## The local environment and type 2 diabetes: Green amenities, walkability indicators, and air pollution predict incidence after accounting for residential selection and coexposures

Neighborhood amenities and harms are socially patterned with potential to contribute to social disparities in health. In two longitudinal studies, I describe how social inequities in neighborhood environments develop and test how diverse neighborhood attributes influence type 2 diabetes mellitus (T2DM) incidence. In the first study, I compare whether social inequities were historically patterned, developed due to differential selection into amenity-rich tracts, or from differential investment in amenities. Results indicated historical differences by neighborhood socioeconomic status (in 1990), with lower status tracts having fewer green amenities and higher air pollution but also greater walkability and more food stores. Differences in amenities by neighborhood socioeconomic status widened over twenty years as aggregate socioeconomic status disproportionately increased in tracts that initially had more green amenities, less air pollution, and lower walkability, consistent with differential selection. The second study tested how diverse neighborhood attributes relate to T2DM, using records from the Utah Population Database. The sample included adults in the four-county urban core of Utah (N = 866,211 individuals). T2DM diagnoses came from multiple health data sources, covering 1996 through 2019. Results indicated that higher levels of residential greenness, green land cover, and active commuting in block groups were independently associated with reduced T2DM hazard. In contrast, higher ambient particulate matter concentration was associated with increased T2DM hazard. Inferences were robust to adjustment for area- and individual-level socioeconomic characteristics, geographic correlates of area attributes, and family history of T2DM. Intersection density and fast food store density also were risk factors in some models. Increasing green amenities and mixed land use while reducing air pollution are important targets in societal efforts to improve metabolic health.