From Theory to Measurement:
State measures of life course

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Presentation goals

- **Share** overview of the life course model and it's relationship with social determinants of health

- **Share** process for development of Life Course Measures

- **Review** summary final indicators selected

- **Share** project resources

- **Answer** FAQs

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Life course: Core ideas

- **Multiple determinants** of health—i.e. genetic, social, environmental, health systems, disease conditions, political/economic

- **Influence of time**—i.e. individual health changes over time, determinants vary over time, relationship between health and determinants depend on time

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Life course: many models
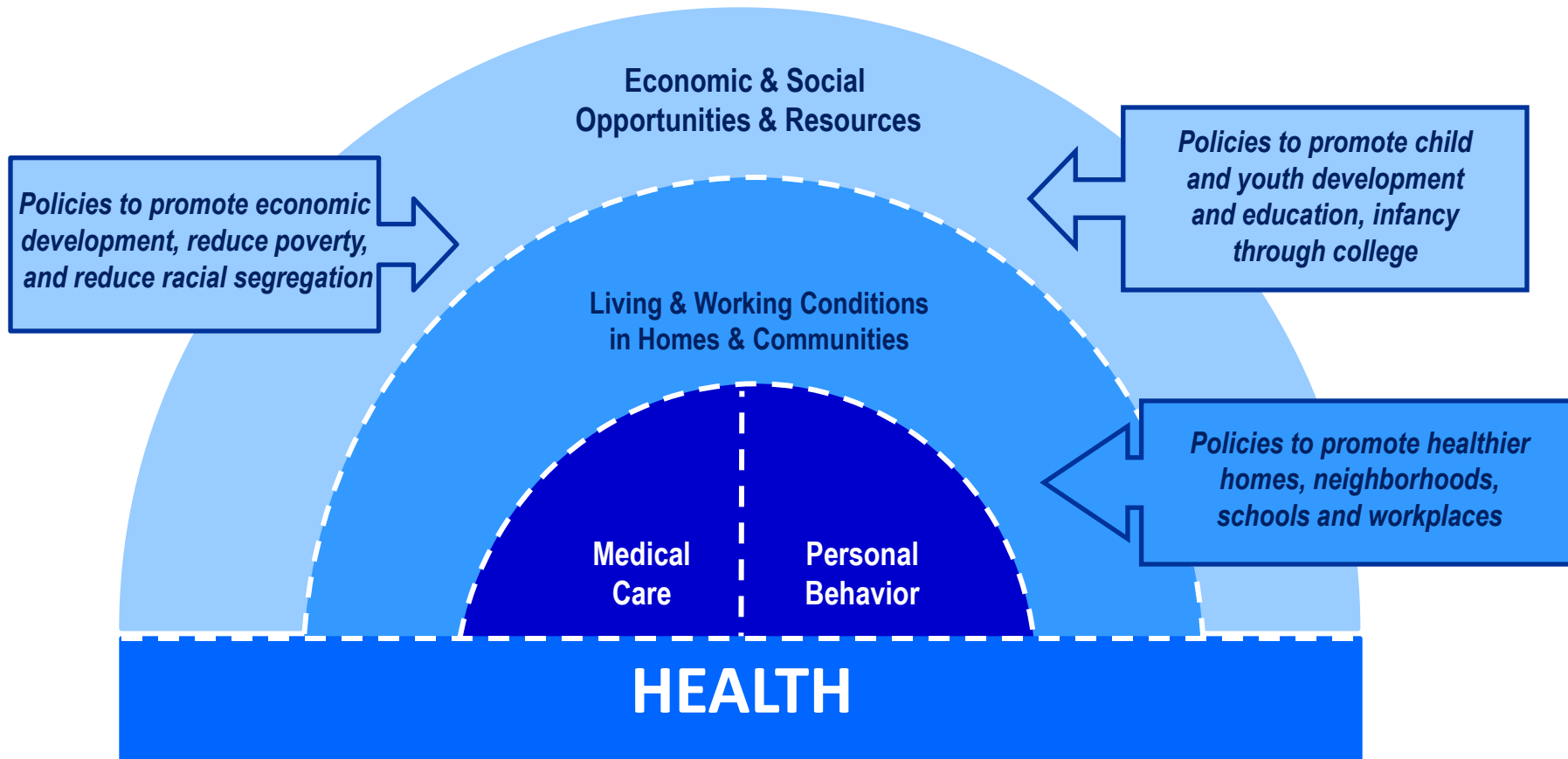
Source: P Braveman, *Pediatrics*, 2009

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Life course: many models
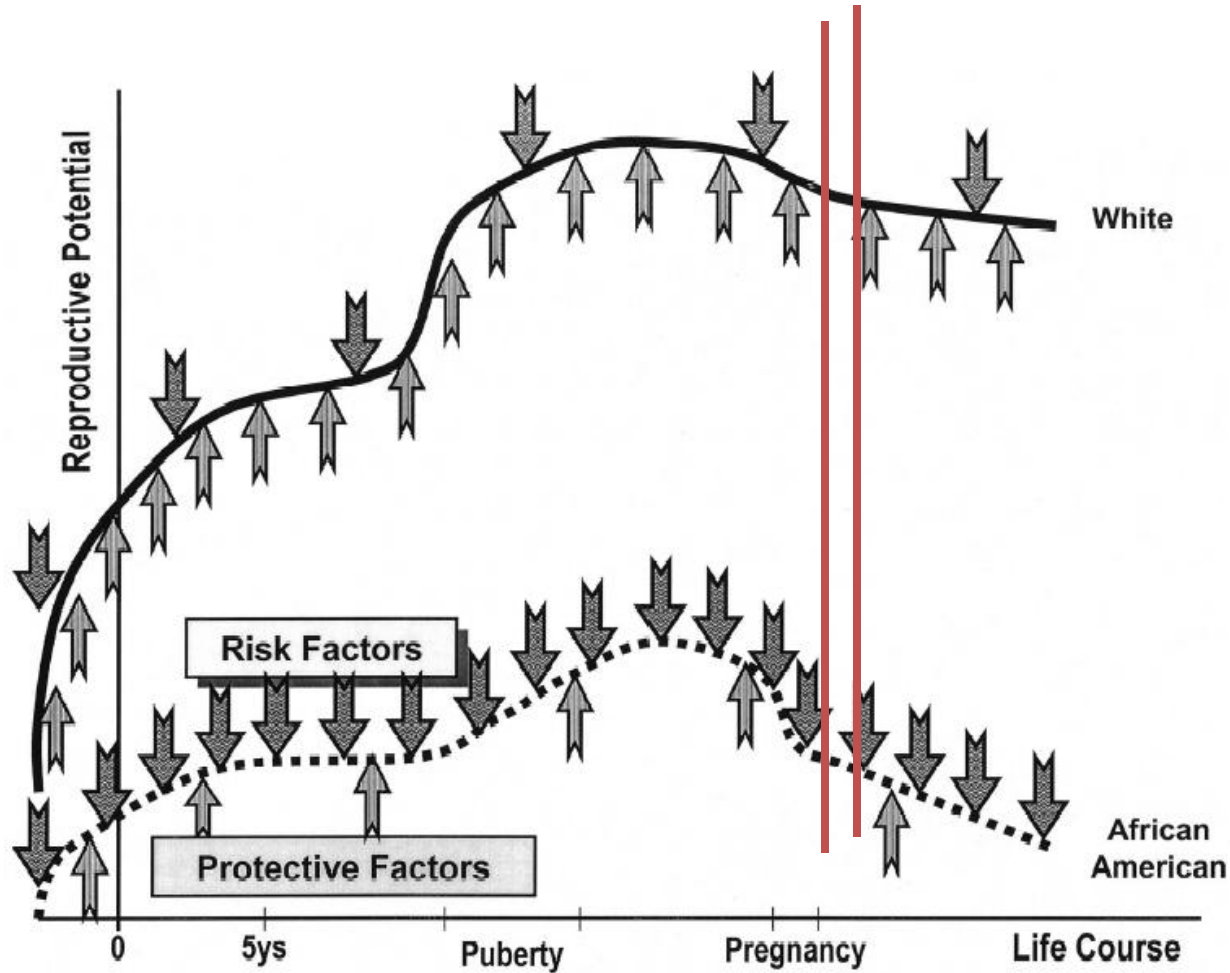
Lu MC, Halfon N. Racial and ethnic disparities in birth outcomes: a life-course perspective. Maternal Child Health J. 2003;7:13-30.

Purpose of metrics project

Develop tools to help state MCH programs and their partners emphasize a life course health perspective throughout:

- **Assessment** of risks, capacity, & services

- **Planning** programs

- **Monitoring** and **evaluation** of outcomes

- **Engaging** and **educating** partners

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When a final set of life course indicators exists, what will the impact be for the health of moms, kids, and families throughout your communities?

"Help state health departments...come out of their silos and think outside the box to better design programs and interventions that impact the life course trajectory for mothers, children, and families."

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Organizing Framework

Risk

- Experiences and exposures that indicate risk for future life course outcomes

Outcomes

- Outcomes that reflect or summarize an adverse life course trajectory.

Services

- Risk reduction and health promotion from services provided over time to MCH populations

Capacity

- Community and organizational capacity to address life course

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Domain	Perinatal/ Infancy	Early Childhood	Childhood/ School age	Adolescent	Young adult	Adult
Risk						
Services						
Outcomes						
Capacity						

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Criteria: Data

1. **Data Availability:** Can the indicator be calculated in state and local public health agencies?

2. **Quality:** Accuracy and reliability including consistency of data quality and reporting across jurisdiction.

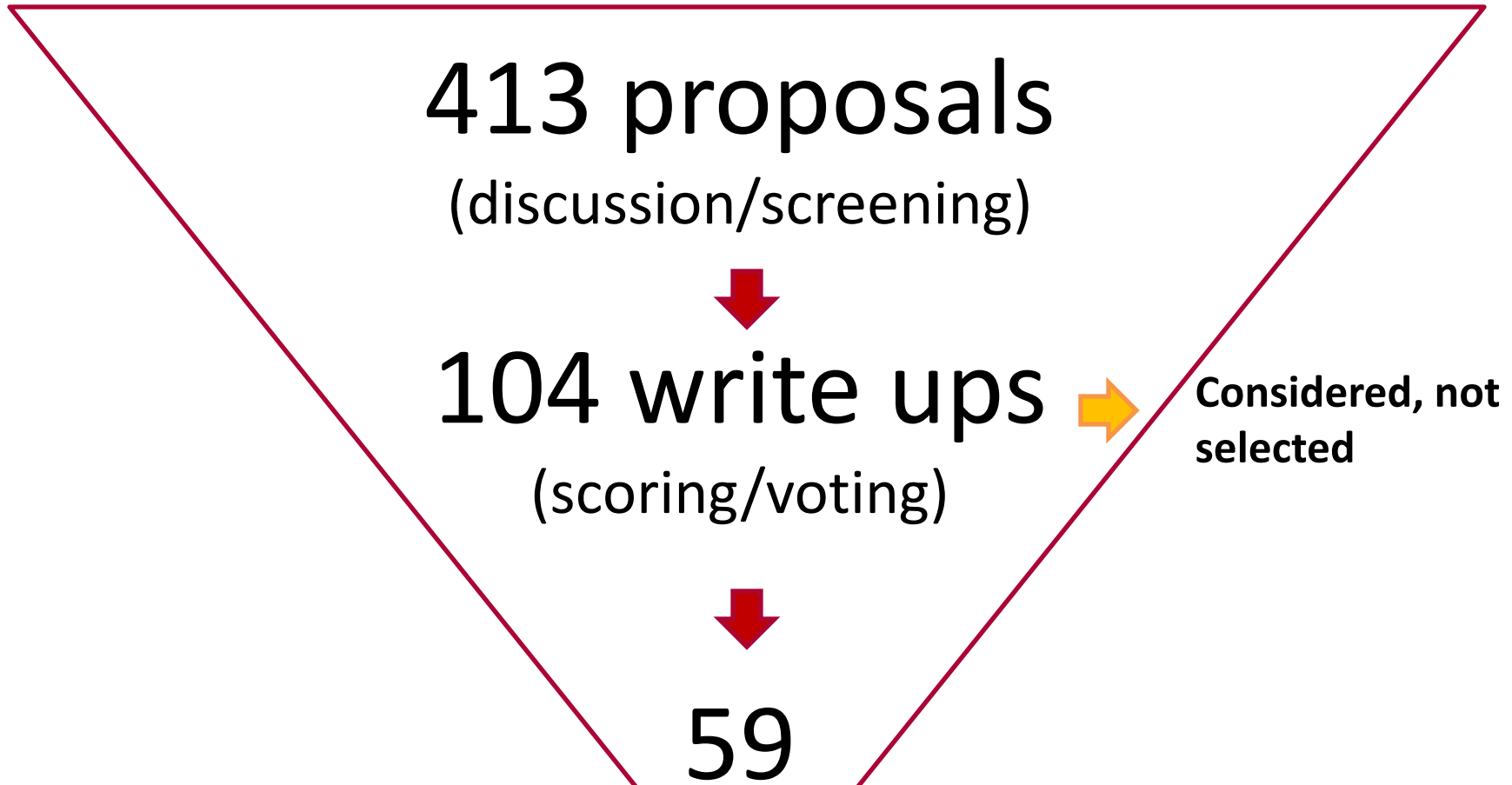3. **Simplicity:** Level of complexity in both calculating and explaining the indicator.

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Criteria: Life Course

1. **Implications for equity:** How well the indicator reflects and has implications for equity-related measures such as social, psychosocial, and environmental conditions, poverty, disparities, and racism.

2. **Public health impact:** Impact of a positive change in the indicator due to program or policy interventions.

3. **Ability to leverage resources or realignment:** How well the indicator reflects programs, services, and policies that expand beyond the traditional MCH focus?

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Criteria: Life Course

4. **Improve the health and wellness of an individual and/or their children (intergenerational health):** How well the indicator reflects the time and trajectory components of the life course theory with an emphasis on indicators that address critical and transitional periods throughout life.

5. **Consistent with evidence base:** How well the indicator is connected to our current, scientific understanding of life course health.

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Progress To Date

413 proposals
(discussion/screening)

↓

104 write ups → **Considered, not selected**
(scoring/voting)

↓

59
Life Course Indicators

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Challenges

- Availability of data at a state and local level

- Availability of non-traditional MCH data

- Data quality, simplicity

- Overlap with other measures

- Issues/root causes highlighted by other measures

- Research is still in the early stages

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www.amchp.org/lifecourseindicators

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Life Course Indicator: Bullying

The Life Course Metrics Project

As MCH programs begin to develop new programming guided by a life course framework, measures are needed to determine the success of their approaches. In response to the need for standardized metrics for the life course approach, AMCHP launched a project designed to identify and promote a set of indicators that can be used to measure progress using the life course approach to improve maternal and child health. This project was funded with support from the W.K. Kellogg Foundation.

Using an RFA process, AMCHP selected seven state teams, Florida, Iowa, Louisiana, Massachusetts, Michigan, Nebraska and North Carolina, to propose, screen, select and develop potential life course indicators across four domains: Capacity, Outcomes, Services, and Risk. The first round of indicators, proposed both by the teams and members of the public included 414 indicators for consideration. The teams distilled the 414 proposed indicators down to 104 indicators that were written up according to three data and five life course criteria for final selection.

In June of 2013, state teams selected 59 indicators for the final set. The indicators were put out for public comment in July 2013, and the final set was released in the Fall of 2013.

Basic Indicator Information

Name of indicator: Bullying

Brief description: Percent of 9-12th graders who reported being bullied on school property or electronically bullied.

Indicator category: Discrimination and Segregation

Indicator domain: Risk/Outcome

Numerator: Number of 9th through 12th grade students (12-17 years) who reported having been bullied on school property or electronically during the past 12 months.

Denominator: 9th through 12th grade student population (12-17 years)

Potential modifiers: Sex, race/ethnicity, grade level, self-reported academics/grades in school

Data source: Youth Risk Behavior Surveillance System (YRBSS)

Notes on calculation: Numerator is derived from the responses to two questions: During the past 12 months, have you ever been bullied on school property? During the past 12 months, have you ever been electronically bullied? (Count being bullied through e-mail, chat rooms, instant messaging, websites, or texting.) Respondents who answer yes to either question are included in the numerator. Analysts who use the raw datasets should apply the appropriate survey weights to generate the final estimates.

Similar measures in other indicator sets: Healthy People 2020 focus area IVP-35.

Life Course Criteria

Introduction

Existing literature supports that bullying on school property and electronically can impact an individual's health and wellness throughout the life course. There are several disparities within the prevalence of this indicator, and bullying can have substantial health-related, psychosocial, and economic impacts. Adolescence is also a critical time of physical and mental development where bullying and associated risk factors have potential to negatively impact the life course trajectory. Schools are key social contexts in which important health and developmental processes unfold for adolescents, and an opportune environment to intervene to prevent bullying and reduce adverse health outcomes in the population. While childhood is also a critical stage in development, there is a lack of standardized data to assess bullying nationwide. Tools such as the National Survey of Children's Health rely on parent reports to measure child involvement in bullying. Children and youth often do not report bullying to adults; therefore self-reported measures, such as those assessed through the Youth Risk Behavior Surveillance System, are more likely to reflect true rates and experiences of bullying. It is for this reason that this indicator and its supporting narrative focus on the 9th –12th grade population. Furthermore, this narrative acknowledges that bullying has significant associations and implications for both the victim and the perpetrator – to date, the public health fields lacks a nationwide, standardized measure of bullying perpetration, and therefore this indicator is limited to bullying victimization. This indicator is a reliable measure of prevalence of bullying among the nation's adolescent population. Improvements in this indicator have potential to greatly improve the health of our adolescent population, both current and throughout life.

Implications for equity

Bullying is prevalent among school-age youth, with risk factors among groups that have implications for disparities and inequity in certain environments.

Based on 2011 National YRBSS data, female students (22.0%) were more likely than male students (18.2%) to have been bullied on school property during the past 12 months [3]. The data also show females are more likely than males to be electronically bullied. Other studies have found males to experience higher rates of bullying, or no disparity [4-6]. This suggests a gender disparity with this indicator that may be dependent on environment and context, which can have implications for public health approaches to prevent bullying. In addition, the association between bullying and psychosocial health varies between males and females, thus interventions should take these differences into account to increase effectiveness.

2011 National YRBSS data also suggest that White students were more likely to have been bullied on school property or electronically during the past 12 months when compared to both Black and Hispanic students [3]. However, it is unclear how many youth are bullied based on their race or ethnicity. Some evidence suggests that Black or Hispanic youth who are bullied fare worse academically, but further research is needed to understand the implications race and ethnicity have on bullying and health equity.

Risk for bullying victimization is higher among lesbian, gay, bisexual, or transgender (LGBT) youth and those perceived as LGBT than heterosexual youth [7]. Often, bullying among students involves the use of homophobic teasing and slurs [8]. LGBT youth struggle with rejection from parents, peers and teachers, as well as societal homophobia. This can put them at greater risk for depression, which compounded with frequent bullying, can lead to increased risk of self-injury or suicide. Indeed, rates of suicide attempts in LGBT youth are between two to seven times higher than their heterosexual peers [9]. Additionally, LGBT students often do not receive much protection or support from school policies or administration [7]. These factors contribute to disparities in bullying victimization among this population.

Disparities also exist for youth with special health care needs (YSHCN), who are particularly vulnerable to bullying victimization. Students with disabilities are subject to more bullying than peers without disabilities, and the bullying is often a direct result of the disability [10]. Youth with disabilities may also have significant social skills challenges, either as a core trait of their disability or as a result of social isolation due to segregated environments or peer rejection. While all youth victims of bullying face negative emotional, educational and physical outcomes from bullying, students with disabilities are disproportionately impacted by the bullying.

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Overlap between measures

Title V measures	Preconception health indicators	Healthy People Objectives	CDC winnable battle	Chronic disease indicators	NQF	United Health Rankings
16	8	36	6	14	9	6

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'New' measures (i.e. no overlap)

Domain	Indicator
Risk/Outcome	Adverse childhood experiences among adults
	Fluoridation
	Concentrated disadvantage
	Homelessness
	Small for gestational age
	Experiences of race-based discrimination or racism among women
	Perceived experiences of discrimination among children
	Perceived experiences of racial discrimination in healthcare among adults
	Racial residential segregation by community
Capacity/Services	Human Papillomavirus (HPV) immunization
	Capacity to assess lead exposure
	States with P-20 longitudinal data sets
	Diabetes during pregnancy
	Stressors during pregnancy
	Voter registration

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Indicator Resources:

www.amchp.org/lifecourseindicators

National Comparisons

'Short List' Indicators

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Domain	Indicator
Risk/Outcome	Adverse childhood experiences among children (NSCH)
	Experiences of race-based discrimination among pregnant women (PRAMS)
	Experiences of discrimination among children (NSCH)
	Households with a high level of concentrated disadvantage (ACS)
	Children living in households where smoking occurs inside the home (NSCH)
	Children or adults who are currently overweight or obese (NSCH, YRBSS, BRFSS, PRAMS)
	Depression among youth (YRBSS)
	Household food insecurity (USDA ERS)
	Preterm births (NVSS)
	Stressors during pregnancy (PRAMS)
	Incarceration Rate (BOJ, NPSP)
Capacity/Services	Children who receive services in a medical home (NSCH)
	4th graders scoring proficient or above on math and reading (NAEP)

FAQs

- Where are the sentinel **mortality indicators**?

- Why isn't **low birth weight** included?

- What do **capacity indicators** mean?

- Why aren't their more **resiliency measures**?

- Are there **targets associated** with these indicators?

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