Advancing Improvements in MCH Outcomes Using Local Area Estimates from the National Survey of Children's Health

An Overview of Methods and Field Applications

Presented by:

Christina Bethell, PhD, MBA, MPH

Co-authors: Narangerel Gombojav, MD, PhD, Rosa Avila, MSPH, Kathleen Powers, MSc, Darika Batbayar, BS, Miriam Million, BS

The Child and Adolescent Health Measurement Initiative
Department of Population, Family and Reproductive Health
Johns Hopkins Bloomberg School of Public Health

CAHMI
The Child & Adolescent Health Measurement Initiative

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A project of CAHMI

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Overview

- Rationale and motivation for constructing local area estimates using the NSCH
- Summary of CAHMI's Local Area Estimation Project
- What we've accomplished so far
- Methodology and Key Issues
- Limitations and next steps

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Why is Data Useful?

1. **Build Will:** Data establishes your position
   - A case still has to be made to focus on health improvement using neurosciences
   - Data provides a basis for dialogue and creating shared vision and goals
2. **Focus:** Data describes current state, gaps needed in the selection of program, policy and services improvement priorities
3. **Learning:** Data shows you where and for whom outcomes vary (or programs work or not) and what models or factors influence better or worse performance and outcomes (off diagonal cases)

Our Study Question

Can data from the National Survey of Children's Health (NSCH) be combined with local demographic information to **produce actionable city and county estimates** to inform efforts to improve MCH outcomes and system performance?

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Why Use National Survey of Children's Health?

- **Breadth of topics** covered in the National Survey of Children's Health (NSCH)
- Valid production of city and county-level estimates of NSCH data can provide a **rich resource for MCH programmatic and policy decisions.**

CAHMI
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Why Synthetic Estimation?

Synthetic estimation - first introduced by the National Center for Health Statistics (NCHS) - can **help us understand aspects of MCH, community health, and health systems at the city and county level** when these measures are only available at the national and state level.

Synthetic Estimates Using the NSCH

- **Our #1 technical assistance request**—"can I get data for my county or city?"
- **Concept:** Adjust state level prevalence estimates (derived from a representative sampling process) for unique demographic (race x income) characteristics of a local area.
- Similar in concept to an "**indirect adjustment**"
- **Requires integration** of NSCH and Census data

Why Look Below the State Level?

- Data on the health of U.S. children is **readily available at the national and state levels.**
- **Local areas within a state can vary** on factors known or suspected to affect health, health care and other topics covered in national surveys.
- **Local areas face limitations in obtaining generalizable, valid, and actionable MCH data** for understanding health status, community based needs assessments, and population health improvement efforts.

Why Look Below the State Level? An Example

- Prevalence of children with a medical home varies by race
- Race distribution in Alameda city differs from California as a whole.

Race/ethnicity	% children with a medical home by race in CA*	Race distribution in California*	Race distribution in Alameda, CA**
Latino/Hispanic	34.1%	52.3%	16.9%
White, non-Hispanic	63.9%	27.7%	31.7%
Black, non-Hispanic	50.6%	5.2%	6.6%
Other, non-Hispanic	46.5%	14.8%	44.8%
Total	44.7%	100%	100%

Data sources: *2011/12 NSCH available at childhealthdata.org, **2008-2012 ACS

Do You Always Need to Collect Local Data?

No! National and state data have many uses at the local level.

- If demographic distributions between a local area and the state are similar, state and local estimates likely are too.
- However, large within-state demographic variation may mean that local areas actually differ markedly from the state as a whole. Limited resources prevent local data collection.

CAHMI's Local Area Estimation Project 2008-2016

- **2008-2010:** Developed "do it yourself" guidelines for county and city MCH Epidemiology applications and modeled possible methods (CSHCN focus)

- **2011**- CityMatch Workshop, collaboration with MCHB

- **2012-2013** –Explored options and obtained user feedback. Organized resources to conduct a study and assess options. **CityMatch and CDC staff** key partners.

- 2013-2014: Worked with **Population Reference Bureau (PRB), CityMatch and the National Center for Health Statistics (NCHS)** to develop and test methods to produce local area estimates using NSCH and Census/ACS data.

- **2014-2016:** Produced local data briefs and continuously refined and tested methods in collaboration with the **CA Endowment, ACEs Connection, RWJF**, CA **"Trauma-Informed Schools"** effort and the **Lucile Packard Foundation for Children's Health** (KidsData.org). Developed relationships and mocked up technical and production and resource requirements options for creating an online query tool, training and assistance resource for local areas.

Estimates in Action: Rapid Cycle Learning Across Over 225 Local Areas

- California Endowment and ACEs Connection communities of action (20)
- Robert Wood Johnson Foundation's MARC (Mobilizing Action for Resilient Communities) (13)
- PBS/Detroit News largest US Cities report (17)
- Alliance for Strong Families and Communities' Neuroscience/Change in Mind Initiative (7)
- Baltimore City Health Department
- California trauma informed schools efforts
- Lucile Packard Foundation KidsData.org (173)
- King County, WA Health Department
- Ashville, North Carolina and many more

Estimates in Action: PBS/Detroit News Largest Cities

The Detroit News

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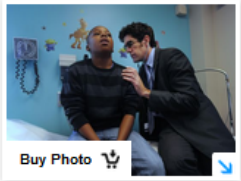
Hardships boost asthma rate for Detroit kids

Karen Bouffard, The Detroit News 3:02 p.m. EST March 9, 2016

Highest asthma toll among big cities tied to stress, which can spur health, learning problems



(Photo: Brandy Baker / The Detroit News)

STORY HIGHLIGHTS

- Detroit has the highest rate of asthma among young children in America's 18 largest cities

Detroit has the highest rate of asthma in young children among America's 18 largest cities, a problem that experts link to urban ills that could affect their health and learning for the rest of their lives.

In a study done for The Detroit News and PBS NewsHour, researchers from the Johns Hopkins Bloomberg School of Public Health found about two of every three Motor City children face "adverse childhood experiences." Those include household substance abuse, exposure to violence and extreme economic hardship that can trigger asthma.

TOP VIDEOS

Reward offered for tips in death of pregnant woman
0:57

Stained-glass makers may be forced to change
2:07

City a leader in childhood asthma

Detroit leads the country's largest cities for children from birth to 11 who have asthma. It ranks third nationally for all children who have the breathing condition.

Asthma in all children

From birth to age 17

1.	Phoenix	14%
2.	Philadelphia	12.9
3.	**Detroit**	**12.4**
4.	Jacksonville	12.3
5.	Indianapolis	12.3
6.	Chicago	11.7
7.	New York	11.4
8.	Dallas	10.4
9.	Houston	10.1
10.	Charlotte, NC	10
National		**8.8**

Children birth to age 17 who live in safe neighborhoods

1. Detroit	66%
2. New York city	73.2
3. Philadelphia	75.8
4. Los Angeles	77.6
5. Chicago	78.9
National	**86.6**

Note: Based on 2011-12 National Survey of Children's Health and U.S. Census Bureau's 2008-2012 American Community Survey.

The Detroit News

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Such experiences contribute to asthma attacks and "cause lifelong health problems," said Dr. Christine Bethell, director of the Child and Adolescent Health Measurement Initiative at Johns Hopkins.

"It's going to be affecting brain development, to put them behind the eight ball cognitively and behaviorally," said Rosalind Wright, a professor of pediatrics with Kravis Children's Hospital at New York City's Mount Sinai Health System. "You can just (about) write the trajectory for these poor kids, and it's no fault of their own."

Estimates in Action: ACEs and Resilience Infographics

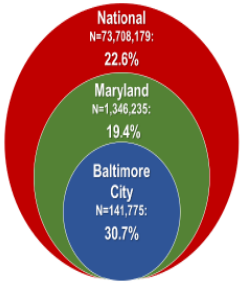
CAHMI produced approximately 40 infographics for cities and counties, with rapid cycle feedback informing each new round

Your Data ... Your Story
Data Resource Center for Child & Adolescent Health
A project of the Child and Adolescent Health Measurement Initiative
www.childhealthdata.org

Adverse Childhood Experiences among Baltimore & Maryland's Children

Adverse childhood experiences (ACEs) have been found to have a direct and synergistic impact on the health development and lifelong health of individuals. ACEs evaluated in prominent studies include experience ranging from extreme poverty, family problems to experiencing violence, abuse, and discrimination (Table 1).[1]

Children & Youth with 2+ Adverse Childhood Experiences (ACEs)

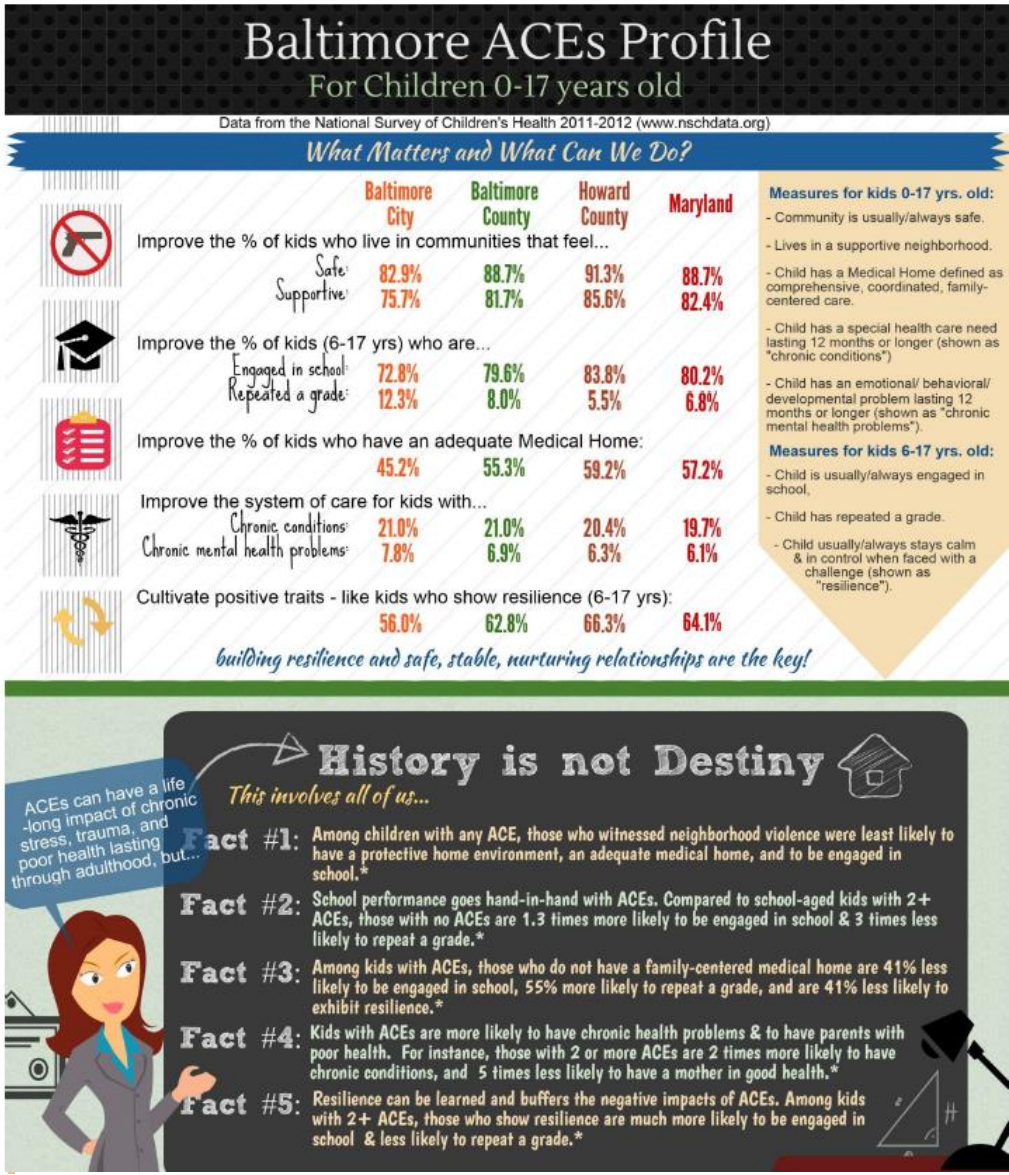


~43,500 Children in Baltimore City have 2 or more ACEs

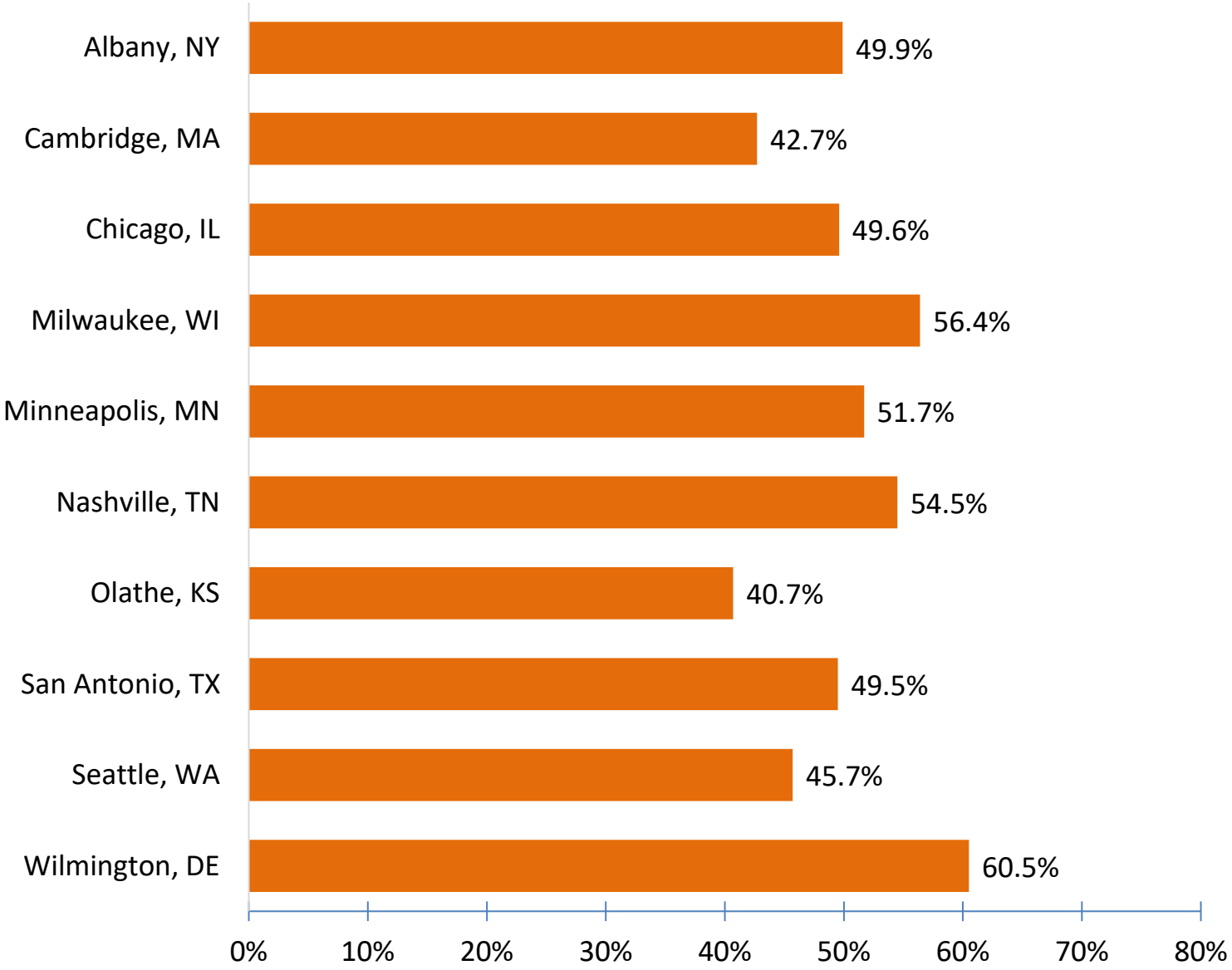
Table 1. State and National Level Prevalence of Adverse Childhood Experiences Items Among Children, Age 0-17 yrs.

Adverse Child or Family Experiences (ACEs) Items	Maryland	National
Extreme economic hardship	20.1%	25.7%
Family discord leading to divorce or separation	16.9%	20.1%
Has lived with someone who had an alcohol/drug problem	8.3%	10.7%
Has been a victim or witness of neighborhood violence	7.9%	8.6%
Has lived with someone who was mentally ill or suicidal	7.2%	8.6%
Witnessed domestic violence at home	7.2%	8.6%
Parent served time in jail	6.1%	6.9%
Treated or judged unfairly due to race/ethnicity	3.9%	4.1%
Death of parent	2.7%	3.1%
Child had any ACE *(1/more of above items)*	41.6%	47.9%

Note: City-Level Data are not available at this time



Percentage of Children Who Had One or More Adverse Childhood Experience, by "Change In Mind" City



Datasets Used to Calculate the Local Area Synthetic Estimates

- **2011-2012 National Survey of Children's Health:** Provides prevalence rates for child health and well-being indicators
- **2008-2012 five-year American Community Survey:** Provides local population estimates
  - The ACS is a nationwide, continuous survey designed to provide reliable and timely demographic, housing, social, and economic data every year
  - Samples 3.5 million addresses per year
  - Produces reliable estimates for small counties, neighborhoods, and local areas

How Were the Local Area Synthetic Estimates Calculated?

STEP 1: Calculate the prevalence of the indicator for each of 4 race/ethnicity and 4 family income subgroups within the state/region level (NSCH)

Prevalence of "medical home" by race/ethnicity and family income categories in California/Pacific division/West region, 0-17 years. Data source: 2011/12 NSCH

Race/ethnicity	0-99% FPL, %	100-199% FPL, %	200-399% FPL, %	400% or more FPL, %
Hispanic	22.8 (n=69) (state)	33.3 (n=57) (state)	42.1 (n=44) (state)	56.2 (n=76) (state)
White non-Hispanic	57.3 (n=24) (state)	51.8 (n=43) (state)	55.1 (n=101) (state)	72 (n=288) (state)
Black non-Hispanic	33.3* (n=20) (Census division)	41.3** (n=47) (Census region)	55.7* (n=39) (Census division)	56.0* (n=36) (Census division)
Other non-Hispanic	27.7* (n=177) (Census division)	44.1* (n=219) (Census division)	47.5 (n=32) (state)	55.5 (n=92) (state)

*Census Division (Pacific) prevalence rate **Census Regional (West) prevalence rate

We are assuming that each cell for this indicator at the state/region level is not significantly different from the same break down we would find at the local level.

How Were the Local Area Synthetic Estimates Calculated?

STEP 2: Determine the number of children in each county/city who fall into each category of the demographic characteristics. (The 2008-2012 ACS population data were also broken down by 4 family income groups and 4 race/ethnicity groups) To date, focus on areas with > 70K total population.

Number of child population ages 0-17 years by race/ethnicity and family income categories in Alameda city, California. Data source: 2008-2012 ACS

Race/ethnicity	0-99% FPL	100-199% FPL	200-399% FPL	400% or more FPL	All income groups
Hispanic	245	430	765	1065	2505
White non-Hispanic	255	410	900	3150	4715
Black non-Hispanic	530	305	60	85	980
Other non-Hispanic	750	1195	1630	3075	6650
All race/ethnicity groups	1780	2340	3355	7375	14,850

This distribution is what we assume is different at the local compared to state/region level.

How Were the Local Area Synthetic Estimates Calculated?

STEP 3: Calculate the estimate.

a) Determine the estimated number of children meeting the indicator "focus value" for each race/ethnicity x income subgroup

$$\sum_{for\ each\ r,i} \frac{Pop_{r,i}}{Pop} \times Rate_{r,i}$$

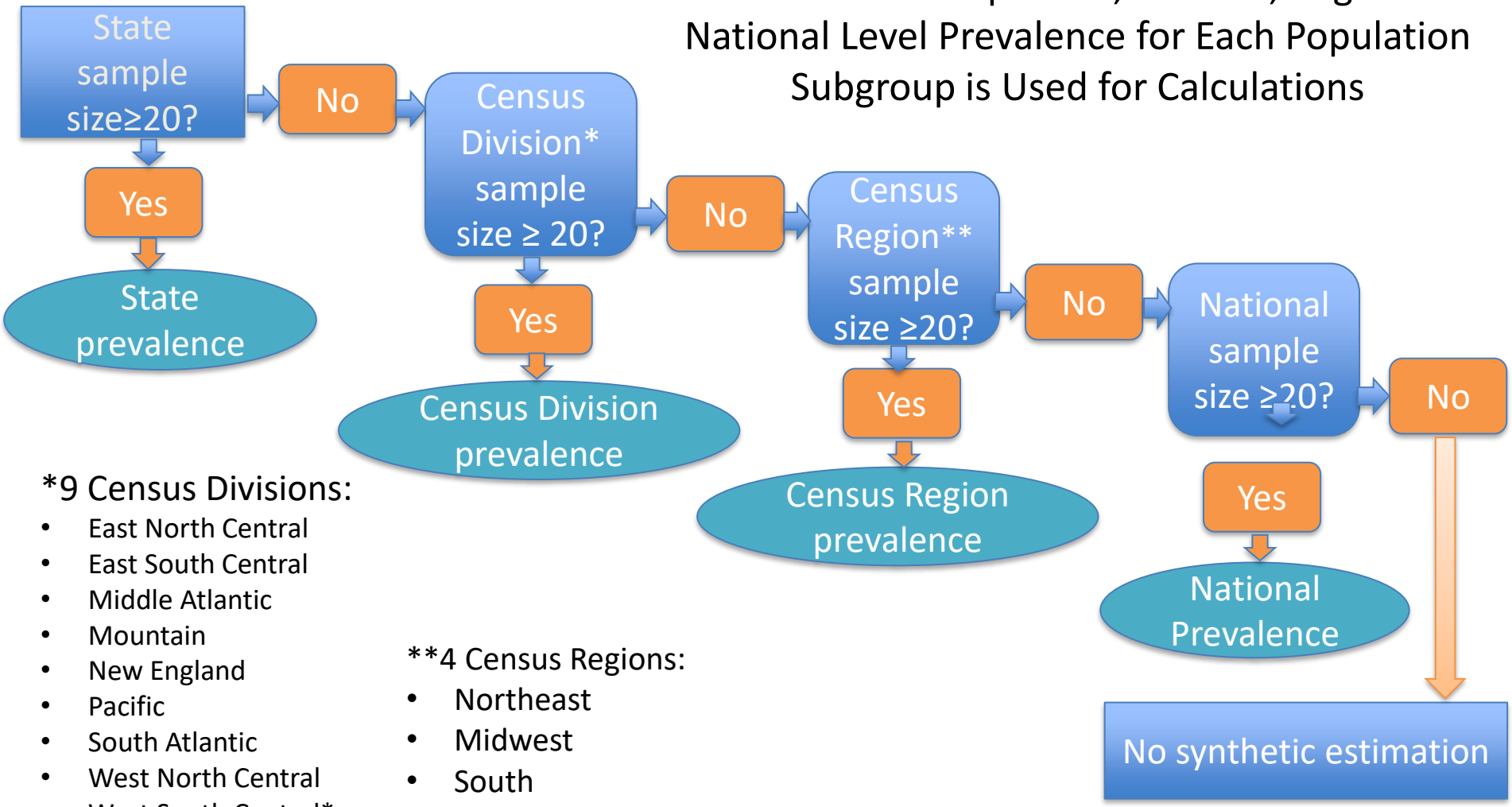
r = each racial/ethnic category
i = each income category
$Pop_{r,i}$ = ACS population estimate for a given race/ethnicity and income categories
Pop = ACS population estimate
$Rate_{r,i}$ = State/Region prevalence rate from the NSCH by race/ ethnicity and income categories

b) Determine the prevalence of the variable of interest in each county/city by adding up all estimated numbers of children across the 16 subgroups and dividing by total number of children in the city/county

- Divide the total number of children with a medical home in Alameda city by the total number of children living in Alameda city: **7,840/14,850=52.8%**

Key Methodology Issue:
Selection of Geographic Area for Prevalence for Each Subgroup

When state prevalence for a subgroup is based on less than 20 sample size, Division, Region or National Level Prevalence for Each Population Subgroup is Used for Calculations



*9 Census Divisions:

- East North Central
- East South Central
- Middle Atlantic
- Mountain
- New England
- Pacific
- South Atlantic
- West North Central
- West South Central*

**4 Census Regions:

- Northeast
- Midwest
- South
- West

One Test of the Method (in absence of a "gold standard"

- We applied the method used to create synthetic state estimates and compared to actual NSCH state estimates
- *Steps:*
  - *Generated NSCH prevalence rates by race/ethnicity and income at regional level (Northeast, Midwest, South, and West)*
  - *Generated ACS population distributions by race/ethnicity and income at the state level*
  - *Calculated synthetic prevalence rates at the state level*
  - *Compared the synthetic state prevalence rates anchored to regional prevalence with the published NSCH prevalence rates by state.*

Our Findings
Variable: Prevalence of Overweight or Obese Children

- All but five states had synthetic state estimates that were within 5 points of actual NSCH estimates
  - 5+ points higher—Arizona and North Carolina
  - 5+ point lower—Colorado, Florida, and New Jersey

Table 4: Comparison of NSCH and Synthetic State Prevalence Rates: Children Ages 10-17 Who are Overweight or Obese

State	NSCH Prevalence Rate	Synthetic Prevalence Rate (Based on Regional Values)	Percentage-point difference
Alabama	34.6	34.1	-0.5
Alaska	29.2	25.5	-3.6
Arizona	37.1	32.0	-5.1
Arkansas	34.0	34.1	0.0
California	30.7	32.9	2.3
Colorado	23.2	28.2	5.0
Connecticut	29.9	28.4	-1.6
Delaware	32.2	32.6	0.4
District of Columbia	34.6	39.1	4.6
Florida	27.6	35.0	7.4
Georgia	34.5	34.9	0.4
Hawaii	27.4	28.4	1.0
Idaho	28.1	27.0	-1.1
Illinois	33.2	31.9	-1.4
Indiana	31.8	31.7	0.0
Iowa	28.2	30.0	1.8

Key Methodology Issue
Treatment of indicators with very low prevalence and/or small samples for all subgroups

If…

1) the overall state prevalence rate for the **"focus value"** for an indicator is **less than 10% (e.g. repeated a grade)**
2) OR--all of the **"anchor prevalence rates"** for each race/ethnicity x income category in a local area **required resorting to division, region or national prevalence**

… **then** the synthetic estimate was not calculated based on the "focus value", but its "opposite".

Example: *We calculated synthetic estimates for "Did not repeat a grade" and then estimated "Repeated a Grade" by subtracting this estimate by 100.*

An Example: Parental Aggravation

Yes, parents usually/always feel aggravated with child/ parenting

HealthMeasure	Race Category	Poverty	State	Division	Region	StateRate	StateSampleCount	DivisionRate	DivisionSampleCount	RegionRate	RegionSampleCount	NationRate	NationSampleCount
ParentalStress_CSHCN	Hispanic	0 to 99	California	Pacific	West	0.387359	11	0.362882	17	0.3646509	66	0.3205393	190
ParentalStress_CSHCN	Hispanic	100 to 199	California	Pacific	West	0.147204	6	0.158101	16	0.1844536	44	0.254546	112
ParentalStress_CSHCN	Hispanic	200 to 399	California	Pacific	West	0.562338	5	0.515776	19	0.4625797	54	0.3491472	105
ParentalStress_CSHCN	Hispanic	400% or higher	California	Pacific	West	0.330653	4	0.327692	13	0.2792052	28	0.2420617	85
ParentalStress_CSHCN	NHWhite	0 to 99	California	Pacific	West	0.131928	2	0.245107	27	0.2472311	80	0.2563488	394
ParentalStress_CSHCN	NHWhite	100 to 199	California	Pacific	West	0.073382	5	0.187126	35	0.2373394	120	0.2466147	486
ParentalStress_CSHCN	NHWhite	200 to 399	California	Pacific	West	0.357305	10	0.29879	51	0.2302491	167	0.1952945	722
ParentalStress_CSHCN	NHWhite	400% or higher	California	Pacific	West	0.188495	14	0.166594	53	0.1615904	155	0.1400517	693
ParentalStress_CSHCN	NHBlack	0 to 99	California	Pacific	West	0.209197	2	0.298967	7	0.2648856	12	0.3032327	211
ParentalStress_CSHCN	NHBlack	100 to 199	California	Pacific	West	0.129121	1	0.199153	3	0.1581528	8	0.2610685	112
ParentalStress_CSHCN	NHBlack	200 to 399	California	Pacific	West	0.327522	1	0.364243	2	0.3491019	5	0.2254082	85
ParentalStress_CSHCN	NHBlack	400% or higher	California	Pacific	West			0.01316	4	0.0226701	9	0.1524607	77
ParentalStress_CSHCN	NHOther	0 to 99	California	Pacific	West	0.20549	4	0.286056	26	0.3314469	41	0.3167788	114
ParentalStress_CSHCN	NHOther	100 to 199	California	Pacific	West	0.537402	1	0.262366	24	0.2777632	40	0.1789504	106
ParentalStress_CSHCN	NHOther	200 to 399	California	Pacific	West	0.092312	2	0.107013	21	0.1326765	39	0.2286877	106
ParentalStress_CSHCN	NHOther	400% or higher	California	Pacific	West	0.101634	1	0.14132	27	0.1543232	41	0.1646522	105

No, parents do NOT usually/ always feel aggravated with child/ parenting

HealthMeasure	Race Category	Poverty	State	Division	Region	StateRate	StateSampleCount	DivisionRate	DivisionSampleCount	RegionRate	RegionSampleCount	NationRate	NationSampleCount
NoParentalStress_CSHCN	Hispanic	0 to 99	California	Pacific	West	61.30%	21	63.70%	51	63.50%	164	67.90%	438
NoParentalStress_CSHCN	Hispanic	100 to 199	California	Pacific	West	85.30%	18	84.20%	44	81.60%	146	74.50%	356
NoParentalStress_CSHCN	Hispanic	200 to 399	California	Pacific	West	43.80%	14	48.40%	49	53.70%	146	65.10%	401
NoParentalStress_CSHCN	Hispanic	400% or higher	California	Pacific	West	66.90%	18	67.20%	40	72.10%	137	75.80%	397
NoParentalStress_CSHCN	NHWhite	0 to 99	California	Pacific	West	86.80%	9	75.50%	80	75.30%	225	74.40%	1250
NoParentalStress_CSHCN	NHWhite	100 to 199	California	Pacific	West	92.70%	8	81.30%	111	76.30%	392	75.30%	1753
NoParentalStress_CSHCN	NHWhite	200 to 399	California	Pacific	West	64.30%	18	70.10%	210	77.00%	708	80.50%	3372
NoParentalStress_CSHCN	NHWhite	400% or higher	California	Pacific	West	81.20%	64	83.30%	325	83.80%	843	86.00%	4406
NoParentalStress_CSHCN	NHBlack	0 to 99	California	Pacific	West	79.10%	5	70.10%	8	73.50%	22	69.70%	477
NoParentalStress_CSHCN	NHBlack	100 to 199	California	Pacific	West	87.10%	4	80.10%	6	84.20%	20	73.90%	357
NoParentalStress_CSHCN	NHBlack	200 to 399	California	Pacific	West	67.20%	2	63.60%	7	65.10%	22	77.50%	415
NoParentalStress_CSHCN	NHBlack	400% or higher	California	Pacific	West	100.00%	8	98.70%	10	97.70%	20	84.80%	347
NoParentalStress_CSHCN	NHOther	0 to 99	California	Pacific	West	79.50%	5	71.40%	42	66.90%	92	68.30%	301
NoParentalStress_CSHCN	NHOther	100 to 199	California	Pacific	West	46.30%	2	73.80%	71	72.20%	116	82.10%	355
NoParentalStress_CSHCN	NHOther	200 to 399	California	Pacific	West	90.80%	8	89.30%	90	86.70%	151	77.10%	407
NoParentalStress_CSHCN	NHOther	400% or higher	California	Pacific	West	89.80%	15	85.90%	104	84.60%	153	83.50%	551

Our Test Findings

Compared “focus value” findings using regular versus “reverse coding” option

More the 2% point differences observed for only 4 of 154 cities and counties in California for “Parental Aggravation”

Location	No Parental stress	Yes, parental stress	Calculated parental stress (100-No parental stress)	Difference
United States	77.4	22.6	22.6	0.0
California	72.2	27.8	27.8	0.0
Alameda city	78.1	21.3	21.9	-0.7
Alhambra city	73.9	25.0	26.1	-1.1
Anaheim city	70.0	28.6	30.0	-1.3
Antioch city	73.6	26.0	26.4	-0.4
Arden-Arcade CDP	75.1	24.6	24.9	-0.4
Bakersfield city	71.1	28.0	28.9	-1.0
Baldwin Park city	67.7	30.8	32.3	-1.5
Bellflower city	70.5	28.5	29.5	-1.0
Berkeley city	76.6	22.1	23.4	-1.3
Buena Park city	72.6	26.3	27.4	-1.1
Burbank city	73.8	24.7	26.2	-1.5
Carlsbad city	76.9	21.7	23.1	-1.5
Carson city	73.6	25.8	26.4	-0.6
Chico city	74.7	24.5	25.3	-0.8
Chino city	70.7	27.5	29.3	-1.9
Chino Hills city	75.0	23.3	25.0	-1.8
Chula Vista city	70.1	28.1	29.9	-1.8
Citrus Heights city	72.7	26.3	27.3	-1.1
Clovis city	73.1	25.6	26.9	-1.2
Compton city	69.2	30.0	30.8	-0.7
Concord city	73.9	24.8	26.1	-1.3
Corona city	71.4	27.0	28.6	-1.6
Costa Mesa city	72.2	26.5	27.8	-1.3
Daly City city	77.4	21.8	22.6	-0.8
Downey city	66.9	31.2	33.1	-1.9
East Los Angeles CDP	67.2	31.6	32.8	-1.2
El Cajon city	72.6	26.7	27.4	-0.7
Elk Grove city	75.5	23.6	24.5	-0.9
El Monte city	69.6	29.5	30.4	-0.9
Escondido city	71.9	27.3	28.1	-0.9
Fairfield city	74.4	24.8	25.6	-0.8
Folsom city	78.1	20.5	21.9	-1.4
Fontana city	69.2	29.5	30.8	-1.3
Fremont city	79.7	19.6	20.3	-0.7
Fresno city	70.9	28.4	29.1	-0.7
Fullerton city	73.2	25.6	26.8	-1.2
Garden Grove city	73.1	25.9	26.9	-1.0
Glendale city	76.0	23.1	24.0	-0.9
Hawthorne city	71.8	27.8	28.2	-0.5
Hayward city	71.8	27.2	28.2	-1.0
Hemet city	71.9	27.7	28.1	-0.4
Hesperia city	69.6	29.4	30.4	-1.0
Huntington Beach city	75.1	23.3	24.9	-1.6
Indio city	67.2	31.1	32.8	-1.7
Inglewood city	71.9	28.2	28.1	0.1
Irvine city	79.7	19.4	20.3	-0.9
Jurupa Valley	68.0	30.6	32.0	-1.4
Lake Forest city	75.4	23.1	24.6	-1.5
Lakewood city	73.3	25.3	26.7	-1.4
Lancaster city	71.4	28.0	28.6	-0.6
Livermore city	75.7	22.9	24.3	-1.4
Long Beach city	71.8	27.4	28.2	-0.8
Los Angeles city	71.1	28.0	28.9	-0.9
Menifee city	71.8	26.9	28.2	-1.3
Merced city	71.4	27.9	28.6	-0.7
Mission Viejo city	76.6	21.9	23.4	-1.5
Modesto city	71.7	27.5	28.3	-0.8
Moreno Valley city	70.7	28.9	29.3	-0.4
Mountain View city	77.5	21.4	22.5	-1.1

Summary: Our Findings

- Local area NSCH estimates are **viable to produce** for the majority of NSCH variables.
- Restricting to local areas with a population size of **70,000 or more** is conservative.
- A robust 16-cell race/ethnicity by household income weighting matrix that uses five-year ACS data **yielded sufficient sample for most areas and NSCH variables**, with further segmentation possible by age subgroups.

Strengths of this Methodology

- Provides a standard approach
- Easy to use
- Easily explained and easy to understand, compared with more complex regression-based methods
- Population estimates are also readily available from the U.S. Census Bureau, and can be updated on a regular basis
- Local estimates tend to be closely aligned with the state-level estimates on which they are based

Potential Bias in this Methodology

Synthetic estimates subject to all inherent biases in the data upon which is relies (NSCH and ACS)

Remember:

- This is about learning, creating a conversation and optimizing “best available” data.
- We DO NOT want to adjust for all explanatory variables, rather to create estimates that can spark dialogue and where local areas working together can rely on common methods
- If research is the goal, it is best to use the Research Data Centers at CDC or Census Bureau to access the data for local areas of interest

Potential Bias in this Methodology

- There are **timing differences** between when state and local data were collected: state-level data collection for the NSCH (2011-12) and ACS (2008-12) slightly varied.
- The number of stratifying groups are limited by state sample size
- Cannot construct confidence intervals or statistical tests

Conclusions

- Although locally collected data are ideal, NSCH synthetic estimates provide **valuable, standardized data** for county and city health departments, local community organizations, and others.
- **Multiple analysis pathways** are needed to construct local estimates to optimize available NSCH sample data.
- **Not all NSCH variables** are suitable for local estimation.
- Despite limitations in core assumptions underlying synthetic estimation, **use of standardized methods enable cross-area and cross-population comparisons**, making use of such estimation methods valuable for program planning and improvement purposes.

Public Health Implications

- Many MCH efforts can benefit from local data, but **lack resources or capacity to collect data or conduct data analysis.**
- There is **recognized benefit** to comparable, standardized data across larger areas.
- Performing local area estimation using the NSCH provides local health departments, community and other organizations with the ability to tailor interventions to their community's specific needs in a way **that can easily be compared to other areas in order to observe disparities.**
- These data have been instrumental in supporting communities' development of plans to address important MCH issues.

Thank you!

cbethell@jhu.edu
info@cahmi.org

Get Involved in Further Exploring Local Area Data Methods

Coordinated by CAHMI
Maternal and Child Health Measurement Research Network