US EPA ARCHIVE DOCUMENT

Investigating how physical and social environments jointly contribute to health disparities: concepts and methods from social epidemiology

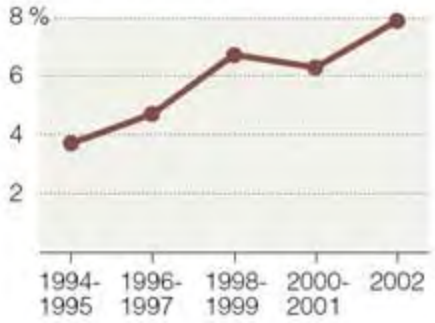
Space (and places) as a key dimension across which health is patterned

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.

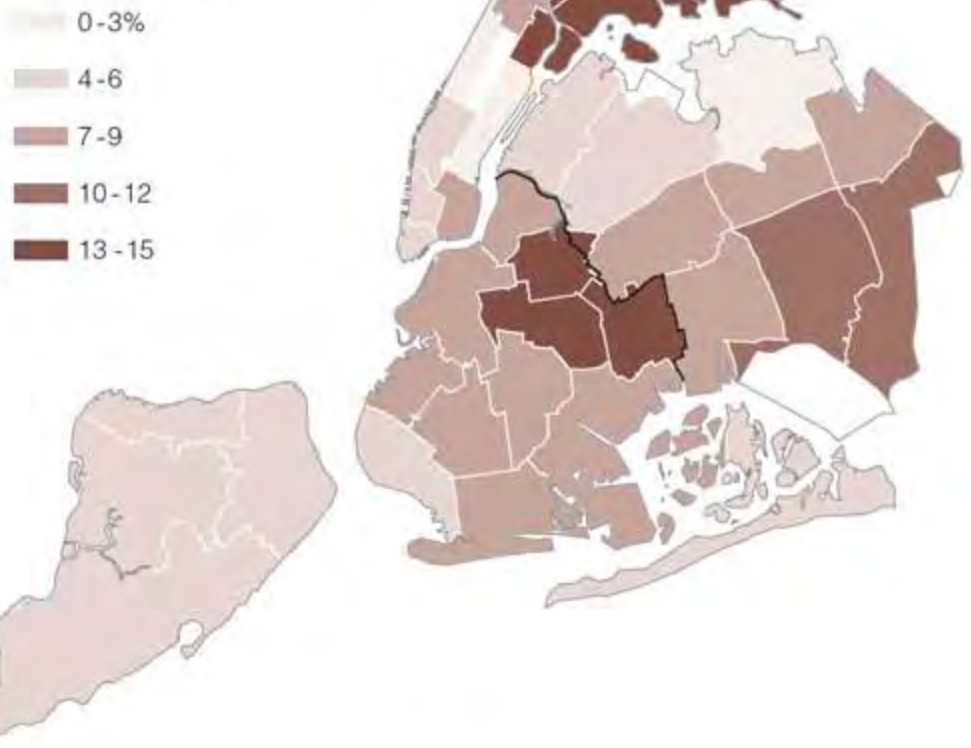
Diabetes rates are climbing in New York City ...

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

NYT
Jan 2006

- 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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Common explanations for health differences

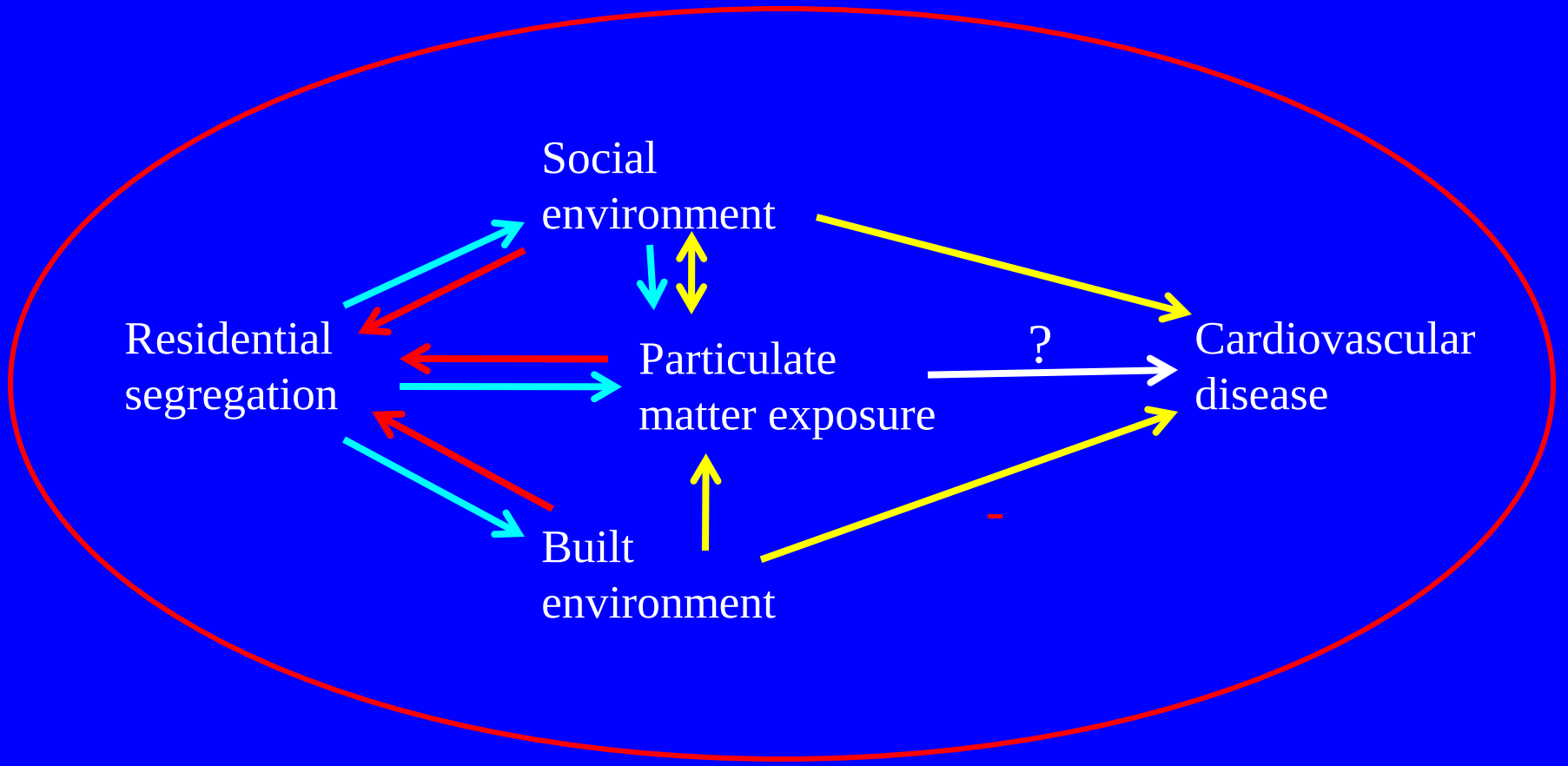
- Biological characteristics (including genes)
- Behaviors
- Individual knowledge and choice
- Early detection and treatment through medical care

Behaviors and biology as patterned response of social groups to the physical AND social environment

What is the “environment”?

- External to the individual
- Physical elements
  - “Classic” environmental exposures
  - Built environment
- Social environments
  - Interrelations between people

Why broaden the definition of the environment?



Confounding

Additive effects

Synergisms

Chains of causation

Systems

Challenges

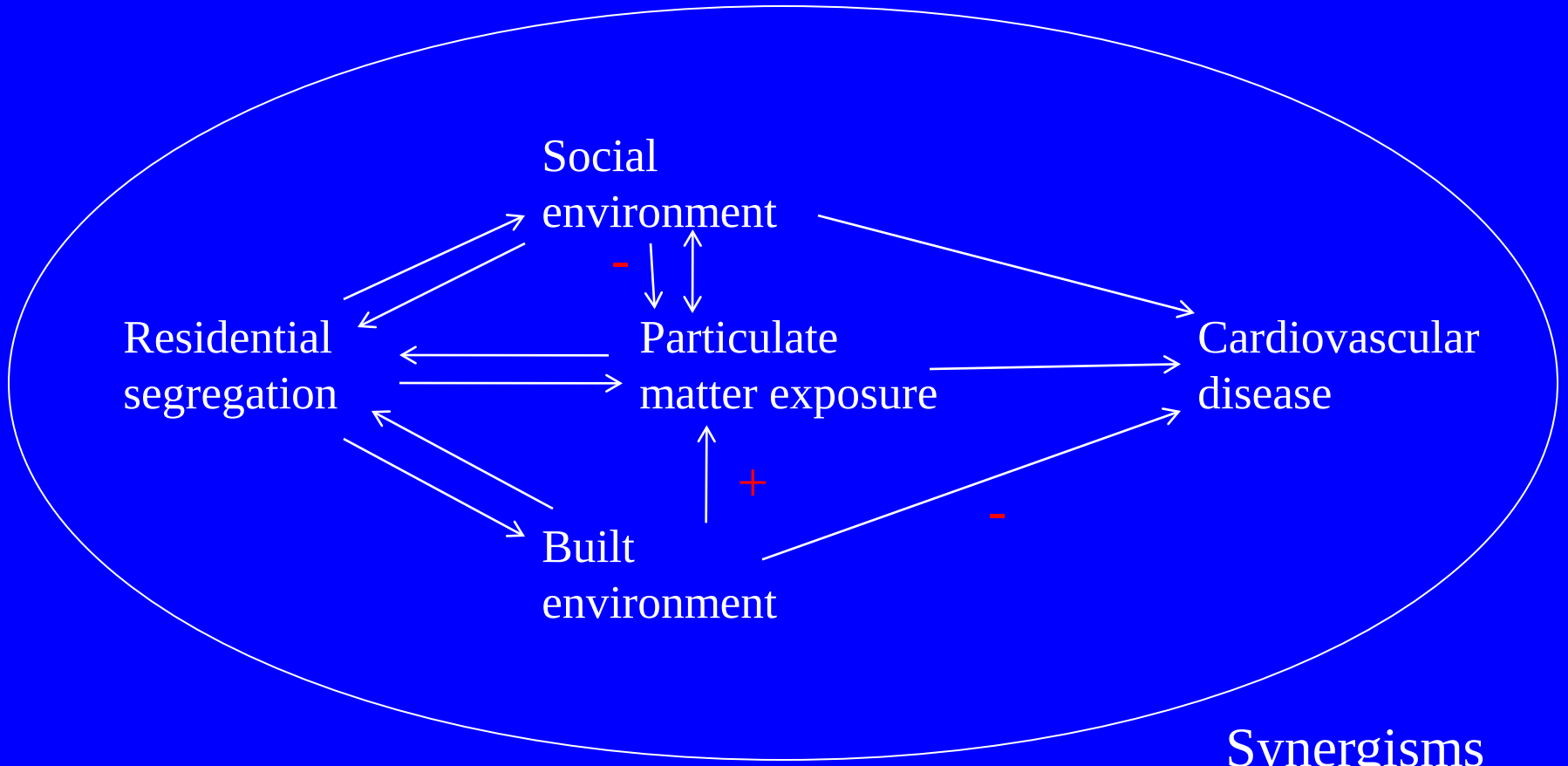
- Conceptual models
- Measurement
  - Social and physical environments
  - Measurement approaches and validation
- Analytical and statistical models
  - Clustering
  - Spatial processes
- Broader context, antecedents
  - Residential segregation

Session outline

- **Measuring Specific Features of Neighborhood Environments and Estimating Their Contribution to Health Disparities** Mahasin Mujahid

- **Modeling effects of the social and physical environment on health - a spatial perspective** Basile Chaix

- **Measuring Racial/Ethnic Inequality of Context** Theresa Osypuk



Synergisms

Systems