

A Pilot Study Examining Changes in Dust Lead Levels on Walls and Ceilings After Lead Hazard Control Interventions

Ellen Tohn,¹ Sherry Dixon,² Ron Rupp,³ Scott Clark⁴

¹ERT Associates, 4608 DeRussey Parkway, Chevy Chase, MD 20815, ² National Center For Lead-Safe Housing, 10227 Wincopin Circle, Suite 205, Columbia, MD 21044, ³ Vermont Housing and Conservation Board, ⁴ University of Cincinnati, Department of Environmental Health

Abstract

We examined whether it is necessary to clean walls and ceilings following lead hazard control (LHC) interventions. In this study dust lead loadings measured on walls and ceilings prior to a LHC intervention were compared with lead loadings measured after the intervention. Twenty-two dwelling units undergoing lead hazard control measures likely to produce substantial lead dust were enrolled in the study. In 11 of the dwelling units, dust lead levels were collected after the LHC intervention but before cleaning occurred. In the remaining 11 dwelling units, limited cleaning of walls and ceilings was performed before the post-intervention dust lead loadings were measured. In all 22 dwelling units, additional data were collected on housing characteristics, paint lead levels, dust lead levels on floors and windows (pre- and post- intervention), and type of intervention. Prior to the intervention, dust lead loadings on walls and ceilings are extremely low, even in dwelling units with substantial amounts of lead-based paint and hazardous levels of lead-contaminated dust on floors and windows. However, there was a significant increase in dust lead loadings on walls between the pre- and post- intervention. While dust lead loadings on ceilings also increased, the change was far less substantial than for walls and not practically significant. The results indicate that limited cleaning of walls and ceilings may be effective in substantially reducing dust lead levels after lead interventions. The results from this pilot study emphasize the importance of cleaning walls after LHC intervention are complete in order to reduce lead dust hazards created by work such as paint stabilization and window treatments.