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Reassessing Visual Assessment Techniques in Lead Project for Scott County

Hannah Lindaman

Augustana College, Rock Island Illinois

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Reassessing Visual Assessment Techniques in Lead Project for Scott County

Hannah Lindaman

Upper Mississippi Center

Augustana College, Rock Island, IL

It is hypothesized that one or more of the variables collected will show a stronger correlation with very high risk homes compared to high risk homes that were visually assessed during the pilot survey.

The sample was 91 residential buildings, previous interns classified these specific parcels as 24 very high risk and 67 high risk. The data collected suggests little difference between the two categories of risk relative to the visual characteristics that were represented by scales: overall condition of the windows, siding, roof, and foundation. Table 1 organizes that data to show the average score the houses were given for each of those characteristics. The non-scale variables that were collected showed that 45.8% of the very high risk homes had at least one boarded window whereas the high risk yielded 19.4% having at least one boarded window. Data analysis suggests that the variables tested for showed no significant difference between very high risk homes and high risk homes.

It is shown that these two groups yielded similar results so what we know is that visual assessment itself will not help to differentiate between high risk and very high risk. It is known that any level of lead in the human body is dangerous so instead of looking at the difference between the two groups, they should be looked at as a whole for this particular pilot survey data set (Figures 1 and 2). When this is done it is seen that overall condition of siding and overall condition of foundation are the two characteristics that are more bad than good in our sample (Figure 2), this may suggest that homes that are considered to be most at risk for lead poisoning also do have other problems on the exterior of their home. This is important to note for this project because homes that have more than just lead exposure will be more costly for remediation.

Table 1.

	Overall Condition of Windows	Overall Condition of Siding	Overall Condition of Roof	Overall Condition of Foundation
Very High Risk Homes	2.42	2.21	2.30	2.17
High Risk Homes	2.54	2.30	2.70	2.01

Figure 1.

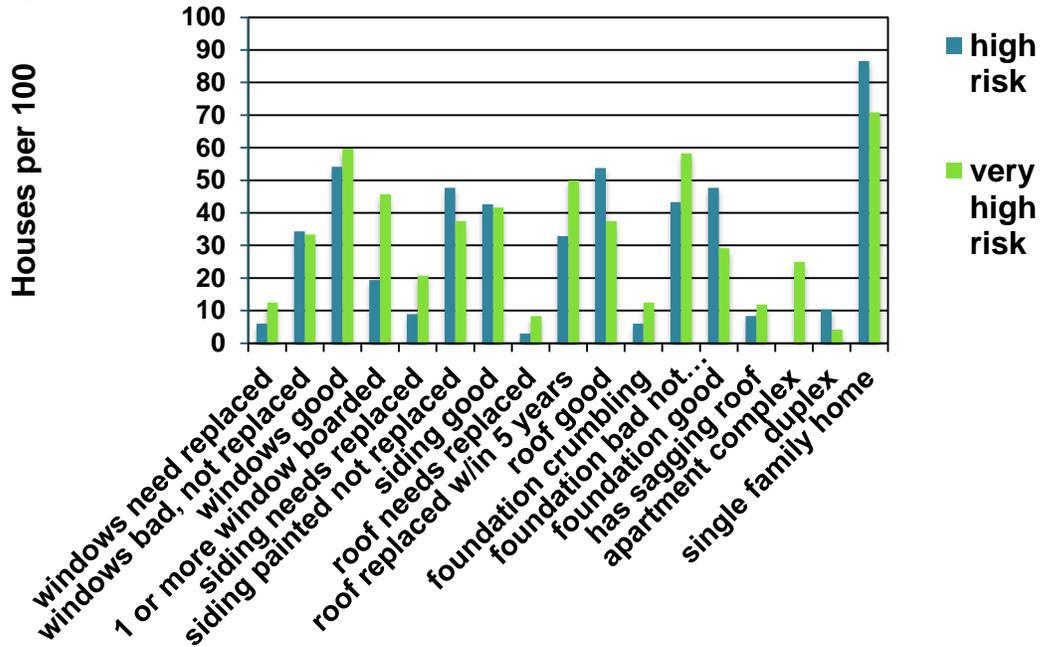
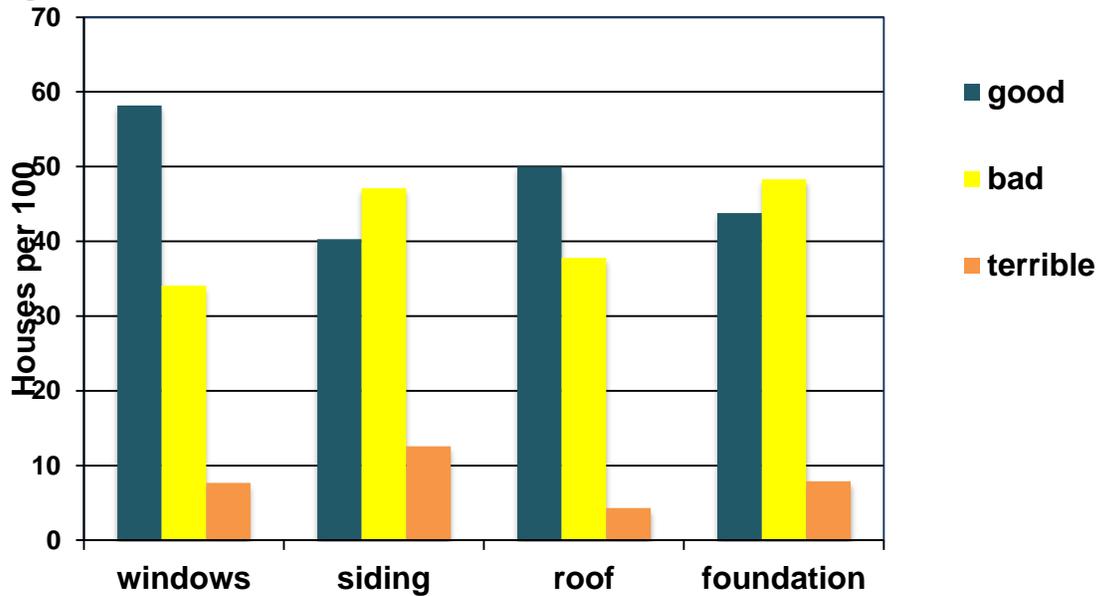


Figure 2.



The null hypothesis is accepted for this data analysis; there are no significant differences in scores for the pilot survey between high risk and very high risk homes when looking at the visual assessment data that was taken during the pilot survey. Although the hypothesis is not accepted, there is much to learn from the data that was analyzed. High risk and very high risk homes are similarly ranked when solely visually assessing them. Visual assessment was used to determine if the maps were

representative of the parcels that are there based on the data that was preliminarily presented (such as age of building, race of tenants, and if it was a rental or owned residence).

There are limitations to this study that may be resolved during the full-scale survey. One limitation is that when they mapped where they wanted the route to run for the pilot survey, they chose areas where the parcels were all either very high risk or high risk so there was not much variability seen in the data as far as risk category goes, as the results showed. Another limitation is that the application that was used by the students collects the location that the user is standing at the moment they enter their data, and although they were asked to stand directly in front of the house they were assessing, if they were standing off to the side or down the street from their observed house, the GPS point may be misidentified.

Although this study was aimed to be an analytic study, the data was more telling when studied as if it were a descriptive study. The goal was to analyze how well visual assessment techniques worked at a preliminary standpoint; this was unable to be determined due to the limitations described. The conclusion that can be made from the analyses that were done is that high risk homes and very high risk homes' siding and foundation overall conditions are worse off than the roof and windows in this sample.

More hypotheses can be drawn from looking at the data that was analyzed, such as: there will be a significant difference between risk groups during visual assessment when moderate and low risk homes are added into the sample, low and moderate risk homes will yield similar visual assessment data much like high risk and very high risk homes did, the roofs and siding of moderate and low risk homes will be significantly in better condition than the very high risk and high risk homes.