III. B. Appalachian Associations

As outlined in Section I, the method used to derive associations between socioeconomic conditions and premature mortality is dependent on the global mean of the overall distribution. Therefore the analyses described in Section III.A represent associations relative to the national average of each socioeconomic indicator and the national average of the rate of premature mortality for each cause of death. This is useful in order to situate the socioeconomic and health outcome conditions of the Appalachian region within the broader national context.

For this section, a more constrained geographic area was used based on the official A.R.C. designated Appalachian region. This region includes, in addition to the 410 county Appalachian region, counties whose boundaries are roughly within 50 miles of the A.R.C. designated counties. This was done to ensure that Appalachian counties had a sufficient number of neighbors to include in the analysis. The constrained region permits an evaluation of the associations between socioeconomic condition and premature mortality compared to regional, as opposed to national, averages.

III.B.1 Premature All-cause Mortality

The regional pattern of premature all-cause mortality is represented by a strong north-south gradient with high rates in the Central and Southern counties of the region and low rates in the Northern counties (see Section II, Figure 3). Appalachian counties are primarily represented by the mid-range values of the national distribution of rates of premature all-cause mortality, ranging from the 2nd through 4th quartiles.

Statistically significant associations between socioeconomic conditions and premature all-cause mortality are found consistently in the northern and extreme southern counties in the region (see Figures 26-30). However, there is a clear demarcation between these northern and southern counties with respect to two key indicators of socioeconomic condition; the poverty rate and the percentage of persons without health insurance. The majority of the northern counties have low rates of poverty and low percentages of persons without health insurance when compared to the regional average. Conversely, the counties in the south have generally high rates of poverty and high percentages of persons without health insurance. The majority of counties in both areas have relatively low income levels and appear to be comparable with regards to the percent urban population and the proportion of counties in each area with both high and low rates of unemployment.

Figure 26. Associations between Premature All-cause Mortality and Percent Urban Population in the Appalachian Region.

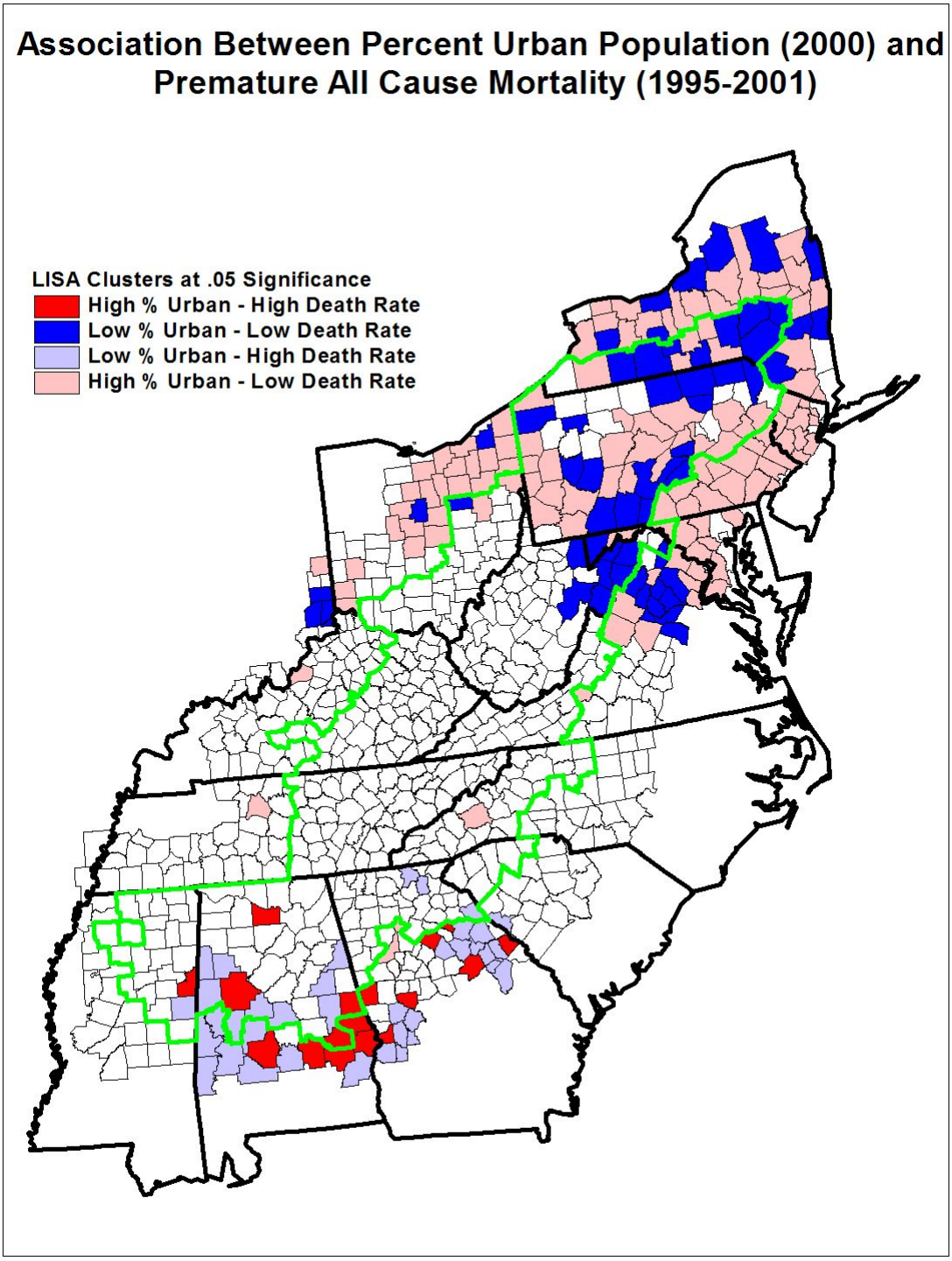

Figure 27. Associations between Premature All-cause Mortality and Median Family Income in the Appalachian Region.

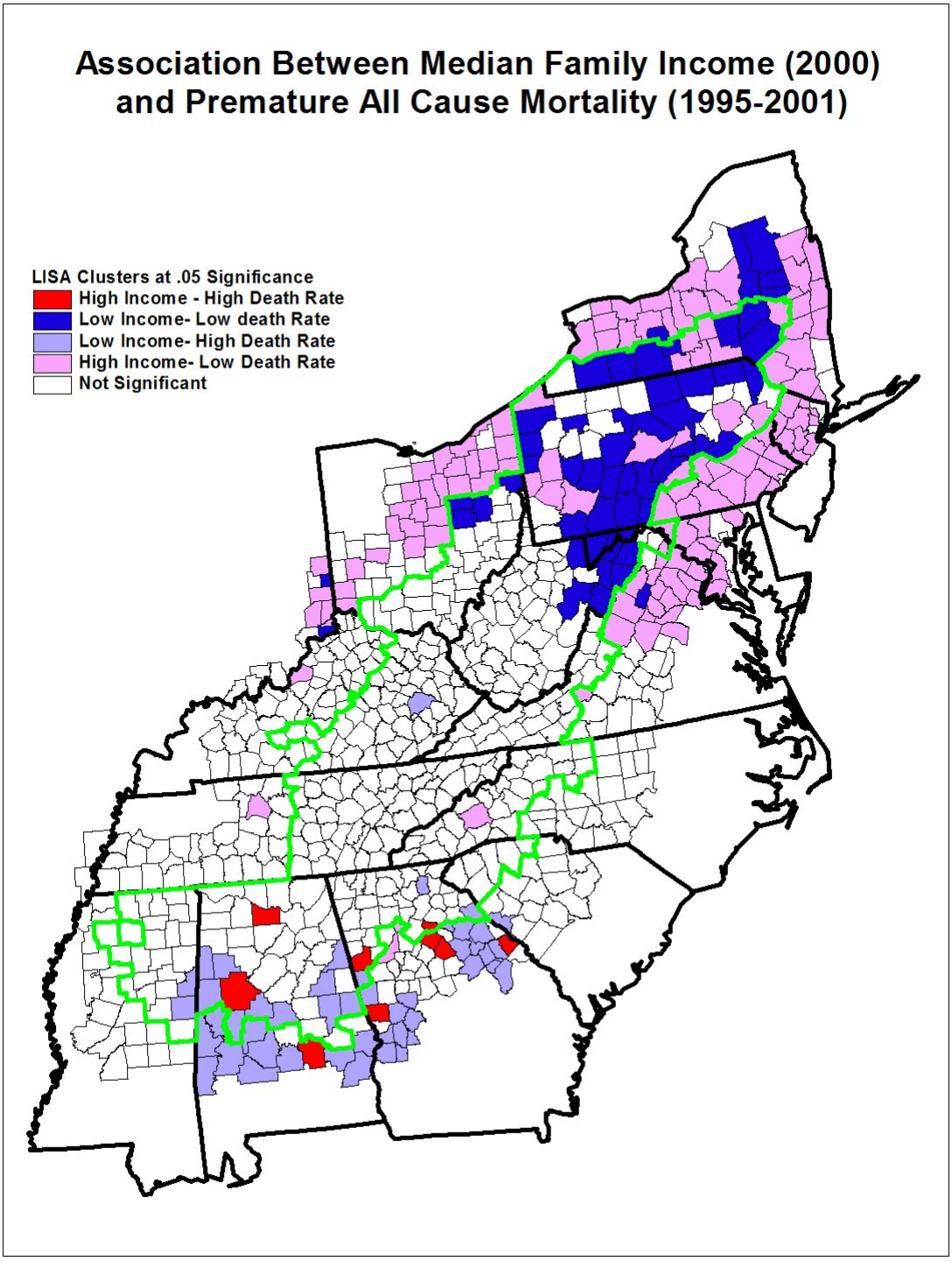

Figure 28. Associations between Premature All-cause Mortality and the Poverty Rate in the Appalachian Region.

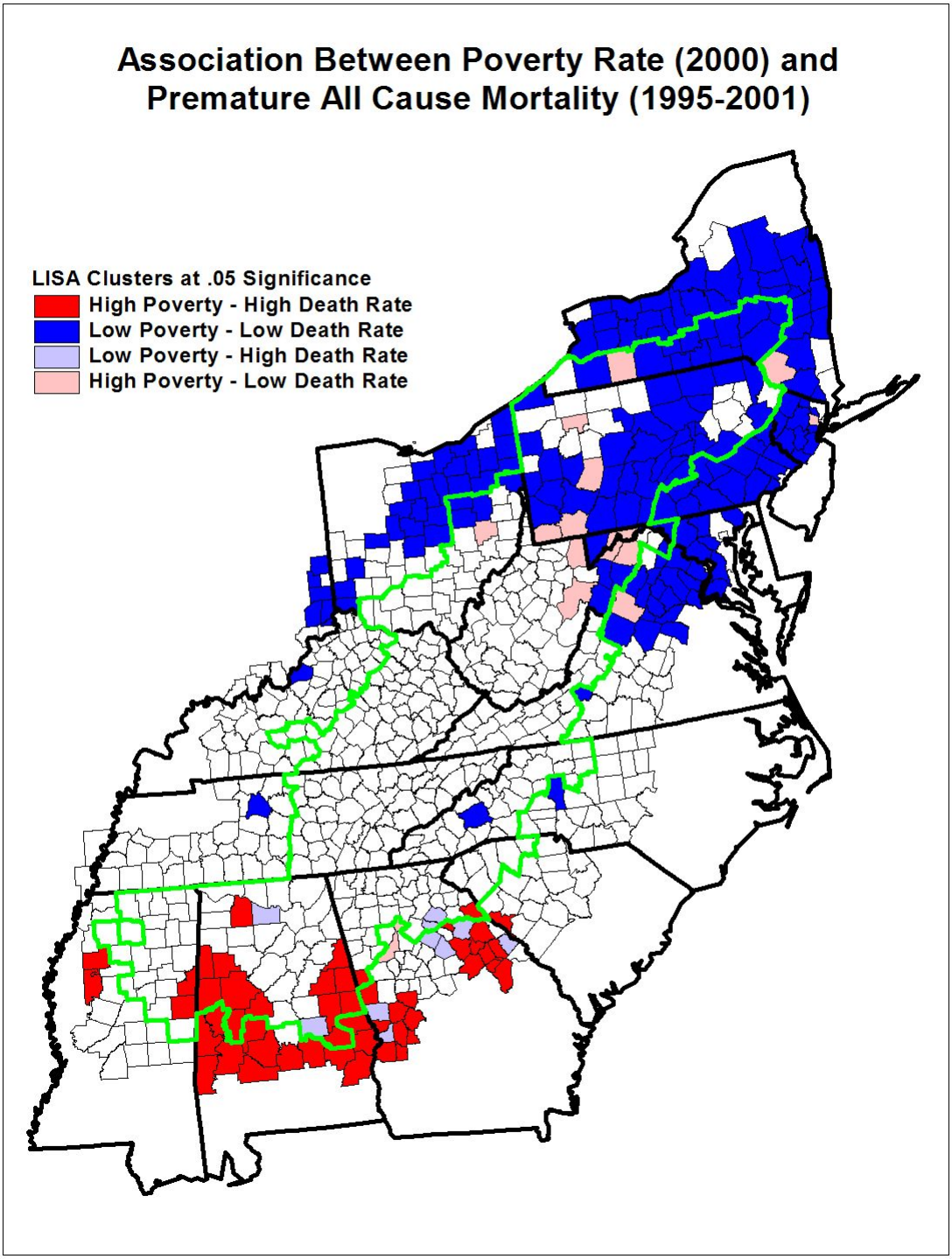

Figure 29. Associations between Premature All-cause Mortality and the Unemployment Rate in the Appalachian Region.

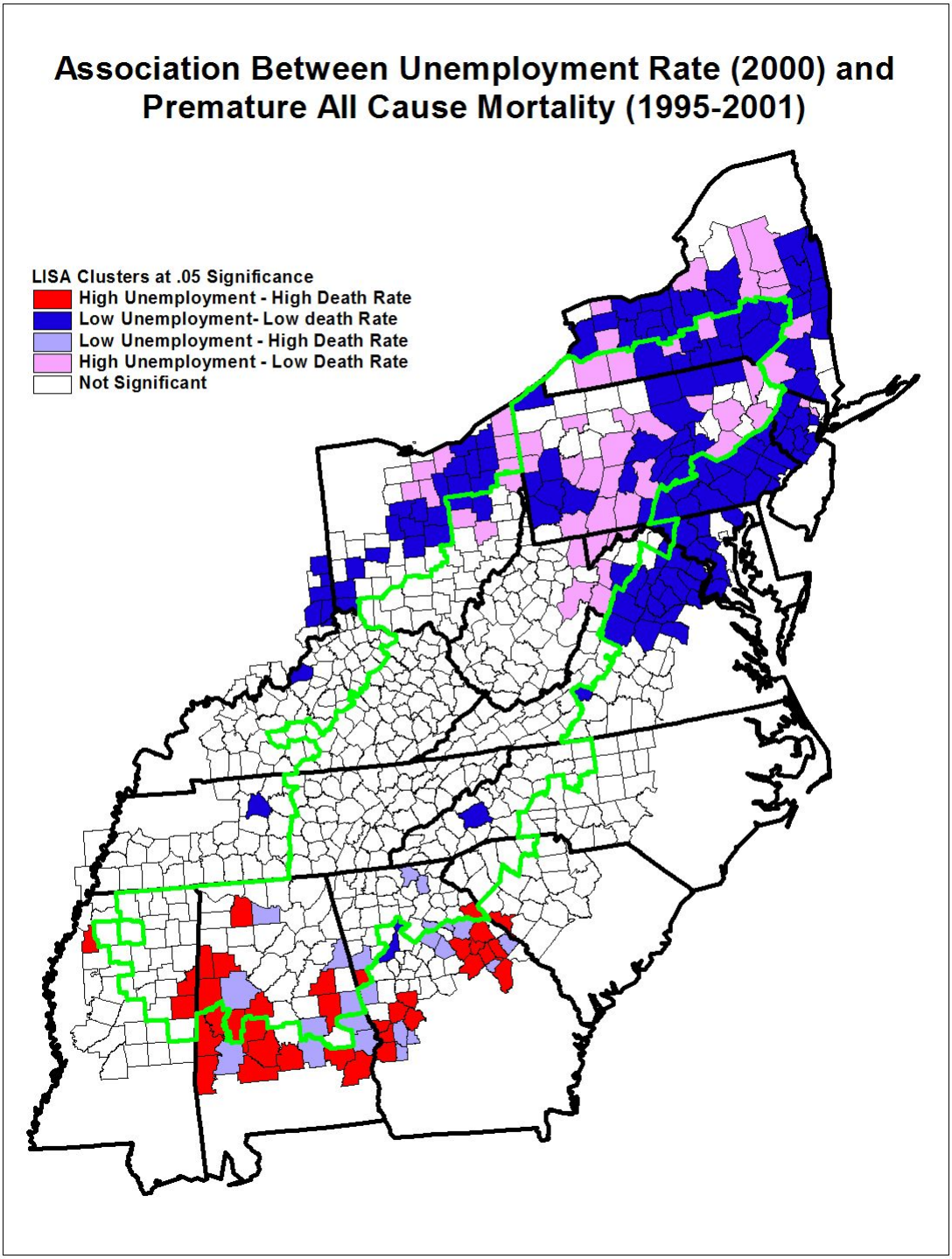
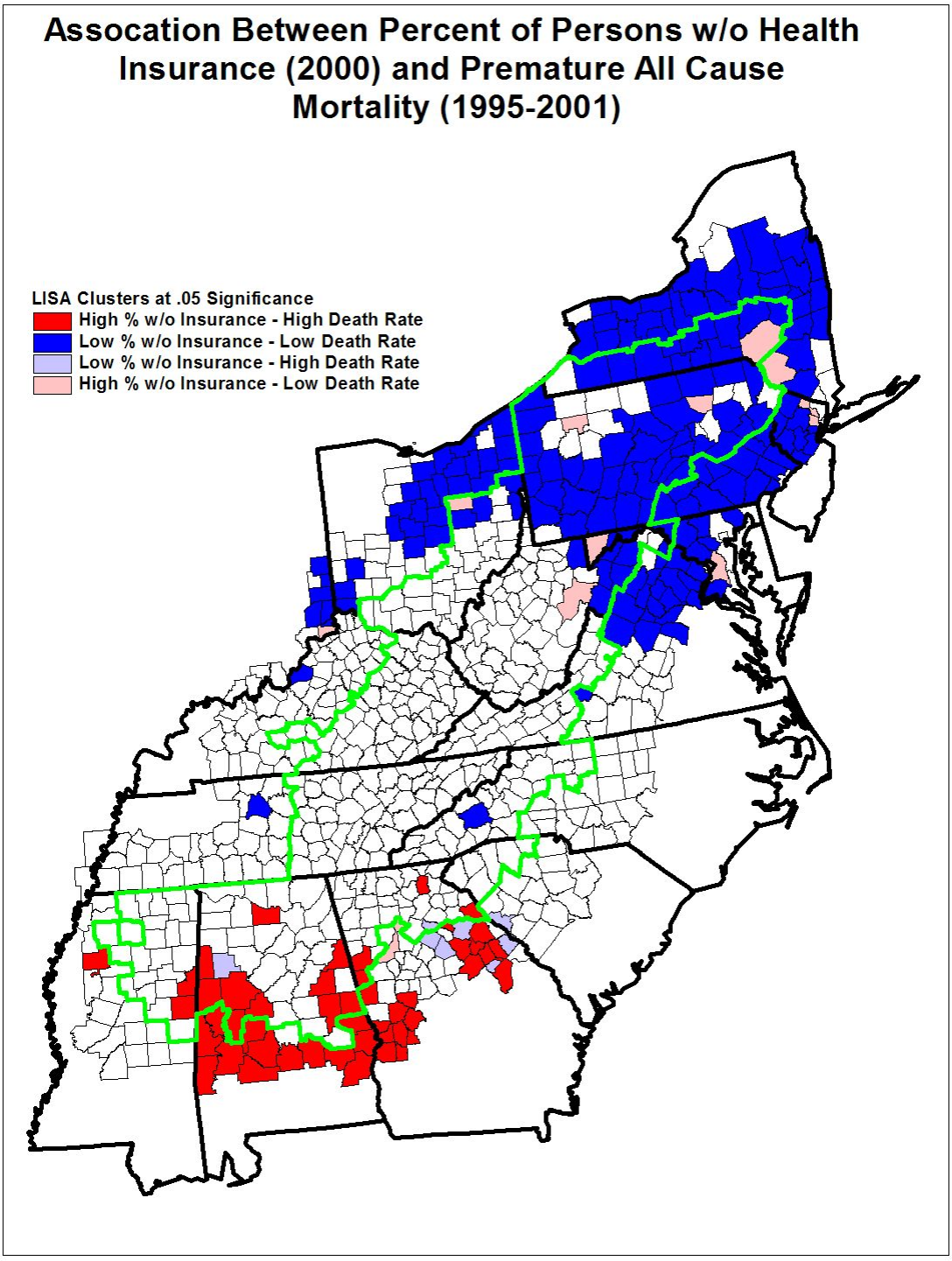
Figure 30. Associations between Premature All-cause Mortality and the Percentage of Persons without Health Insurance in the Appalachian Region.