

Beyond individuals: how places shape health and contribute to health disparities

Ana V. Diez Roux MD PhD
Center for Social Epidemiology and Population Health
University of Michigan

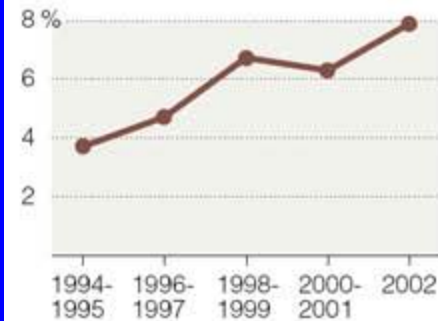
Chronic diseases are spatially patterned....

A Local, National and Worldwide Scourge

Rising diabetes rates in New York City, in the nation and around the world are alarming health officials. The World Health Organization estimates that 171 million people were living with diabetes in 2000, and that 266 million will have it in 2030.

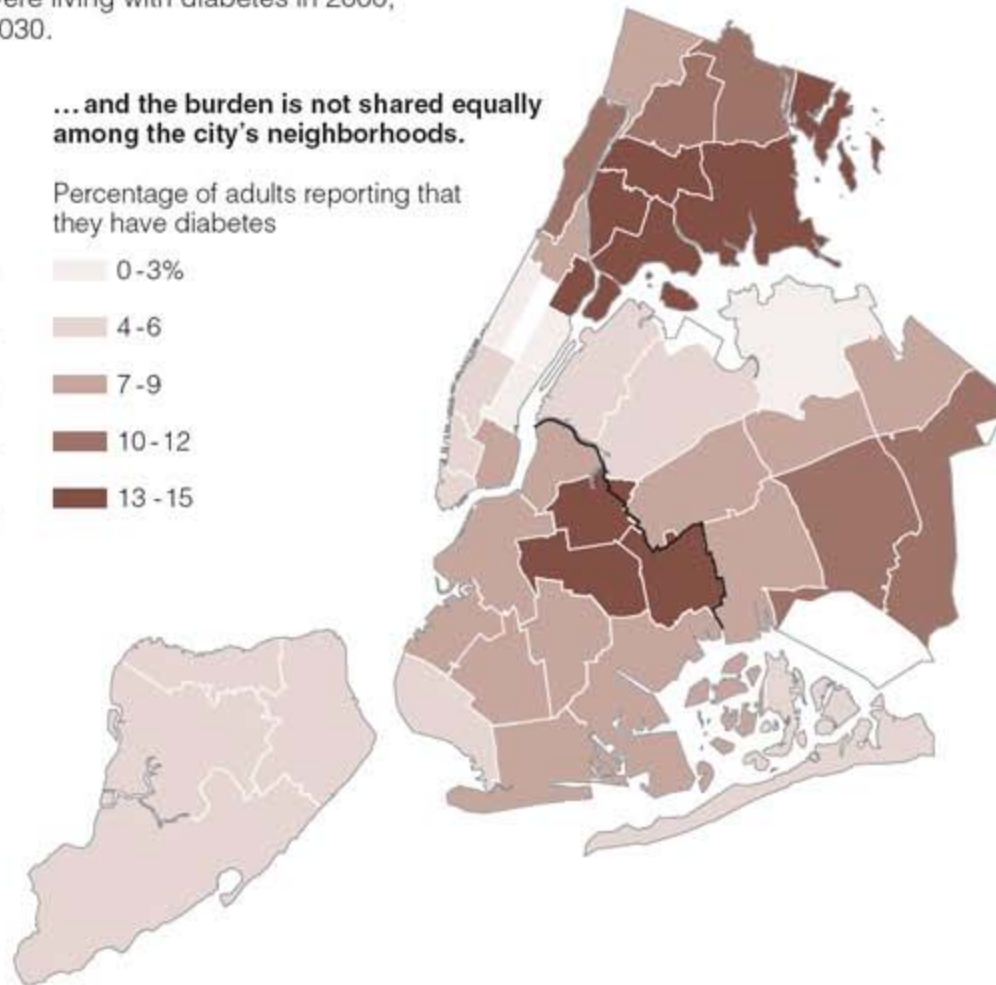
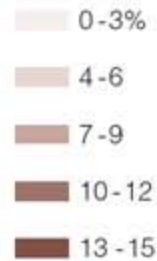
Diabetes rates are climbing in New York City ...

Percentage of adults reporting that they have diabetes

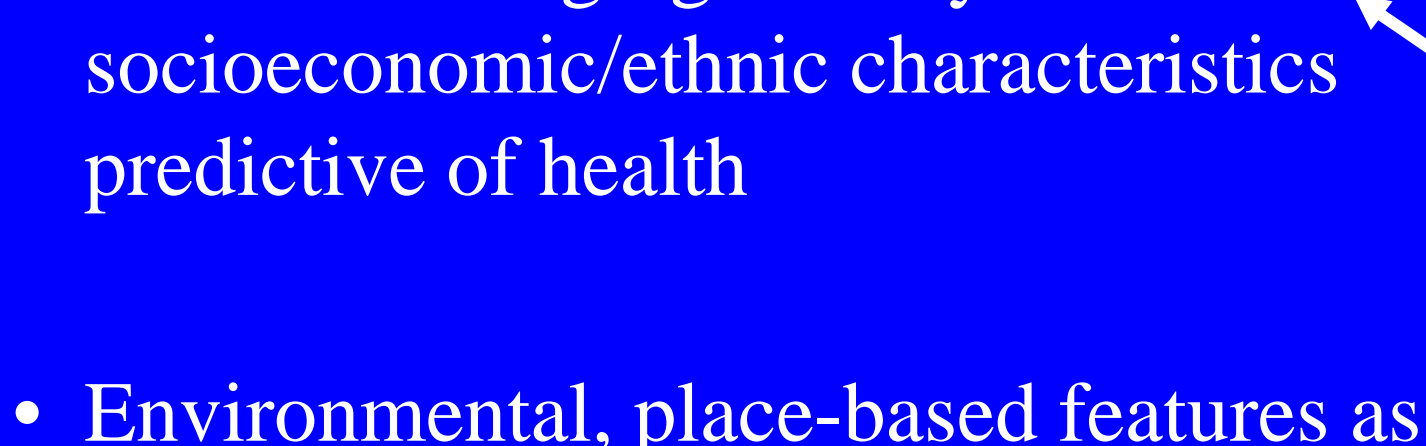


... and the burden is not shared equally among the city's neighborhoods.

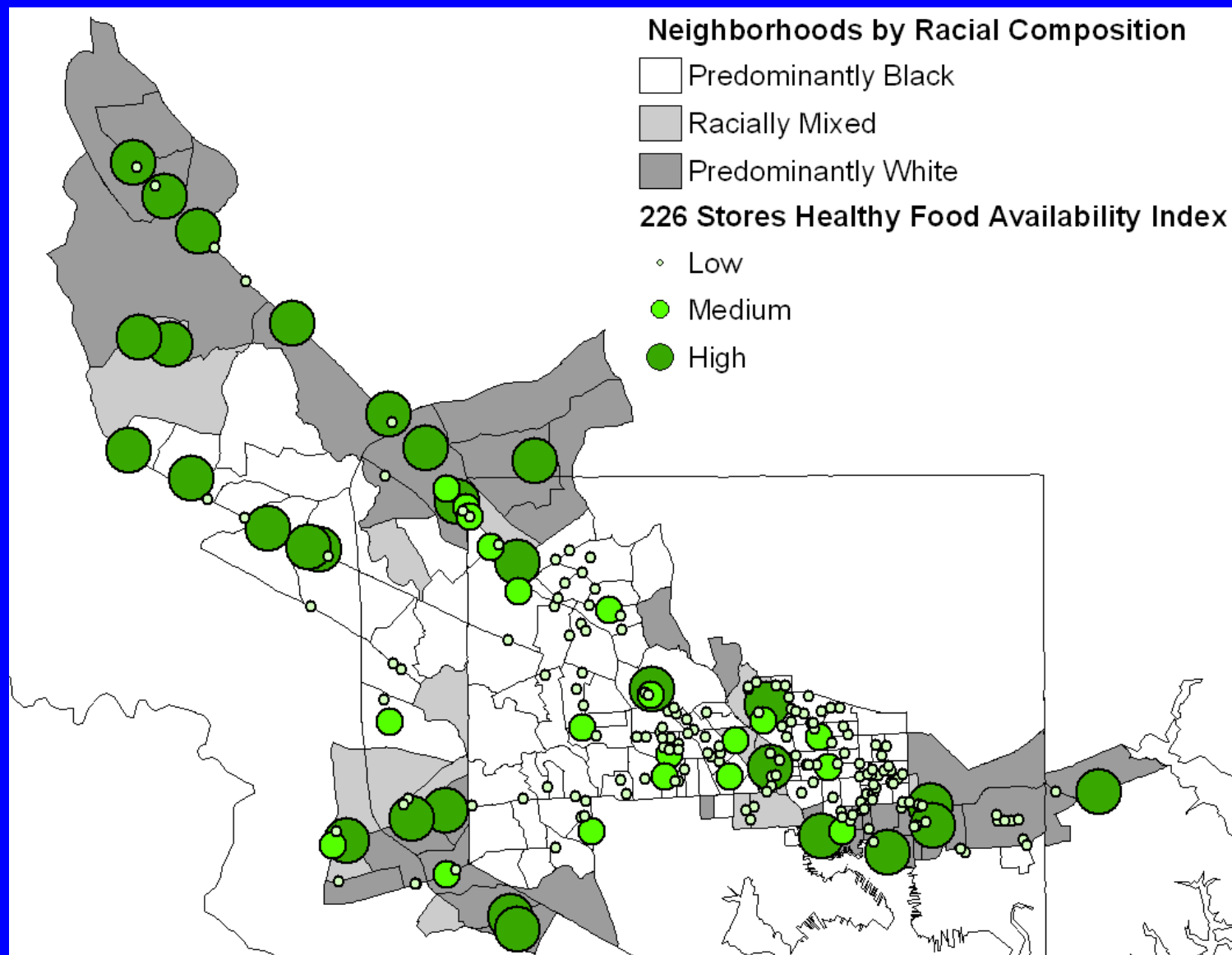
Percentage of adults reporting that they have diabetes



Sources: New York City Department of Health and Mental Hygiene; U.S. Centers for Disease Control and Prevention; World Health Organization

- Residential segregation by socioeconomic/ethnic characteristics predictive of health
 - Environmental, place-based features as contributors and perpetuators of social differences in health
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Food stores and healthy food availability indices in Baltimore



Smoke Before Food: A Tale of Baltimore City

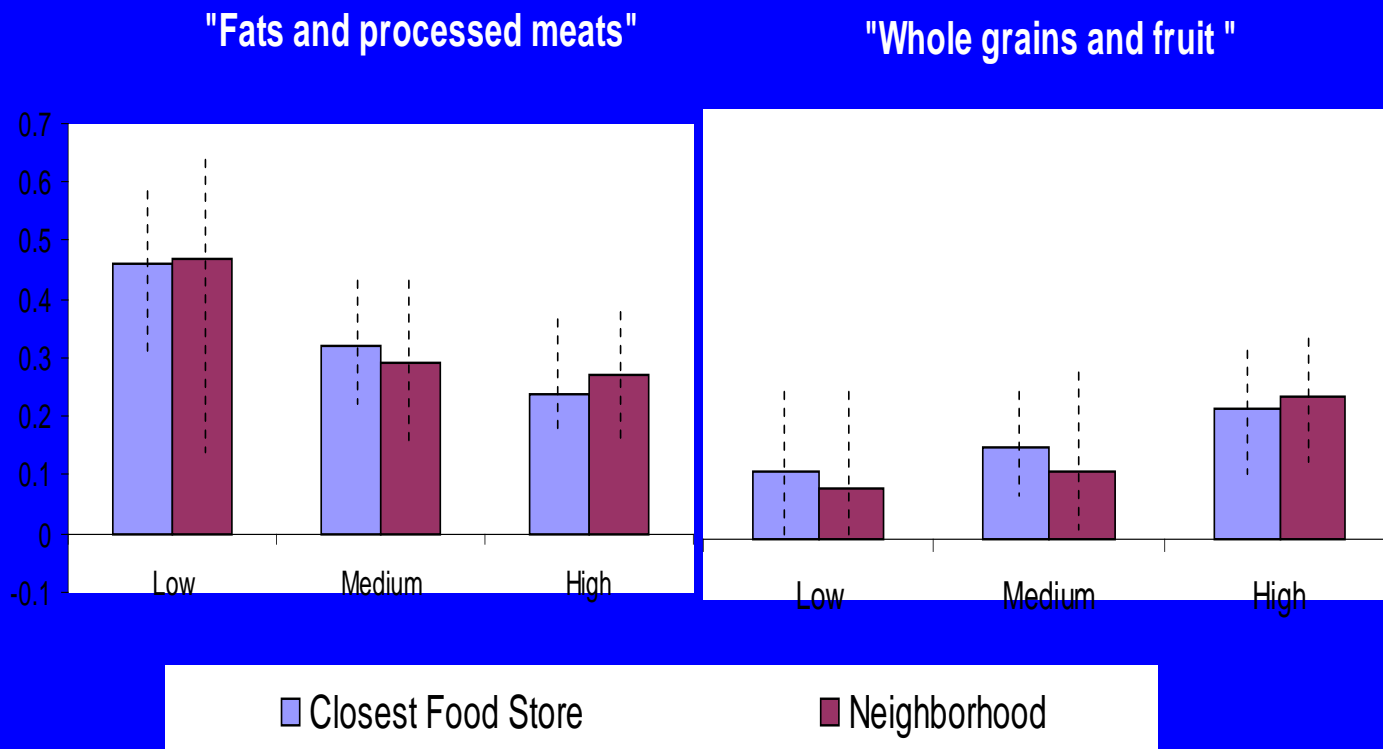
American Journal of Public Health | July 2007, Vol 97, No. 7

| Manuel Franco, MD, Arijit Nandi, MPH, Thomas Glass, PhD, and Ana Diez-Roux, MD, PhD



Means and 95 % CI of dietary patterns by store assessment of availability of healthy foods

Dietary patterns scores



** P for trend < 0.05

Predicting the pattern of cardiovascular disease by looking at environmental factors

Factors that influence lifestyle choices

Lifestyle choices that influence biological responses

Biological responses that influence health outcomes

Health outcome



Cardiovascular disease

Factors that influence lifestyle choices

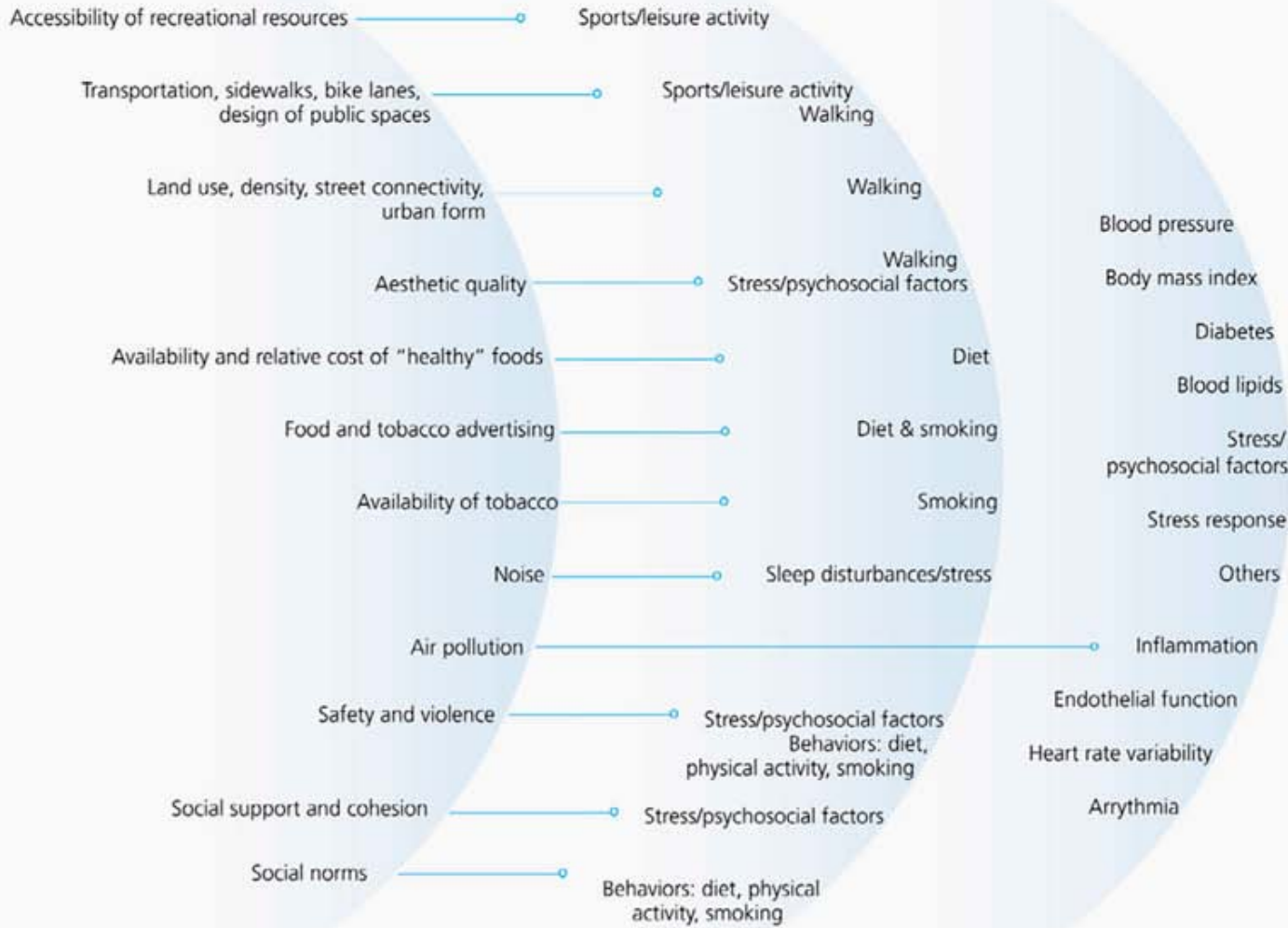
Lifestyle choices that influence biological responses

Biological responses that influence health outcomes

Health outcome

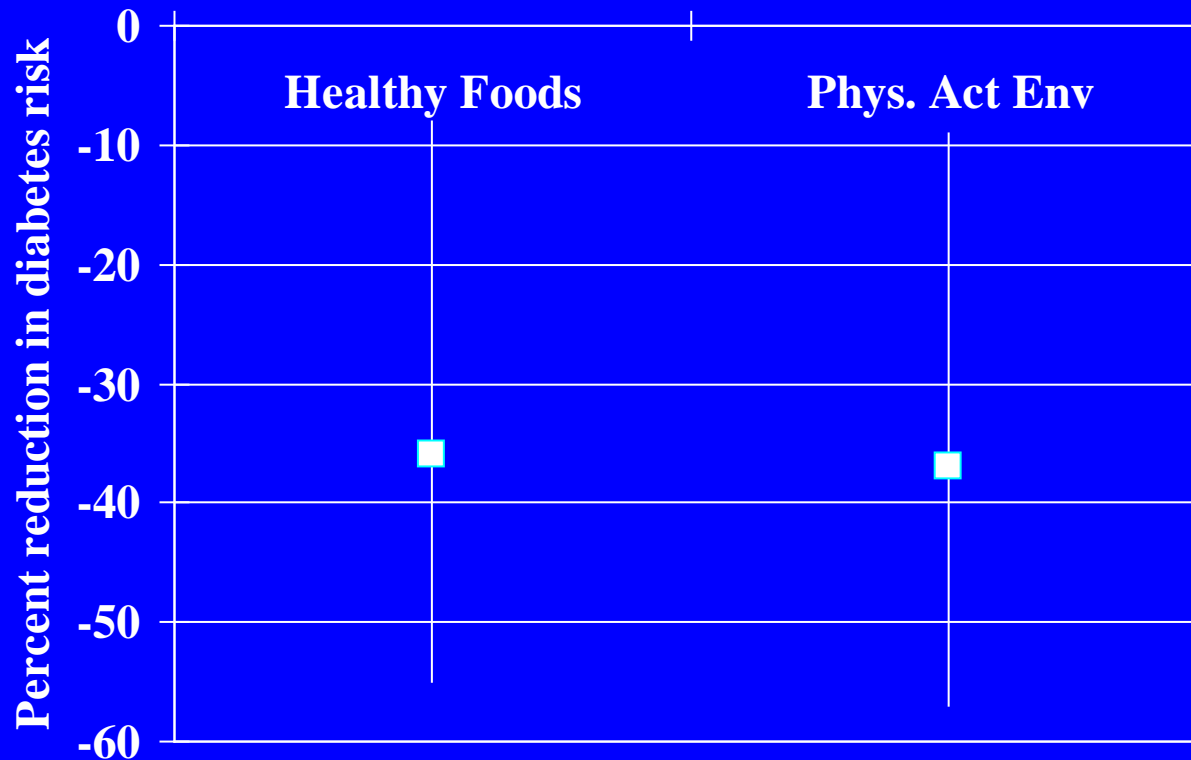
PHYSICAL ENVIRONMENT

SOCIAL ENVIRONMENT



Cardiovascular disease

Reduction in risk of developing type II diabetes associated with better neighborhood characteristics



Data from 5 years of follow-up (2000-2006) of the Multi-Ethnic Study of Atherosclerosis, adjusted for age, gender, family history of diabetes, income, assets, education, race/ethnicity, alcohol use, and cigarette smoking. Percent reduction comparing “best” (90th percentile) to “worst” (10th percentile) environments.

Auchincloss et al. Arch Int Med 2009

- Communities and neighborhoods differ markedly in physical and social features
- Many of these features are shown to be associated with health (causation vs facilitation)
- Bidirectional relationships/Dynamics/Systems
 - Where do we intervene?
- Randomized trials unlikely/useful?
- Act based on best available evidence and rigorously evaluate/evaluate health consequences of a range of community interventions
- Systems/Partnerships

