Child care deserts:

Advancing measures to better understand issues of equity

Erin Hardy
Brandeis University

Massachusetts Child Care Research Partnership | diversitydatakids.org

Acknowledgments

A policy research partnership between:

- MA Dept. of Early Education and Care
  - Jennifer Louis (On-site PI)
- Brandeis University
  - Pam Joshi and Erin Hardy (Co-PIs)
  - Kate Giapponi
- Boston University
  - Yoonsook Ha (Co-PI)

Partnership Funded by: HHS/ACF/OPRE Child Care Research Partnership Grant
Diversitydatakids.org funded by: W.K. Kellogg and Robert Wood Johnson Foundations

Agenda

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

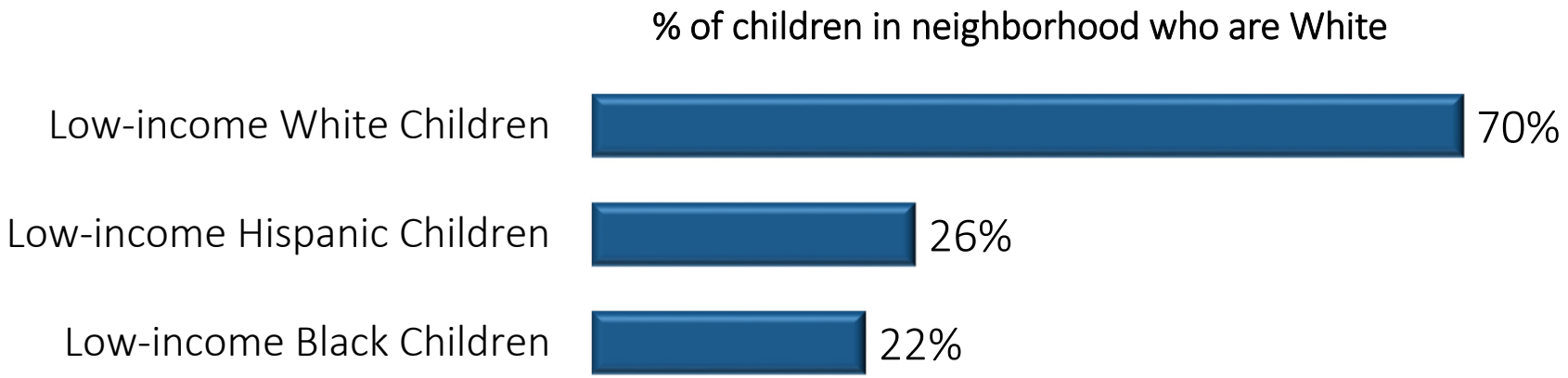
2) **Research question 1:** Using existing definitions of deserts, do observe racial/ethnic inequities in who lives in deserts?

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?

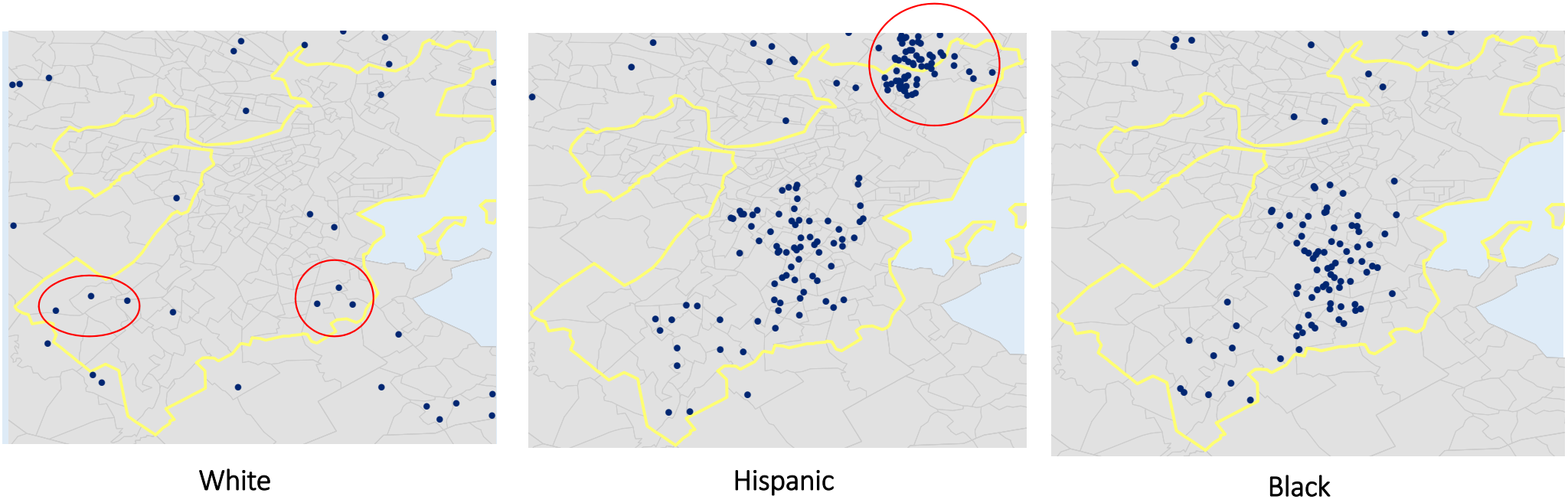


→ Answer: Yes, despite similar family incomes

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

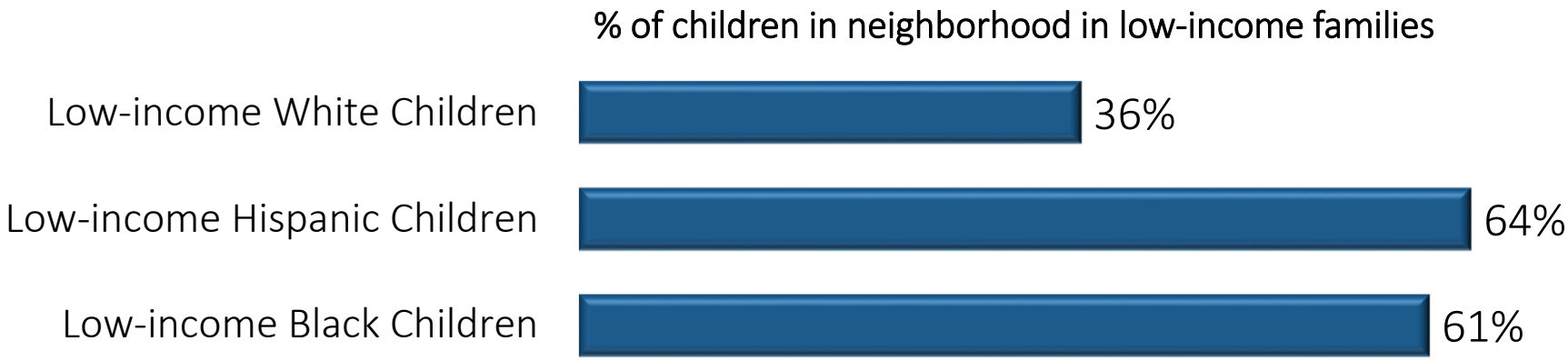
Zoom in to City of Boston



White | Hispanic | Black

1 dot = 50 subsidy eligible children under age 6

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



→ 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:

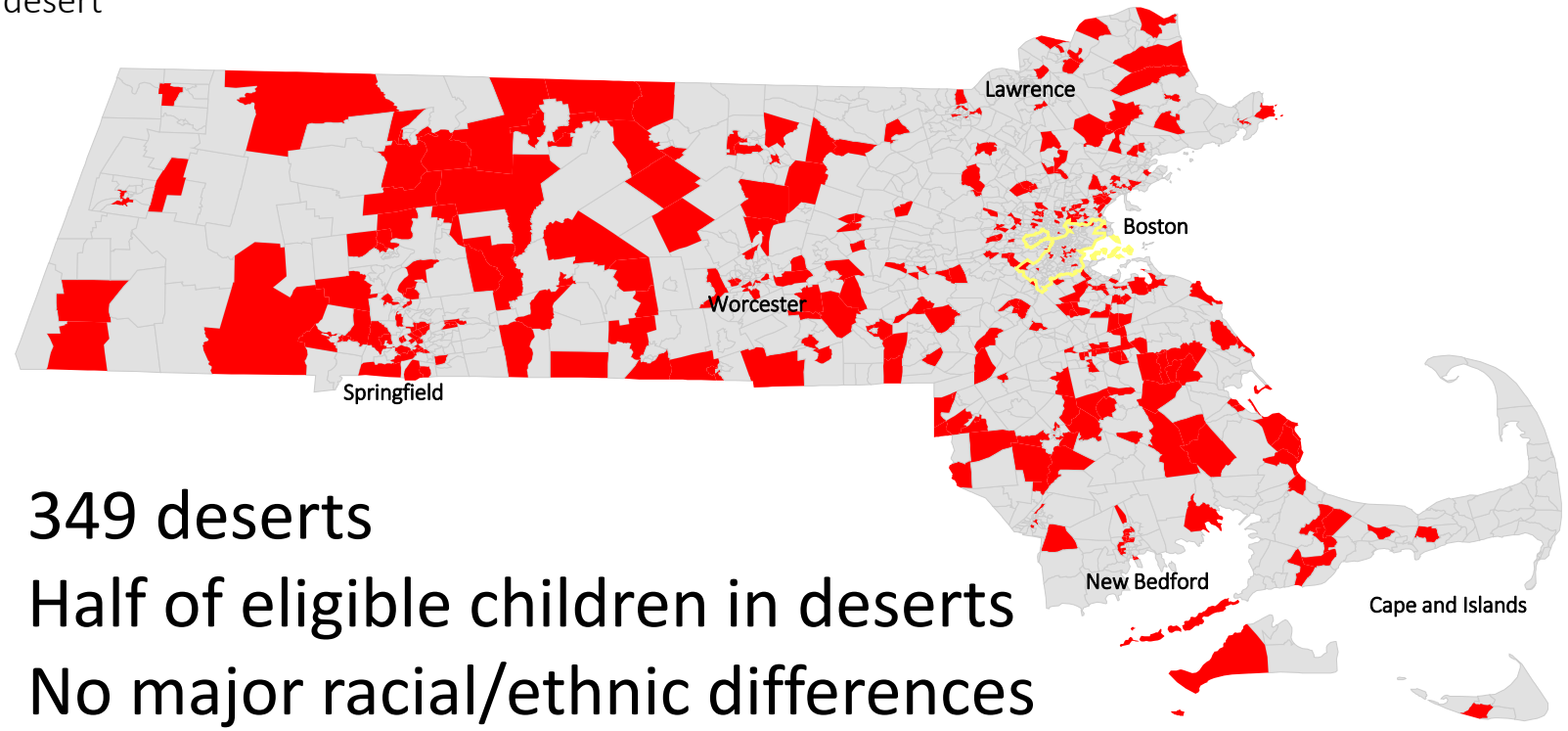
Do we observe racial/ethnic inequities in who lives in deserts?

→ 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

= desert



349 deserts

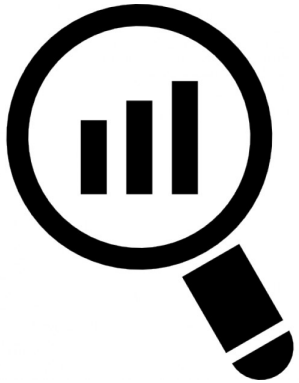
Half of eligible children in deserts

No major racial/ethnic differences

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

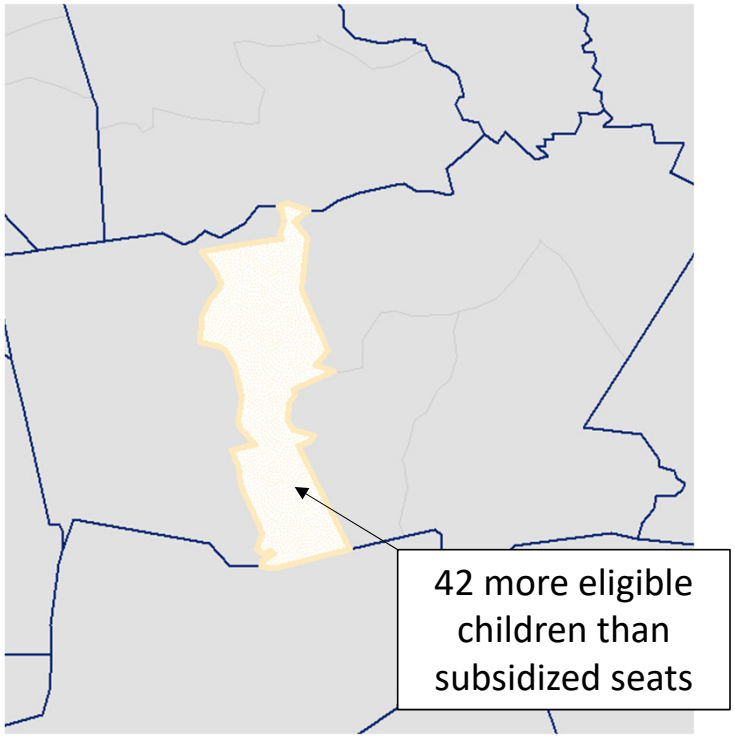
These findings made me ask:

Are existing measures of child care deserts detecting important qualitative differences?



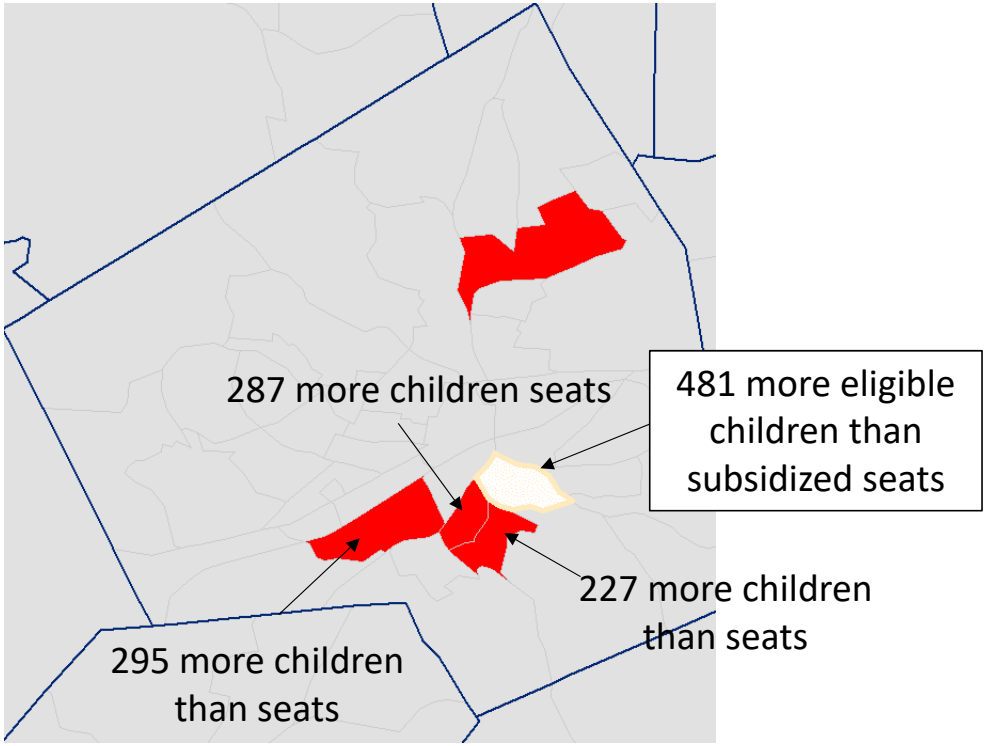
Two deserts: Difference of degree or of kind?

Desert A



Ratio desert score = 4.0x

Desert B



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 <u>both</u> of these “extreme” conditions
- ✓ Account for concentration, relative exclusion, isolation

Research question 2:

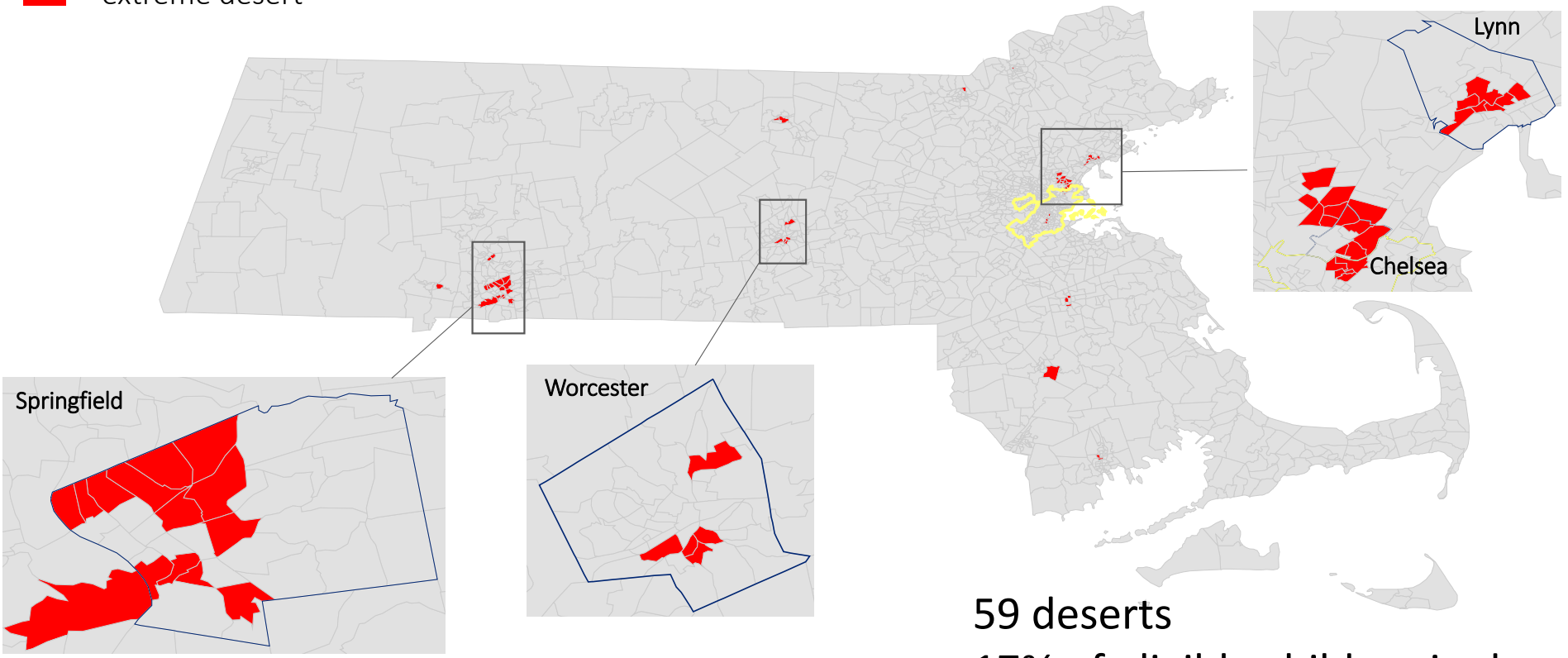
Do we observe racial/ethnic inequities in who lives in deserts?

→ Use alternate, equity-focused definitions (measure 2)

(Extreme) Subsidized child care deserts (measure 2)

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

= extreme desert



59 deserts

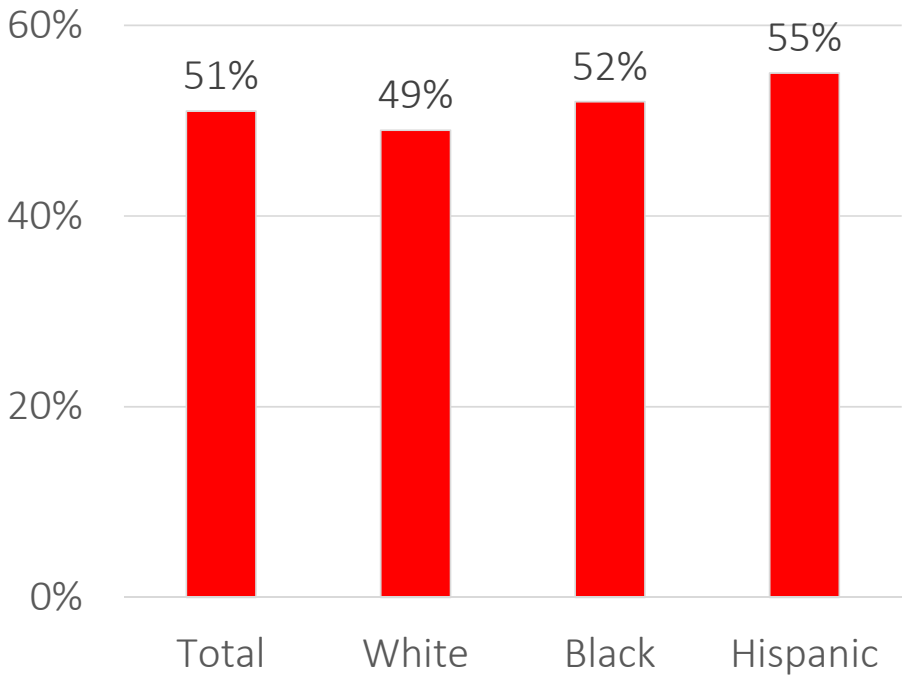
17% of eligible children in deserts

Major racial/ethnic differences

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

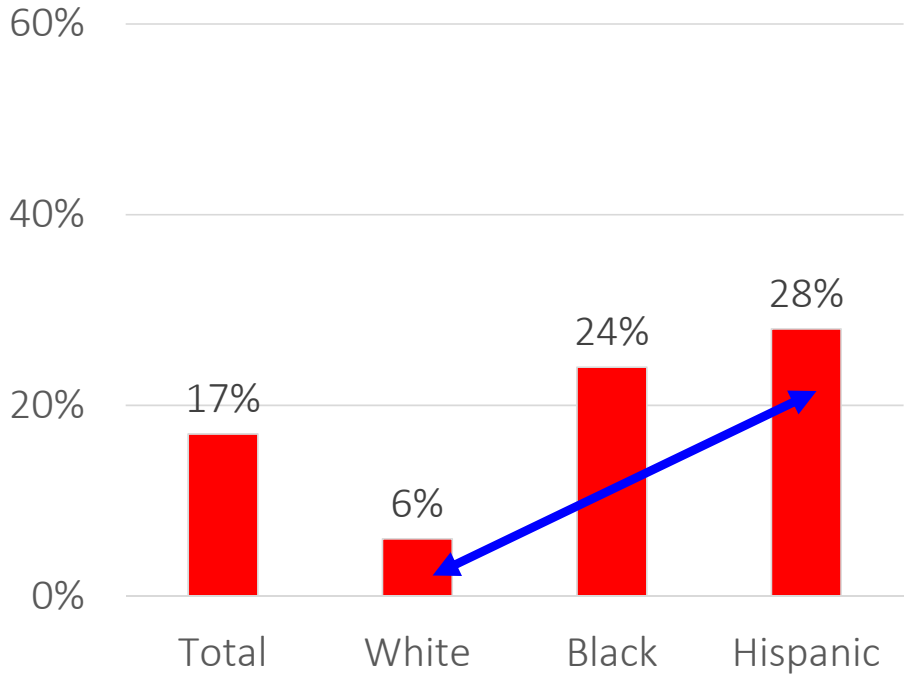
Two measures, Two Storylines

% of eligible in subsidy deserts (measure 1)



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

% of eligible in "extreme" subsidy deserts (measure 2)



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

Erin Hardy
ehardy@brandeis.edu

Massachusetts Child Care Research Partnership | diversitydatakids.org

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

Tool of choice: Local Indicators of Spatial Association (LISA)

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)