Child care deserts:
Advancing measures to better understand issues of equity

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Acknowledgments

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Agenda

1) **Motivation** for studying racial/ethnic inequities in who lives in child care deserts

2) **Research question 1:** Using existing definitions of deserts, do we observe racial/ethnic inequities in who lives in deserts?

3) **Research question 2:** Using alternate equity-focused definitions of deserts, do we observe racial/ethnic inequities in who lives in deserts?
Motivation
for studying racial/ethnic inequities in who lives in (subsidized) child care deserts
Are subsidy-eligible children racially/ethnically segregated?

Answer: Yes, despite similar family incomes

% of children in neighborhood who are White

- Low-income White Children: 70%
- Low-income Hispanic Children: 26%
- Low-income Black Children: 22%

Source: 2010-2014 ACS data for Massachusetts children under age 6 in low-income families (<200% FPL).
Subsidy-eligible children highly segregated by race/ethnicity

1 dot = 50 subsidy eligible children under age 6

Zoom in to City of Boston

White

Hispanic

Black
Do subsidy-eligible children live in low-income neighborhoods?

- Low-income White Children: 36%
- Low-income Hispanic Children: 64%
- Low-income Black Children: 61%

Answer: Much more likely to be “yes” if you are Hispanic or Black

Source: 2010-2014 ACS data for Massachusetts children under age 6 in low-income families (<200% FPL).
Research question 1:
Do we observe racial/ethnic inequities in who lives in deserts?

➔ Use existing definitions (measure 1)
Subsidized child care deserts (measure 1)

- 50 or more eligible children
- Zero subsidized seats OR More than 3 eligible children per subsidized seat

Note: Measure 1 follows Malik and Hamm (2017) applied to subsidized child care.

349 deserts
Half of eligible children in deserts
No major racial/ethnic differences
These findings made me ask:

Are existing measures of child care deserts detecting important qualitative differences?
Two deserts: Difference of degree or of kind?

Desert A

42 more eligible children than subsidized seats

Ratio desert score = 4.0x

Desert B

287 more children seats

227 more children than seats

295 more children than seats

481 more eligible children than subsidized seats

Ratio desert score = 4.0x
Could we develop additional equity-focused desert measures that:

- Distinguish “established need” vs. “extreme need” areas
- Distinguish shortage areas vs. highly constrained areas
- Identify areas with both of these “extreme” conditions
- Account for concentration, relative exclusion, isolation
Research question 2:
Do we observe racial/ethnic inequities in who lives in deserts?

→ Use alternate, equity-focused definitions (measure 2)
(Extreme) Subsidized child care deserts (measure 2)

- Neighborhood meets two conditions (extreme unmet need and highly constrained supply)
- Neighborhood must be part of a “extreme need cluster” and a “constrained supply cluster”

Note: Clusters identified using Local Indicators of Spatial Association statistical tests. All clusters significant, p<.01.
Two measures, Two Storylines

Children of different race/ethnicities roughly equally likely to live in deserts

Black and Hispanic children 4 to 5 times more likely to live in extreme deserts
Major conclusion

Measures matter for understanding inequities

→ Findings call for multiple definitions of child care deserts for policy analysis and research
Thank you

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Extra slides
Definitions

- **Children** = children under age 6, throughout
- **Neighborhood** = census tract
- **Subsidy-eligible children** = number children under age 6 * percent of children under 18 under 200% poverty
  - **Note:** For subsidy-eligible children by race/ethnicity, we utilized counts of children under age 6 for each specified racial/ethnic group and multiply those counts by the group-specific share of children under 18 that have family incomes under 200% poverty
- **Neighborhood subsidized “seats”** = total subsidized children served through contracts and vouchers by subsidy-participating providers in the census tract
- **Highly constrained supply** = Relatively high number of eligible children in excess of neighborhood subsidized seats (relative to other neighborhoods in the overall neighborhood distribution; empirically this is tracts that are roughly in the top quintile, highest 20% of neighborhoods in terms of constrained supply)
- **High unmet need** = Relatively high number of eligible children in excess of children served by subsidies living in the neighborhood (relative to overall neighborhood distribution; empirically this is tracts are roughly in the top quintile, highest 20% of neighborhoods in terms of unmet need)
Data Sources and Data Years

• Counts of children under age 6 = U.S. Decennial Census 2010

• Percent of children under 18 with family income under 200% federal poverty, by race/ethnicity = American Community Survey, 5-year sample, 2010-2014, obtained by special tabulation.

• Home residence/location of subsidy children and number of children served by subsidies = Massachusetts CCDF Administrative records, obtained in connection with OPRE MA Child Care Research Partnership Grant

• Location of subsidy-participating child care providers = Massachusetts Child Care Licensing Database from the MA Department of Early Education and Care

• Administrative data (CCDF and licensing data) as of December 2014
1. Identify extreme need clusters (“high-high” unmet need LISA)
   • Focal neighborhood has high potential unmet need and bordering neighborhoods also have high potential unmet need

2. Identify highly constrained supply clusters (“high-high” constrained supply LISA)
   • Focal neighborhood has high number of eligible children in excess of subsidized seats and bordering neighborhoods also have high values

3. Define “extreme desert” as neighborhood that is both in an extreme need cluster (#1) and in a highly constrained supply cluster (#2)