Title Slide: Linking Multilevel Analysis to Health Policy Interventions

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Slide 2: Purpose

- To examine how multilevel analyses of local data can influence health policy intervention
- Specifically :
  - Understanding the effect of local context on access and quality of service
  - How local mobilization based on local data can change policy

Slide 3: Breast Mortality Rates: Chicago (1980-2005)

[image]
  Line graph showing mortality rates, per 100,000, between Caucasians and African-Americans. The final year on the graph (2005) shows Caucasians at 19.2 and African-Americans at 41.4, a difference of 116%.

For additional information contact: NCIDCCPSMLI@mail.nih.gov
[End image]

Slide 4: Disparities in Stage at Diagnosis: Race/Ethnicity, Age, and Socioeconomic Status

- **Key Finding 1:** African-American race ↑ risk of late- stage breast cancer compared to Non-Hispanic (NH) White women
  - At any age
  - A similar pattern holds for Hispanic women, but it was not significant
- Poverty strongly affects the probability of a late stage diagnosis of breast cancer
  - Regardless of race
  - A 10% increase in rate of poverty ↑ increases OR for a late stage by1.07
- Young women of color are more likely to get aggressive cancer and more likely to present with late stage breast cancer

  (Campbell, et al, Health and Place. 2009)

Slide 5: Model for Multilevel Analysis of Context Impact on Policy

[image]

 On the left side is a bi-directional arrow that spans all three areas from top to bottom. The arrow is called Biological/Environmental Interactions. The three areas starting from top are:
1. Distal Factors: Social Conditions & Policies: Breast and Cervical Cancer Detection and Screening, Medicaid, Medicare, Community Health Centers. USPTF
2. Intermediate Factors: Social Context: Access and Quality of Mammography Community Mobilization. This has a bi-directional connection to Distal Factors and a one way connection to Proximal Factors.
3. Proximal Factors: Biological/Genetic Responses: Late Stage at Diagnosis

On the right hand side is a one way directional arrow going from top to bottom called Disparate Health Outcomes. From the center of the arrow is another arrow going one way to Intermediate Factors.

Warnecke, et al. AJPH, 2010
[End image]

Slide 6: Contextual Factors Affecting Policy Implementation: Loss of Access to Community Health Centers and Limited Access to IBCCP

- Change in neighborhood composition linked to loss of access as eligible users of safety-net providers move out and providers follow
- **Key Finding 2:** Women with breast cancer from **gentrified neighborhoods**
  - 10% more likely to be late stage than women living in stable neighborhoods

- o   As age increased so did the likelihood of presentation with late stage breast cancer
- o   Consistent with effects on those who lived through the gentrification since new residents were younger and had health insurance (Barrett, et al. Ann Epid. 2008)
- **Key Finding 3:** Women with breast cancer from **neighborhoods with high immigration**
  - o   10% more likely to present with late stage diagnosis
  - o   Immigrants less likely to be eligible Medicaid which is main payer for Community Health Centers   (Cho, et al. J. Immigrant Minority Health, 2010)

Slide 7: Contextual Analysis/Local Analysis: Access to Service Does Not Guarantee Quality

- **Survey of mammography services in Chicago area – 82% response**
  - o   NH black women were more likely than NH white women to be screened at non-academic centers
  - o   Non-academic facilities were less likely to have digital mammographic equipment, which is better for screening young women with dense breast tissue (re: Campbell et al, 2009)
  - o   Women screened at these non-academic facilities were less likely to have their mammograms read by trained specialists
- **Survey of patients interviewed post treatment**
  - o   Residence geocoded women to: ineligible for MUA designation; designated as MUA; eligible undesignated
  - o   After adjusting for socioeconomic and utilization of health care and screening
  - o   Women in undesignated areas more likely to present with advanced cancer even when they had mammograms or other breast exams

Slide 8: Potential Alternative Explanations

- Mammography access was limited before gentrification occurred
  - o   Need to assess screening exposures before and after gentrification
- Access was adequate but quality was poor
  - o   Initial assessment of quality indicated it was poor but access and quality were not jointly assessed
- There are biological explanations resulting from disparities
  - o   Need to assess cancer type and biologic changes

Slide 9: Responses by Community to Address Quality as a Contextual Element

- Can a Quality Consortium affect rates of late-stage disease?

- Metropolitan Chicago hospitals and the Chicago Department of Public Health agreed to provide screening and follow-up data to assess aggregate mammography performance on:
    - Finding between 4 and 9 cancers per 1,000 women screened
    - Whether at least 30% of cancers found are small or low risk
    - Whether abnormal screens are followed-up with timely diagnosis with a loss to follow-up under 20%
- Illinois Department of Family Services adopted screening criteria and tied reporting to reimbursement

Slide 10: Focus for Discussion

Is it necessary for multilevel analyses to lead to multilevel interventions?

- The Quality Forum is an intervention
- Its effect could be measured at the health care organization (mammography facility) and individual levels (late-stage disease) but is it a multilevel intervention?

[End Presentation]