Evaluating the Relationship Between Redlining and Food Allergy for The University of Kansas Medical Center Pediatric Patients

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Introduction. Recent studies show a positive correlation among various atopic conditions and redlining in U.S. cities, but there is a paucity of research in food allergy. By approaching food allergy from a systemic, historical context, our single-center study examines redlining as a proxy for factors that might drive the incidence of food allergies.

Methods. A retrospective chart review evaluated 554 pediatric patients with IgE-mediated allergy to one of the top eight food allergens. Food allergy patients were matched with non-allergic controls. Logistic regression investigated the effect of a historical neighborhood ranking system by the Home Owners Loan Corporation (HOLC) on food allergy occurrence. Secondary analyses examined social health factors.

Results. In our cohort, food allergy patients were described as non-white (55.4%), on Medicaid (37.5%), uninsured (7%), food insecure (6.2%), needing emergency services for severe reactions (27%), and having a co-morbid diet-related chronic condition (10%). Interestingly, only 176 of the 1,108 eligible patients lived within the districts outlined in the historic HOLC map. Due to this limitation, there was no significant difference in the odds of food allergies across HOLC grades.

Conclusions. We suspect that our study was unable to find statistically significant outcomes for our hypothesis due to the low number of eligible patients. The relationship between food allergies and grade D areas surprisingly does not support larger reports for other atopic conditions. Further investigation needs to be done with a larger, more robust population to assess socioeconomic factors contributing to food allergy.

Conflicts: *Allergy Therapeutics (UK) Ltd. Love (PI) 5/2023 – Present A Phase I clinical trial to evaluate the safety and tolerability of VLP Peanut in healthy subjects and subjects with peanut allergy and to explore preliminary signals of its efficacy (PROTECT) Role: Investigator Community Advisory Council Member for FARE Neighborhoods Initiative – Marissa Love, M.D., 2025 to present*