not required when the lead hazard control activities are of a limited scope, such as cleaning affected surfaces or spot paint stabilization.

Once a decision is made to relocate a household, grantees have several options available:

- Set aside a lead-safe apartment, lead safe units in buildings undergoing rehabilitation, or rent hotel rooms to be used exclusively for relocation. This is the most costly, highest grantee control.
- Pay for all reasonable costs associated with re-location but not for alternative housing
- Provide furniture moving and storage
- Provide incentives for the household to manage the entire relocation process. This is the least costly, highest occupant control option.

An evaluation of the HUD LHC program, jointly coordinated by the National Center for Healthy Housing and the University of Cincinnati (the Evaluators), was to be published in Fall 2003. The report evaluates the responses of 1,149 households whose dwellings were treated under the HUD LHC Grant between January 1994 (when data collection began) and October 1998 (when the last data were collected).

Occupants Speak Out

Using an Occupant Protection Questionnaire, HUD grantees interviewed one adult member of each household after work was completed. The questionnaire investigated whether families were temporarily relocated from the dwelling or merely kept away from the work area during the intervention. It also assessed the degree of, and reasons for, noncompliance of family members with grantee safety procedures (such as whether they returned to the home during the intervention and why).

A total of 1,149 occupant protection questionnaires, representing 1,1,33 dwelling units, were available for analysis. The occupant protection interview was generally conducted immediately after each unit was cleared for reoccupancy.

Eight hundred nineteen (819) households (71 percent) relocated during the lead hazard control work; the vast majority relocated prior to the start of the work. The median period of relocation was 13 days, with a range of 7 to 27 days.

Approximately one in five households reported that someone in the household returned to the dwelling unit while the intervention was being conducted. The longer the relocation period, the less likely the family was to return. Among those household members who returned to their dwellings, return visits were generally brief, lasting less than one hour in the dwelling. For most households that returned during relocation, a single person returned to the home. However, 10 percent of the households that returned during relocation included a child. Participants identified many reasons for returning to their homes, most notably to pick up personal belongings and mail.

Just over half of the households relocated outside the neighborhood. Of those that remained in the neighborhood, 41 percent remained in the same building in a different dwelling, while 12 percent of the households moved next door. The further away a

household relocated, especially if it was outside of the neighborhood, the more likely a member was to return to the dwelling during intervention. Thirty percent of households relocated to a different neighborhood returned to the dwelling during intervention, while just 5 percent returned when they were relocated within the building.

Slightly less than one-third of the households did not relocate from the dwelling unit during lead hazard control work. HUD placed a number of requirements on grantees that chose not to relocate a household from a dwelling, and in general, it appears that grantees complied with those requirements. A relatively modest number of these households stayed out of the dwelling unit during the work period but returned at night; most of the remaining households stayed in the dwelling unit during the day and were able to stay out of the work area. Eight percent of all non-relocated households reported that they remained in the dwelling unit and entered or may have entered the work area. Half of these households reported that someone in the household entered the work area while work was in progress.

Of the households that remained in the dwelling unit during the work, four out of five reported that all dust and debris were cleaned up each day. Proportionately few non-relocated households did not believe that dust and debris were completely cleaned up each day. In total, it would appear, based on household self-report, that most participating household members were not exposed to lead dust during hazard control work.

Treatment strategy

Based on the HUD guidelines, it was expected that dwellings where households did not relocate were to be treated with lower intensity treatments that would create little or no dust and debris. The grantees tended to follow this expectation. Specifically, all households that lived in abated units undergoing the most intensive LHC work were relocated while just over four-fifths of households that lived in dwellings that received window treatments or replacement were relocated. In contrast, only one-fourth of households that lived in dwellings that had no interior work or only received cleaning/spot painting intervention were relocated.

Although grantees tended to relocate families living in dwellings with more hazardous interventions, a substantial portion of the non-relocated households lived in homes with higher levels of treatment. Of the 329 non-relocated households, one in four lived in homes receiving moderately intense interventions (such as treating or replacing windows) while a smaller proportion lived in homes undergoing less invasive work. The remaining households that did not relocate followed more predictable patterns and lived in dwellings where no interior lead hazard control work was conducted or where spot painting/cleaning was done.

What Was Discovered

Overall, households felt that they were adequately protected from lead-based or other safety hazards by the occupant protection measures. Specifically, 87 percent of interviewed households reported they were adequately protected, while another 7 percent were not sure or had no opinion. Importantly, whether the household was relocated had no bearing on perceptions of occupancy protection in that 85 percent of non-relocated households felt adequately protected compared to 88 percent of relocated households (Table 1). Interestingly, households living in dwellings undergoing the least intensive interventions felt more protected (94 percent) than households living in homes treated by higher-level interior strategies (86 percent).

Taken as a whole, the results from the occupant protection interviews suggest that grantees and households generally followed HUD guidance for occupant protection. This high level of compliance was reflected in reports that most households were relocated from the dwellings during the duration of the treatments and did not return to the worksite for intervention. As anticipated, when households were not relocated, treatments tended to be of a more limited nature. Even among non-relocated households, the vast majority (89 percent) reported that residents remained out of the work area and less than 20 households entered the work area while work was in progress. The sufficiency of the grantee's protective measures seems to be supported by respondent's opinions about the adequacy of the occupant protection.

While the results were generally positive, six percent of all households reported that they did not feel adequately protected. Over 20 percent of these households returned to the dwelling during intervention and another 5 percent did not relocate from the dwelling prior to the start of work.

Impact on Blood Lead Levels

Data from the households that did not relocate or relocated late were combined and compared with data from households that fully relocated as part of the analysis of the effects of various factors on increases in children's blood lead levels.

The evaluation suggests that on a case-by-case basis, some children may have been put at increased risk because of breakdowns in the occupant protection system. Grantees reported nine of the 81 children had blood lead levels that increased by 5 μg/dL or more, most likely because their families did not relocate, their families were present for at least part of the work period, or their families returned to the home. As individual cases, these reports cannot be discounted. However, the overall analysis did not show increases in blood lead levels were anymore likely among children who either did not relocate or relocated for less than the full work period compared to children living in households that fully relocated. This finding contrasts favorably to previous research.

This finding should not be misinterpreted to suggest that relocation was no more beneficial than not relocating, but instead suggests that the grantees' occupant protection decisions were appropriate. When grantees felt that households did not need to be relocated or could be partially relocated, the children were as protected (when measured by chance of blood lead increases) as when grantees felt that the households had to be relocated. Statistical analysis did not identify any interior strategy that had a significantly different effect on the likelihood of a child having an increase in blood lead levels of 5 μg/dL or more.

Table 1: Number and Percent of Households Who Reported that They Were Adequately Protected by Occupant Protection Activities by Interior Strategy

Interior Strategy	Total Households[b]	Number and Percent of Households Who Reported that They Were Adequately Protected		
		Relocated Households	Non-Relocated Households	All Households
01 and 02: No action or cleaning and spot paint stabilization only	127	31 94 percent	89 95 percent	120 94 percent
03: 02 and Complete paint stabilization and floor treatments	105	38 86 percent	48 79 percent	86 82 percent
04: 03 and window treatments	193	109 87 percent	53 78 percent	162 84 percent
05: 04 and window replacement plus wall encapsulation	565	441 88 percent	54 84 percent	495 88 percent
06 and 07: All lead paint enclosed or removed	11	9 82 percent	-	9 82 percent
All strategies	1,001	628 88 percent	244 85 percent	872 87 percent

Participating grantees included State and local governmental agencies in Alameda County, CA, Baltimore, MD, Boston, MA, California, Chicago, IL, Cleveland, OH, Massachusetts, Milwaukee, WI, Minnesota, New Jersey, New York, NY, Rhode Island, Vermont and Wisconsin. One household was known to have relocated based on other responses, but the specific point of relocation was not reported. The interior strategy was not reported for seven of the dwellings where non-relocated households lived. This analysis does not include responses from households living in New York City because the responses of its residents deviated substantially from the other grantees.

Lessons Learned

The very nature of LHC work creates more opportunities for exposure to lead, especially among children. That's why compliance with relocation and reoccupancy guidelines among affected residents is an essential component to the ultimate success of the HUD Lead-Based Paint Hazard Control Grant Program. Through the course of the LHC program, grantees gained valuable insights about relocation. To capture those experiences as well as those of other organizations engaged in lead hazard remediation, NCHH staff conducted interviews in 2002 with 15 relocation programs, including some HUD LHC grantees. The interviews yielded several practical guidelines:

- Lead hazard control work conducted in conjunction with other work took far less relocation time than rehabilitation work. Efficient and organized contractors were able to streamline the work with substantial planning and coordination upfront. Responsible contractors were also willing to sign agreements to complete the work in a timely manner and not disturb household belongings.
- Families need assistance in preparing to move, even temporarily. Several programs held relocation workshops as a way to educate families about what to expect.
- Agreements should also be signed with occupants to prevent them from making unsafe entry into their own dwelling while work is being conducted.
- Assigning a full-time staff member to answer families' questions and address issues of concern, such as security, prevented project relocation delays and improved household satisfaction.
- Programs managed relocation expenses by getting signed agreements with hotels, movers and other service providers prior to relocation.
- On-site, even daily, project monitoring of the repairs helped programs track progress, prevent delays and reduce property damage.
- Caring for family pets can be handled in a variety of ways. A few programs reimbursed boarding costs at a kennel if the pet was not allowed to stay at the relocation site.

Policy Implications

The requirement to relocate during LHC work may have been perceived as overly onerous for some families, making it unlikely that they would fully comply with the relocation and re-occupancy requirements. Organizations undertaking lead hazard control (and other remediation work) must take steps to understand the reasons why family members may return to their home as part of the initial recruitment discussions with households. Program staff must also remain vigilant to offer households the necessary support and incentives to stay out of the work areas and be properly protected. Finally, programs should document and disseminate strategies that appear to best help relocated families comprehend the relationship between returning to the dwelling unit while LHC work is underway or entering the work area during the day (if not relocated) and elevated blood lead levels among their children.

Jonathan Wilson is the Director of Public Policy and Intergovernmental Relations, National Center for Healthy Housing (NCHH). He previously served as the director of lead evaluation for HCHH and helped coordinate the evaluation of the LHC Grant program. The Evaluation is the largest and most comprehensive study of lead hazard control in housing ever undertaken in the United States. Linda Bergofsky, presidential management intern, US Department of Health and Human Services, and Shara Godiwalla contributed to this article.