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Jackson water crisis and its relationship to health inequities against black communities

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This study designed a research protocol for the exploration of health inequities against black communities and the contribution of urban water crisis to health inequities in the Jackson region, MS. In addition to mental and physical health status, nine health outcomes of diseases were first applied to the spatial differentiation analysis based on the prevalence at the census tract level between Jackson and its eight peripheral cities. Two spatially and significantly differentiated regions were identified and mapped, most communities in Jackson form the critical health core, while the four peripheral cities of Madison, Ridgeland, Flowood, and Brandon composite the healthiest city belt in the Jackson region. The linear regression and spatial regression models were then designed with the prevalence of 11 types of health status as response, while the percent of black people and the urban water crisis as two explanatory variables. Given the significant spatial autocorrelation in the health data and the significant Rho and Lambda in the spatial modeling process, the spatial error model fitted best with R-squared from about 0.5 to 0.9, and both the percent of black people and the urban water crisis highly contribute to the worse health status in the critical health core within Jackson on five types of diseases of high blood pressure, teeth lost, obesity, diabetes, and physical health, and their effects on asthma, kidney, coronary heart disease, mental health, chronical obstructive pulmonary, and stroke are significant too but relatively lower than the above five diseases.

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