

Abstract

Climate change presents dangerous impacts on human health worldwide, and is a major health equity issue. With record high temperatures year after year due to climate change, one of the growing threats to human health and wellbeing is heat-related illnesses and deaths. Recently, a study of 108 urban areas nationwide found that historically redlined neighborhoods of nearly every city studied were hotter than the non-redlined neighborhoods, with some up to 13 degrees hotter. In the 1930's federal officials redlined neighborhoods across the United States, marking them as risky investments because residents were Black. Such redlining led to a lack of infrastructure, environmental amenities, services and investment in Black neighborhoods. For example, many historically redlined neighborhoods lack shady tree canopies that mitigate warm temperatures, and instead have an abundance of heat-trapping pavement and industry. While temperature differences between redlined and non-redlined neighborhoods is now better understood, no study has examined whether these patterns lead to racial disparities in heat-related illnesses and deaths between redlined and non-redlined communities. Thus, the aims of our study are to **determine the prevalence of heat-related illnesses and deaths in Durham, North Carolina's six redlined neighborhoods compared to non-redlined neighborhoods**, and to **examine whether there are disparities in heat-related illnesses and deaths across races**.