Some thoughts on measuring place and health

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Research projects are ongoing; therefore, results are preliminary and subject to change. Portions of the results are copyrighted by academic journals.
1. Place containers versus spatial surfaces
2. Spatial/geographic scale
3. Changing people, changing places
When are places containers?

- Area membership
- Policy-relevant units

- Modifiable Areal Unit Problem (MAUP)
  - Arbitrary zones
  - Arbitrary scale

- Ignore spatial proximity

Image source: https://www.e-education.psu.edu/geog486/l4_p7.html
Proportion Black by Neighborhood

(Neighborhood = 4000 m bandwidth biweight kernel density)

Reardon, O'Sullivan, et al., 2004
Kramer, et al., 2010
Neighborhood Deprivation Index, 2007

- Poverty
- <$30k
- FHHH
- Public assistance
- HS or higher ed
- White collar
- Employed
- Overcrowded homes

Social Disorganization, 2007

- Owner occupied
- Moved in past 5 yrs
- Female headed household
Index of concentrated extremes, 2007

(HH >$100k) – (HH < $30k)
All HH
<table>
<thead>
<tr>
<th>Blk Grp</th>
<th>1000m</th>
<th>Tract</th>
<th>2000m</th>
<th>4000m</th>
<th>8000m</th>
<th>County</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

**Non-Hispanic White**

**Non-Hispanic Black**
What about time?

<table>
<thead>
<tr>
<th>Changing places</th>
<th>Changing people</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Depopulation</td>
<td>• Life course theory and early origins of adult disease</td>
</tr>
<tr>
<td>• Gentrification</td>
<td>• Cumulative exposures</td>
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<tr>
<td>• Residential</td>
<td>• Social mobility</td>
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<td>stability/mobility</td>
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<td>• Development</td>
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</tbody>
</table>
Neighborhood Deprivation Trajectory, 2000-2007
Women’s Life Course Trajectories

Kramer, Dunlop, Hogue. MCHJ.2013.
**Cumulative** Life Course Trajectories

Kramer, Dunlop, Hogue. MCHJ.2013.
Cumulative exposure and ‘weathering’

Kramer, Dunlop, Hogue. MCHJ. 2013.
Closing thoughts...

• Need to link measures to plausible theory
  – Need better/other indicators – directly observed, resident perception

• Consider alternate scale and zoning
  – Surfaces with custom egocentric functions

• Modeling space and time
  – Data for life course research
  – Understanding person-place dynamics
QUESTIONS?


