

Epidemiology, Policy, and Racial/Ethnic Minority Health Disparities



THE ROLE OF EPIDEMIOLOGY IN REDUCING HEALTH DISPARITIES

Why Should Epidemiologists Be Involved?



- “If all epidemiologists stop short of helping to affect policy, then the voice of science will be lost from making decisions that most affect the health of the public.” (1)
- The bioethical principal of beneficence provides moral justification for advocacy

4 Phases of Health Disparities Research



1. Identification of the nature and extent of disparities
2. Identification of underlying factors for racial, ethnic, and socioeconomic disparities
3. Development and implementation of interventions
4. Mixed-methods evaluation of comprehensive, multi-level interventions

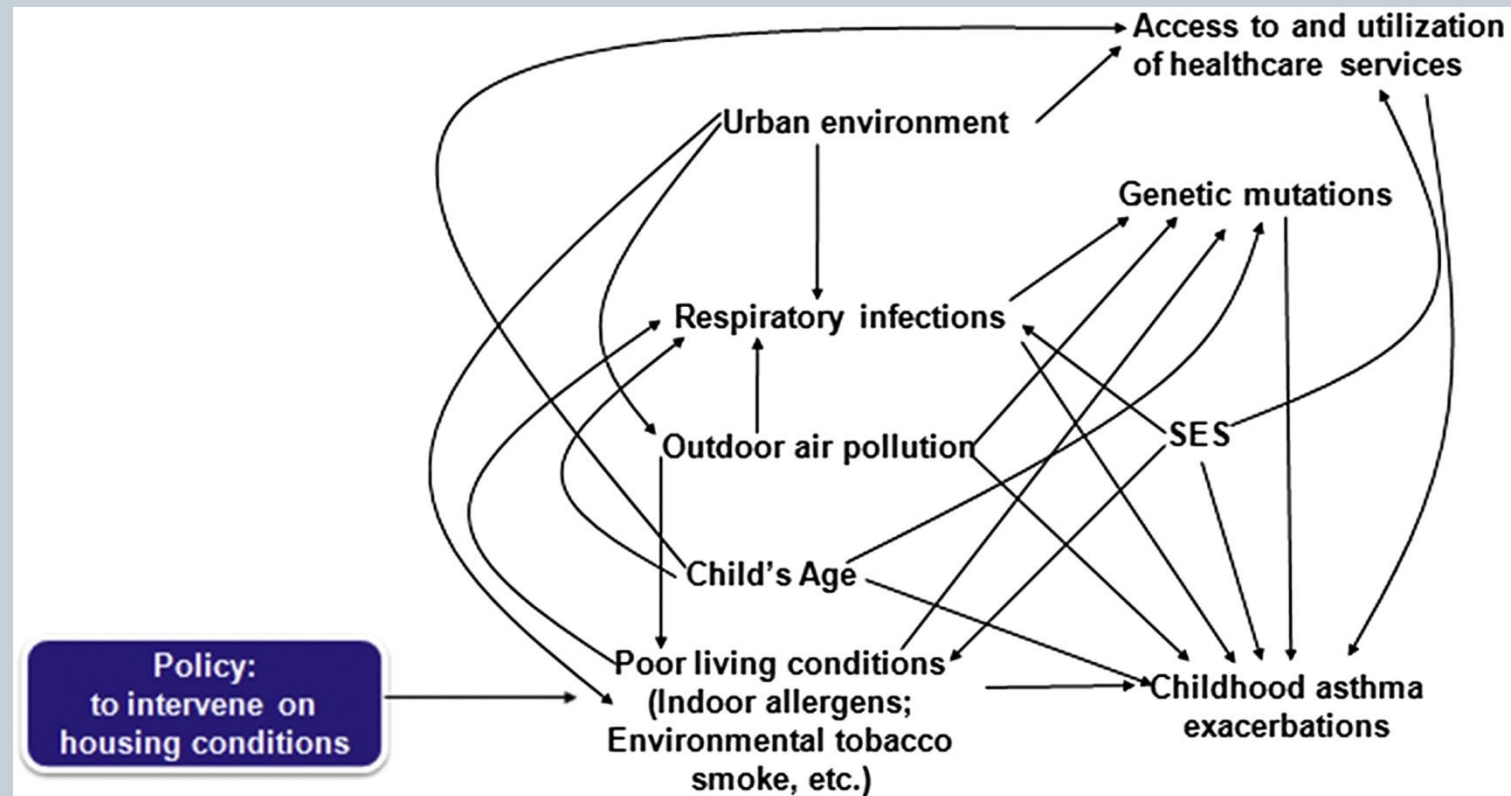
Theoretical Framework for Causal Effects of Policies



- Population-level policies lead to individual-level effects measured at the aggregate level.
- Confounders are probable and must be identified.
- A causal diagram helps to establish whether
 - Factors are affected by the policy, or
 - Factors are determinants of policy implementation

Causal Diagram: Factors Influencing Childhood Asthma Exacerbations

Since the policy is exogenous, no factors should be adjusted for in the statistical model.



The Role of Epidemiology in Definition and Measurement



- Major role for epidemiology: definition, classification, and measurement
- Exposure Measurement
 - Refinement of conceptually valid and practically implementable measures of racism, segregation, inequality, educational attainment, etc
- Outcome Classification
 - Disparities assessment now encompasses a wide variety of measures
 - Each has unique advantages in addressing absolute or relative comparisons and scaling of the dimension over which outcomes are contrasted

The Role of Epidemiology in Definition and Measurement: Neighborhood Quality Indices



- The Connecticut Association of Directors of Health's Health Equity Index
 - Assesses numerous domains
 - Used in policy evaluations to assess community change from interventions and policies
- New Zealand's Social Reports (Te Purongo Oranga Tangata)
 - Used by government agencies to monitor social progress in health disparities
 - Have raised awareness and stimulated action to address the social determinants of health and improve health equity

Example: Housing and Asthma



- Asthma disproportionately affects minority and disadvantaged children
- Environmental conditions in the home can exacerbate asthma symptoms
 - Racial and ethnic minority and low-income children are more likely to live in substandard housing
- Home-based multi-trigger, multi-component interventions with an environmental focus are recommended for children and adolescents (by the Task Force on Community Preventive Services)

Example: Housing and Asthma



- **Examples:**
 - King County Department of Public Health's Health Homes Project
 - Sinai Health Systems' (Chicago) Sinai Model for Reducing Health Disparities and Improving Health
- **Common Components:**
 - Community needs assessment
 - Analysis of results
 - Implementation of programs in the community
 - Evaluation of interventions

Example: Housing and Asthma



- **Program Challenges**

- Criticism of medical center projects
- Communities haven't mounted programs related to survey findings
- Budget crises and loss of funding have affected sustainability
- Questions about generalizability

- **Evaluation Challenges**

- Limited funding for evaluation and dissemination
- Difficulty in discerning the impact of specific components of multilevel interventions
- Communities reject “usual care” comparison groups

Example: Housing and Asthma



- What is needed:
 - Education and training integrating community involvement, evaluation of community interventions, qualitative and mixed methods, and analytic techniques
 - Preparation to address questions about generalizability and sustainability
 - Contextualization of interventions to different settings
 - Detailed information on the content and context of interventions

Example: Food Policy Strategies to Reduce Health Disparities



- Unequal distribution of healthy foods: a contextual issue identified through epidemiologic data
- Increasing Access to Health Foods
 - Incentives for convenience and corner stores to sell fresh fruits and vegetables
 - Loans and zoning ordinances to promote large grocery stores, farmers markets, and corner stores
 - Charlotte, North Carolina
 - ✦ Zoning change allowed a farmers market on the grounds of the county health department
 - ✦ From 2001-2005, fruit and vegetable consumption among African-Americans in Charlotte increased from 23.1% to 25.3%
 - ✦ State-wide, fruit vegetable consumption decreased from 21.7% to 17.5%

Example: Food Policy Strategies to Reduce Health Disparities



- **Decreasing Access to Unhealthy Foods**
 - South Los Angeles, California
 - ✦ **Plan**
 - 2-year moratorium on new fast food restaurants
 - Development and implementation of a plan to attract grocery stores and health food options
 - ✦ **Results**
 - Small stores began selling fruits and vegetables
 - Farmers markets starting accepting WIC checks
 - Supermarkets opened in 2010
 - LA municipal code amended to limit new fast food restaurants from opening within half a mile of existing fast food restaurants
 - Zoning restrictions on fast food restaurants within 3 km of low-income residents reduced fast food consumption (Coronary Artery Risk Development in Young Adults study)

Example: Food Policy Strategies to Reduce Health Disparities



- Food policies, especially jurisdiction-wide policies, should be effective in reducing health disparities
- Differential barriers to adoption, implementation, or enforcement can inadvertently exacerbate health disparities
 - Racial and ethnic disparities remain in access to folate-rich foods despite 1988 FDA requirement of folic acid enrichment in cereals
- Integration of a health disparities assessment into policy planning and implementation can prevent disparity exacerbation

Conclusions: Dilemmas in Health Disparities



1. The complexity of health disparities demands innovation in methodological and statistical approaches.
2. There are unique challenges in the translation of findings into policy since interventions often involve changes outside the health care enterprise.
3. Deciding which differences in health are unnecessary, preventable, and unjust requires going beyond scientific evidence to ideology, values, and political perspectives.

Conclusions: The Policy Cycle



- Five Key Steps of the Policy Cycle¹
 1. Assessment of population health
 2. Assessment of potential interventions
 3. Policy choices
 4. Policy implementation
 5. Policy evaluation
- Epidemiology has demonstrated important contributions to step 1, but less to steps 2-5
- Epidemiologists must embrace evaluation and dissemination
 - Begin planning for evaluation and dissemination at the beginning of the process
 - Seek funding to support evaluation and dissemination