



July 26, 2018

<p>SUBJECT</p> <p>MATERNAL AND INFANT HEALTH ASSESSMENT SURVEY</p> <p>Strategic Priority Area 2. System and Network: Provide leadership to the First 5 movement and the development of a support system serving children prenatal through age 5, their families, and communities that results in sustainable and collective impact.</p> <p>Goal 2.1. Leadership as a Convener and Partner: Work with First 5 county commissions, state agencies, and other stakeholders to convene, align, collaborate on, support, and strengthen statewide efforts and initiatives to facilitate the creation of a seamless system of integrated and comprehensive programs and services to improve the status and outcomes for children prenatal through age 5 and their families.</p>	<p><input type="checkbox"/> Action</p> <p><input checked="" type="checkbox"/> Information</p>
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SUMMARY OF THE ISSUE

Researchers from the University of California, San Francisco, will present findings from California's Maternal and Infant Health Assessment (MIHA) survey. Christine Rinki, MPH, is a research specialist for the MIHA survey, with expertise in maternal and child epidemiology and program evaluation. Paula Braveman, MD, MPH, is Professor of Family and Community Medicine and Director of the Center on Social Disparities in Health at the University of California, San Francisco (UCSF). She is internationally known for her expertise in health equity and health disparities, particularly maternal and child health. Kristen Marchi, MPH, is Co-Director of the Center on Social Disparities in Health and the MIHA Project Director, with expertise in survey research and social disparities in maternal and child health.

RECOMMENDATION

This is an information-only item. First 5 California staff is not requesting action at this time.

BACKGROUND OF KEY ISSUES

MIHA is an annual, statewide-representative survey of women with a recent live birth in California. MIHA collects self-reported information about maternal and infant experiences and about maternal attitudes and behaviors before, during, and shortly after pregnancy. The survey is a collaborative effort of the Maternal, Child and Adolescent Health and the Women, Infant & Children Divisions of the California Department of Public Health, and the Center on Social Disparities in Health at UCSF. The presentation will focus on the topics of hardships among women around the time of pregnancy, the impact of childhood hardships on maternal health, and the relationship of preterm birth with racism.

ATTACHMENTS

- A. Maternal and Infant Health Assessment: For Healthier Mothers and Babies
(Presentation by UCSF)



Maternal and Infant Health Assessment (MIHA)

...for healthier mothers and babies

Christine Rinki, MPH

Kristen Marchi, MPH

Paula Braveman, MD, MPH

First 5 California Commission Meeting

July 26, 2018

What is MIHA?

- Annual survey of California women with a recent live birth
- Unique data resource to support programs and policies that improve the health of California mothers and infants
- Source of otherwise unavailable data around the time of pregnancy, linked to other data sources

- Maternal, Child and Adolescent Health Division, California Department of Public Health
- WIC Division, California Department of Public Health
- Center on Social Disparities in Health, University of California, San Francisco
- MIHA is supported by federal funds from the Title V Maternal and Child Health Block Grant.

MIHA methods overview: Sample

- Annual statewide representative sample from birth certificates of resident women with a live birth
- About 6,500 women participate each year
 - Allows for county-level data reporting
- Oversampled subgroups ensures adequate representation
 - Black mothers (since 1999)
 - American Indians/Alaska Native (AIAN) mothers (2012-2015)
 - Preterm births (since 2016)

MIHA methods overview: Data collection

- Multi-mode survey (mail/web/telephone)
- In English or Spanish (no Asian languages yet)
- Incentives and rewards offered to enhance participation
- Most women surveyed between 3 and 6 months postpartum
- 2017 response rate = **64%**



Photo: iStock

MIHA methods overview: Survey Development

- Revised annually to address emerging issues
- Input obtained from MCAH, WIC, CDPH, First 5, CDC/PRAMS and external stakeholders from throughout California
- MIHA Team examines literature, other surveys and consults subject matter experts
- Survey pretested with postpartum women online, in focus groups, on phone (English and Spanish)

- Demographics and socioeconomic
- Hardships, social support, IPV, racism
- Mental health conditions, need and access to care
- Alcohol, tobacco, cannabis use
- Health conditions, behaviors, and experiences
- Access to care, utilization and insurance
- Dental care, flu and Tdap vaccination, genetic disease screening
- Pregnancy intention and postpartum birth control
- Linked birth certificate variables (standard)
- Linked patient discharge data variables
- Linked selected census-derived variables



Ongoing collaborations

CDPH Partners

- Women, Infants and Children Program (WIC)
- Genetic Disease Screening Program
- Let's Talk Cannabis
- Office of Oral Health
- Immunization Branch

External Partners

- Local Health Jurisdiction MCAH Programs
- Centers for Disease Control/PRAMS
- Kidsdata.org
- National Partnership for Women and Families
- MCH Access

Local data availability



Women residing in all counties are eligible for MIHA

Data at county level is available for 35 counties with largest number of births.

This accounts for 98% of California births

Data for the remaining 23 counties are reported in MIHA regions.

Uses of MIHA data: public health reporting

MIHA Snapshot, Sacramento County 2010
Maternal and Infant Health Assessment (MIHA) Survey

✓ better than rest of California * worse than rest of California + no statistical difference

	Sacramento County			California		
	%	95% CI	Population Estimate	%	95% CI	Population Estimate
Prior Poor Birth Outcomes						
Prior low birth weight or preterm delivery	+ 10.3	6.6 - 13.9	2,000	9.6	8.4 - 10.9	48,100
Prior delivery by c-section	+ 15.2	10.9 - 19.4	3,000	16.6	14.9 - 18.3	83,200
Health Status						
In excellent/good health before pregnancy	+ 91.5	88.3 - 94.6	18,000	89.0	87.7 - 90.4	445,300
Chronic conditions before or during pregnancy	+ 13.0	9.0 - 17.0	2,600	12.1	10.7 - 13.4	60,200
Diabetes or gestational diabetes	+ 13.6	9.5 - 17.8	2,600	10.0	8.8 - 11.3	49,500
Hypertension, preeclampsia or eclampsia	+ 11.1	7.3 - 14.8	2,100	7.1	6.2 - 8.0	35,300
Asthma						
Nutrition and Weight						
Daily folic acid use						
Overweight before pregnancy						
Obese before pregnancy						
Inadequate weight gain						
Excessive weight gain						
Food insecurity during pregnancy						
Intimate Partner Violence						
Physical IPV in the year before pregnancy						
Physical or psychological IPV during pregnancy						
Postpartum depression						
Hardships and Support						
Hard "a lot" of unpaid work						
Moved						
Woman on partner's insurance						

MIHA Snapshot, San Joaquin County by Race/Ethnicity, 2010-2012
Maternal and Infant Health Assessment (MIHA) Survey

	San Joaquin County		Hispanic		Black		White		Asian/Pacific Islander	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Total	100		50.0	45.9 - 54.1	7.9	6.3 - 9.5	25.5	21.8 - 29.2	16.1	12.8 - 19.4
Prior Poor Birth Outcomes										
Prior low birth weight or preterm delivery	12.2	9.3 - 15.2	10.8	7.2 - 14.5	--	--	18.0	8.8 - 23.2	--	--
Prior delivery by c-section	16.3	13.2 - 19.4	16.3	12.0 - 20.6	20.2*	7.7 - 32.6	15.9	10.0 - 21.9	15.4	7.2 - 23.6
Chronic conditions before or during pregnancy										
Diabetes or gestational diabetes	14.8	11.8 - 17.8	12.5	8.7 - 16.2	17.5*	7.0 - 28.0	13.7	7.8 - 19.7	22.1	12.6 - 31.6
Hypertension, preeclampsia or eclampsia	9.5	6.8 - 12.1	6.0	2.8 - 9.2	--	--	14.4	8.2 - 20.7	12.3	5.2 - 19.3
Asthma	9.5	7.2 - 12.4	6.8	3.4 - 10.2	16.2*	6.0 - 26.5	14.6	8.6 - 20.6	--	--
Nutrition and Weight										
Daily folic acid use, month before pregnancy	29.4	25.8 - 33.2	25.0	20.0 - 29.9	25.0	12.4 - 37.5	33.3	25.4 - 41.1	37.2	28.5 - 45.1
Overweight before pregnancy	23.9	19.9 - 27.9	24.8	18.9 - 30.7	24.8	18.9 - 30.7	24.8	18.9 - 30.7	11.4*	4.8 - 18.3
Obese before pregnancy	14.4*	8.8 - 20.0	15.9	10.0 - 21.9	15.9	10.0 - 21.9	15.9	10.0 - 21.9	12.0	5.0 - 18.9
Inadequate weight gain	9.9	6.7 - 13.1	11.3	5.7 - 17.0	11.3	5.7 - 17.0	11.3	5.7 - 17.0	24.8	15.7 - 34.0
Excessive weight gain	8.4	5.7 - 11.1	8.3	5.4 - 11.2	8.3	5.4 - 11.2	8.3	5.4 - 11.2	43.7	31.4 - 56.1
Food insecurity during pregnancy	5.6*	4.9 - 6.3	10.6	13.5 - 26.2	10.6	13.5 - 26.2	10.6	13.5 - 26.2	19.0	10.2 - 27.7
Intimate Partner Violence										
Physical IPV in the year before pregnancy	4.3	1.6 - 7.9	7.2*	3.0 - 11.4	--	--	7.2*	3.0 - 11.4	--	--
Physical or psychological IPV during pregnancy	9.7*	11.4 - 20.1	12.7	7.2 - 18.2	12.7	7.2 - 18.2	12.7	7.2 - 18.2	13.1*	5.4 - 20.8
Postpartum depression	--	--	--	--	--	--	--	--	--	--
Hardships and Support										
Hard "a lot" of unpaid work	5.3*	5.6 - 25.0	20.8	13.8 - 27.7	20.8	13.8 - 27.7	20.8	13.8 - 27.7	12.1	5.1 - 19.0
Moved	8.0	14.1 - 43.6	10.1	5.0 - 15.2	--	--	--	--	--	--
Woman on partner's insurance	--	--	--	--	--	--	--	--	--	--
Nutrition and Weight										
Daily folic acid use, month before pregnancy	--	--	23.0	15.8 - 30.1	--	--	--	--	--	--
Overweight before pregnancy	--	--	9.2	4.2 - 14.3	--	--	--	--	--	--
Obese before pregnancy	--	--	15.9	8.1 - 23.5	--	--	--	--	--	--
Inadequate weight gain	--	--	21.5	13.8 - 29.2	--	--	--	--	--	--
Excessive weight gain	--	--	8.1	3.5 - 12.6	--	--	--	--	--	--
Food insecurity during pregnancy										
Food insecurity during pregnancy	3.6	46.5 - 78.7	76.2	68.8 - 83.5	76.2	68.8 - 83.5	76.2	68.8 - 83.5	76.2	68.8 - 83.5
Intimate Partner Violence										
Physical IPV in the year before pregnancy	37.8*	48.2 - 67.4	91.0	88.2 - 93.8	91.0	88.2 - 93.8	91.0	88.2 - 93.8	80.6	71.3 - 89.9
Physical or psychological IPV during pregnancy	32.4	26.0 - 50.7	72.0	64.3 - 79.7	72.0	64.3 - 79.7	72.0	64.3 - 79.7	58.2	46.9 - 69.4
Postpartum depression										
Postpartum depression	30.9	69.9 - 91.8	71.2	63.5 - 78.9	71.2	63.5 - 78.9	71.2	63.5 - 78.9	79.7	71.0 - 88.4
Hardships and Support										
Hard "a lot" of unpaid work	48.3*	73.4 - 95.3	85.1	76.8 - 91.6	85.1	76.8 - 91.6	85.1	76.8 - 91.6	86.1	78.3 - 94.0
Moved	15.7	12.6 - 18.4	13.3	11.0 - 15.4	13.3	11.0 - 15.4	13.3	11.0 - 15.4	6.1	3.0 - 9.5
Woman on partner's insurance	5.4	83.6 - 87.3	45.0	36.7 - 53.3	45.0	36.7 - 53.3	45.0	36.7 - 53.3	56.8	45.4 - 68.3

- Statewide, regional and county
 - Data Snapshots
 - Issue briefs
 - Data requests

- National
 - Collaboration with CDC/PRAMS for Healthy People 2020

MIHA DATA BRIEF

MATERNAL, CHILD AND ADOLESCENT HEALTH DIVISION

Symptoms of Depression During and After Pregnancy

Summer 2018

KEY POINTS

One in five California women who recently gave birth experience symptoms of depression during or after pregnancy, according to the MIHA survey. That translates to about 100,000 women a year.

All women are at risk for perinatal depression; however, Black or Latina women, women who have low incomes or those who have experienced hardships in their childhood or during pregnancy are at heightened risk.

Depression during pregnancy is likely to lead to depression after the baby is born and is associated with serious risks to the mother and infant. Routine screening for depression and appropriate care should be provided to women during prenatal care.

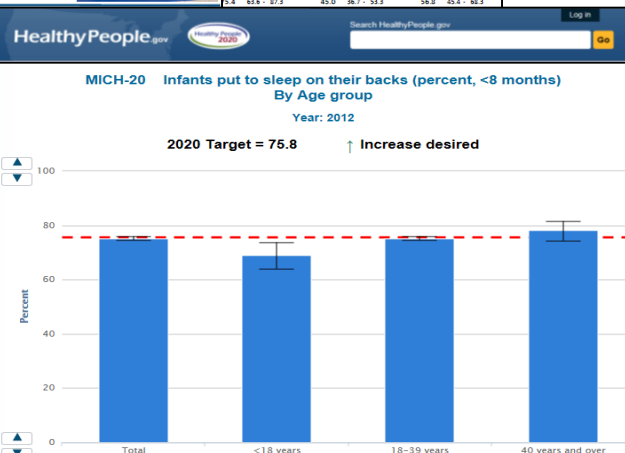


BACKGROUND

Emotional well-being during and after pregnancy is central to women's health, and to their infants' development. Depression during or after pregnancy is one of several perinatal mood and anxiety disorders that commonly affect women during this period. Perinatal depression is characterized by intense feelings of sadness, anxiety or despair during or after pregnancy that lasts two weeks or longer and prevents women doing their daily tasks. It can occur at any time from conception through one year postpartum.¹ As a serious pregnancy complication requiring treatment, depression differs from the "baby blues," which are common minor changes in mood that occur in the first few days after childbirth.¹

Untreated depression can lead to negative outcomes for both mom and baby. Depression that occurs during pregnancy increases the risk of preeclampsia, low birth weight and premature delivery.²⁻⁶ Depression after the baby is born can negatively impact women's breastfeeding practices and ability to bond with their infants.⁷⁻⁹ Depression at any point during the perinatal period increases the risk of long term cognitive and emotional development problems in children.^{4,10} Among mothers, it increases the risk of chronic depression and suicide once the baby is born.¹¹⁻¹³

With the appropriate help, most women can experience full recovery.¹⁴ National guidelines



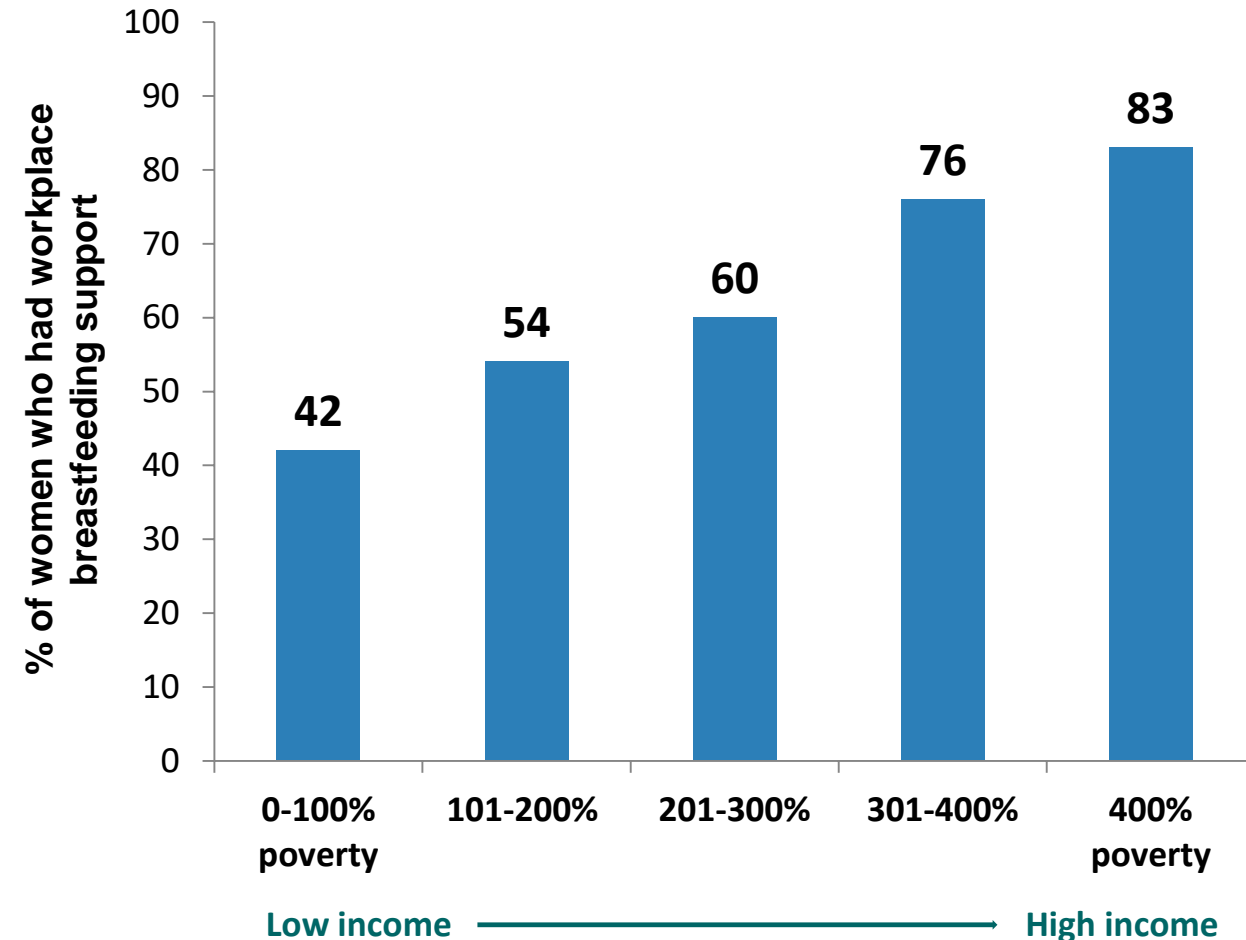
At baseline, 68.9 percent of infants were put to sleep on their backs in 2007. The target is 75.8 percent, based on a target-setting method of 10 percent improvement.

MIHA Data to Action



MIHA used to monitor implementation of workplace breastfeeding support legislation

Women given time and private place to pump breastmilk, by income: MIHA 2016

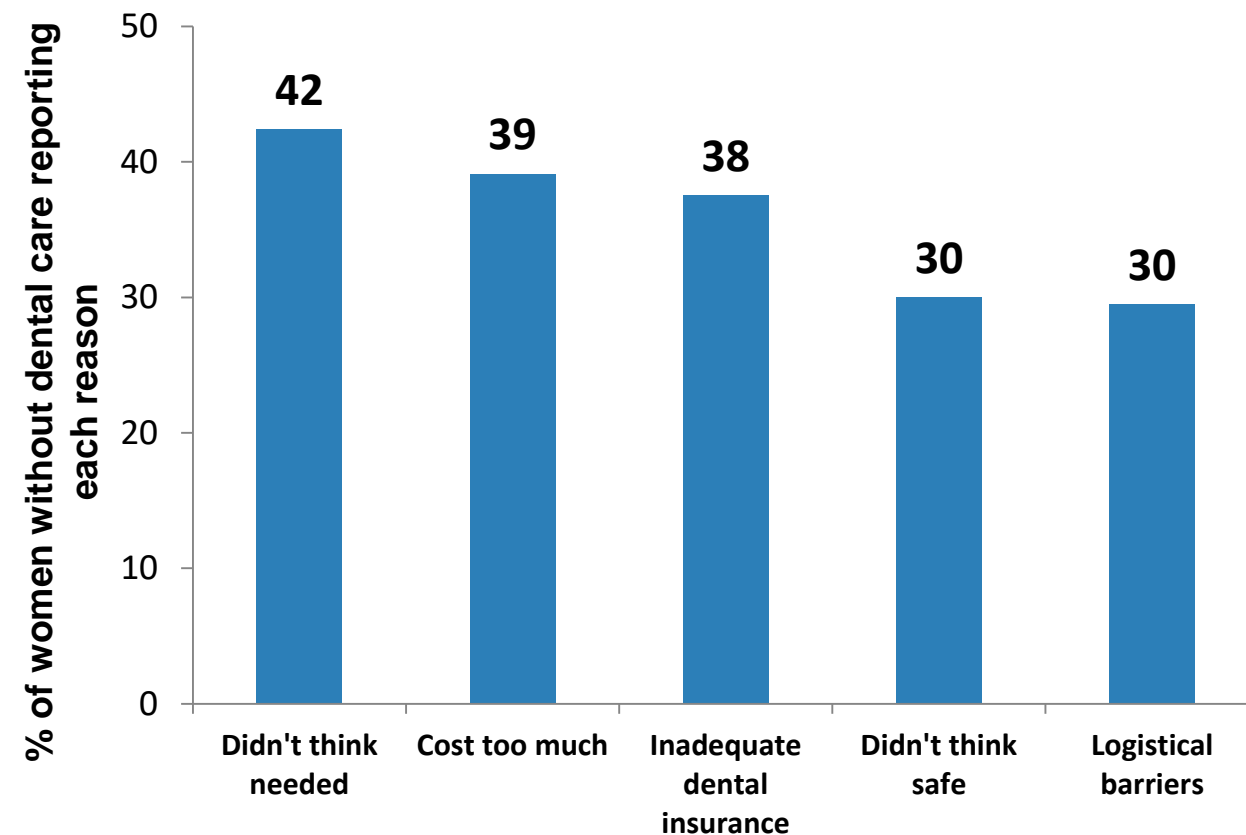


- Workplace breastfeeding support increased from 52% in 2011 to 66% in 2016.
- Low income women continue to lag behind higher income women.

The Maternal and Infant Health Assessment (MIHA) is an annual population based survey of women with a recent live birth with a sample size of n=6,632 in 2016. Percentages are weighted to represent all women with a live birth who intended to breastfeed and return to work.

MIHA identifies barriers to receipt of dental care during pregnancy

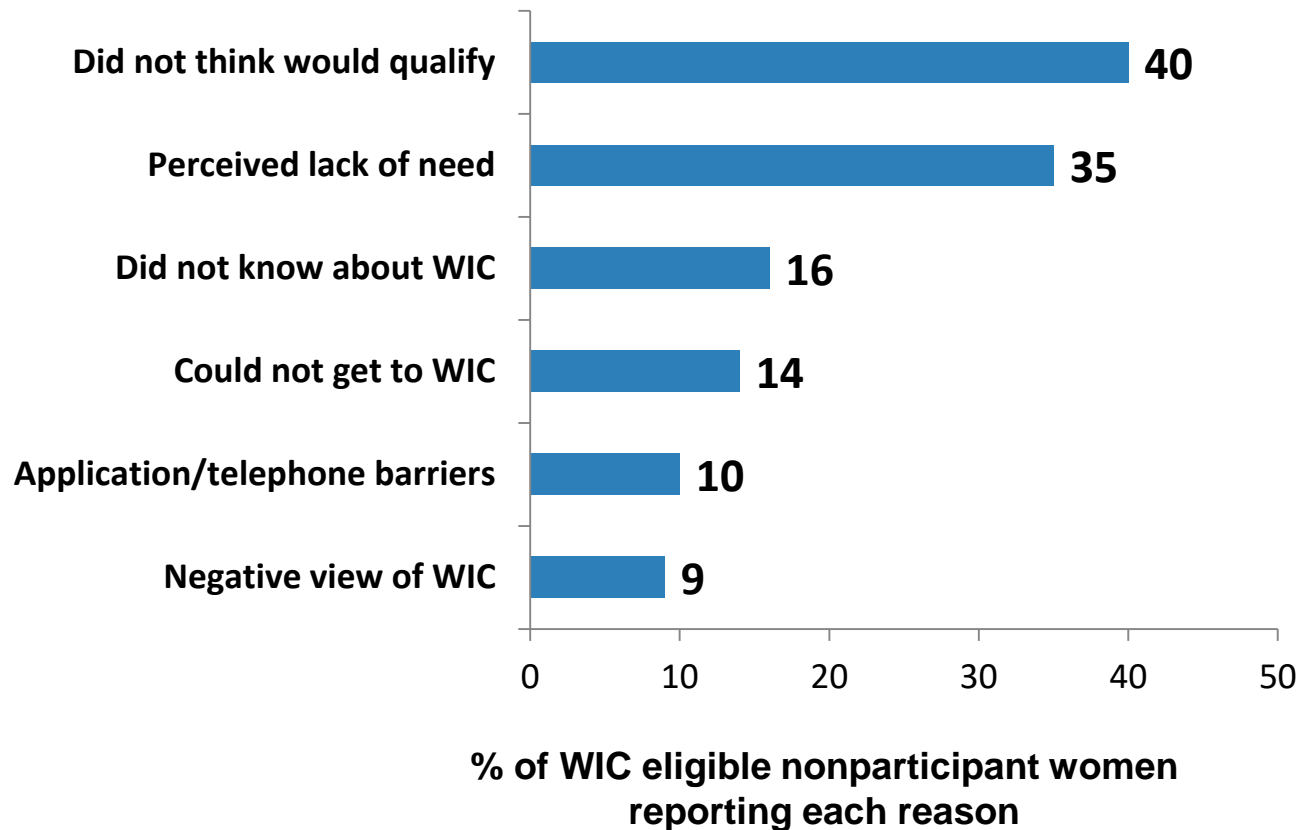
Leading reasons for not getting dental care during pregnancy: MIHA 2012



- Fewer than half of California women receive dental care during pregnancy.
- Knowledge, attitudes, and cost are leading barriers.

MIHA informs recruitment of WIC-eligible pregnant women

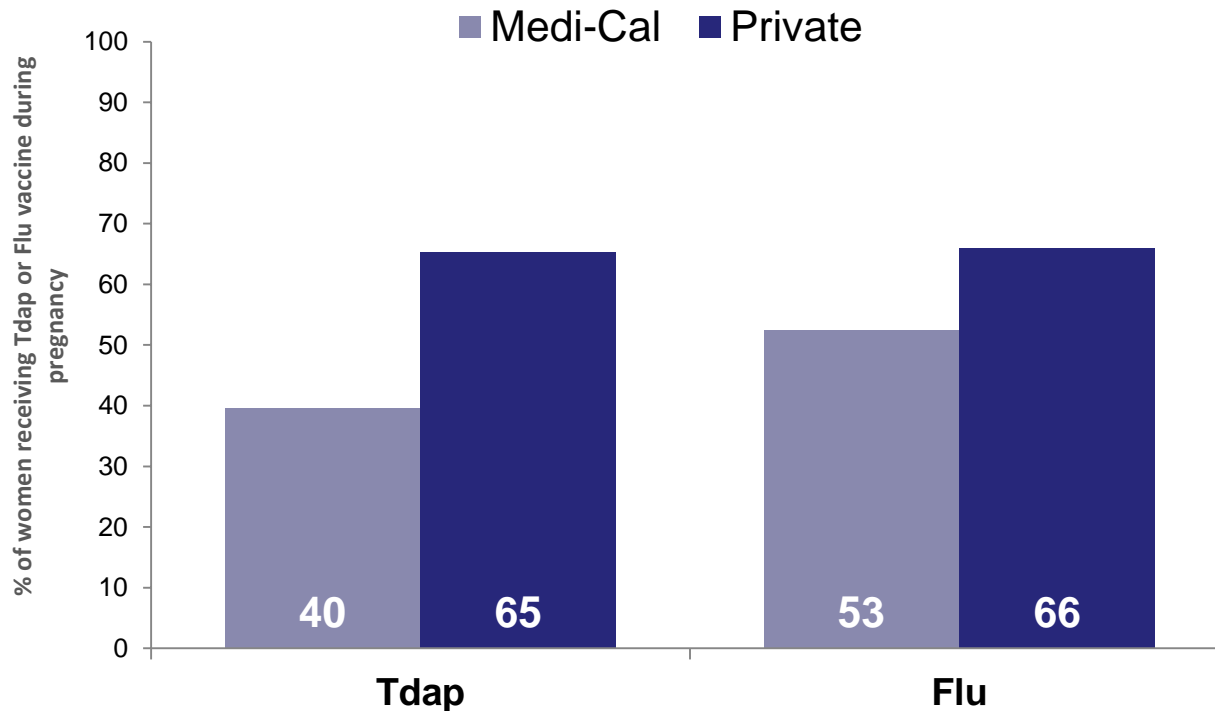
Leading reasons for not enrolling in WIC during pregnancy: MIHA 2010-2012



- 53,000 pregnant women per year were eligible for WIC, but did not enroll.
- Analyses identified multiple opportunities to enhance WIC outreach.

MIHA supports strategies to improve low immunization rates

Immunization receipt during pregnancy: MIHA 2016



- Women should receive Tdap during EACH pregnancy, and seasonal flu vaccine.
- Vaccination rates were low for pregnant women, particularly those with Medi-Cal.

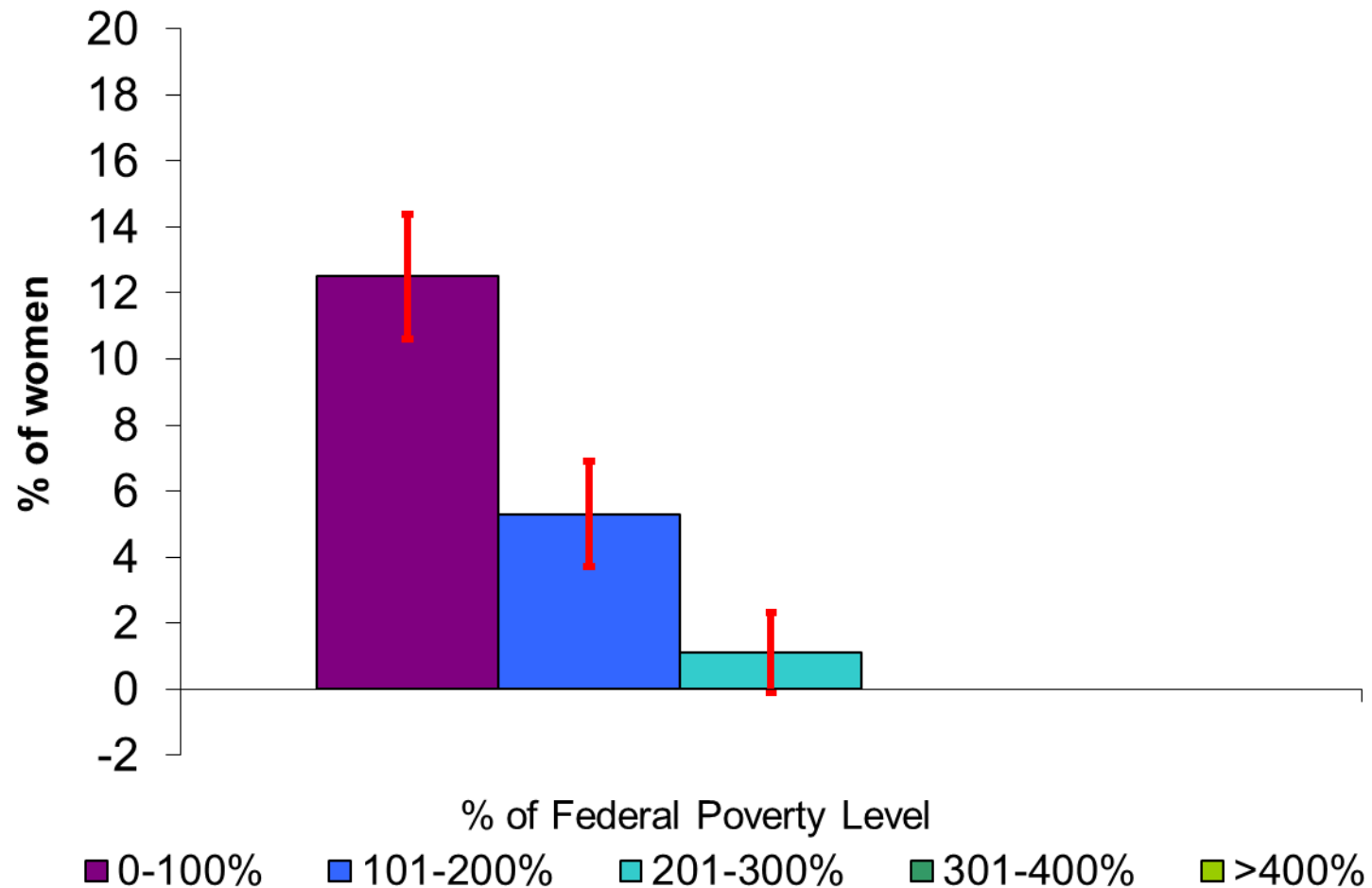
MIHA Research to Inform Policy and Practice

Research using MIHA: a few examples

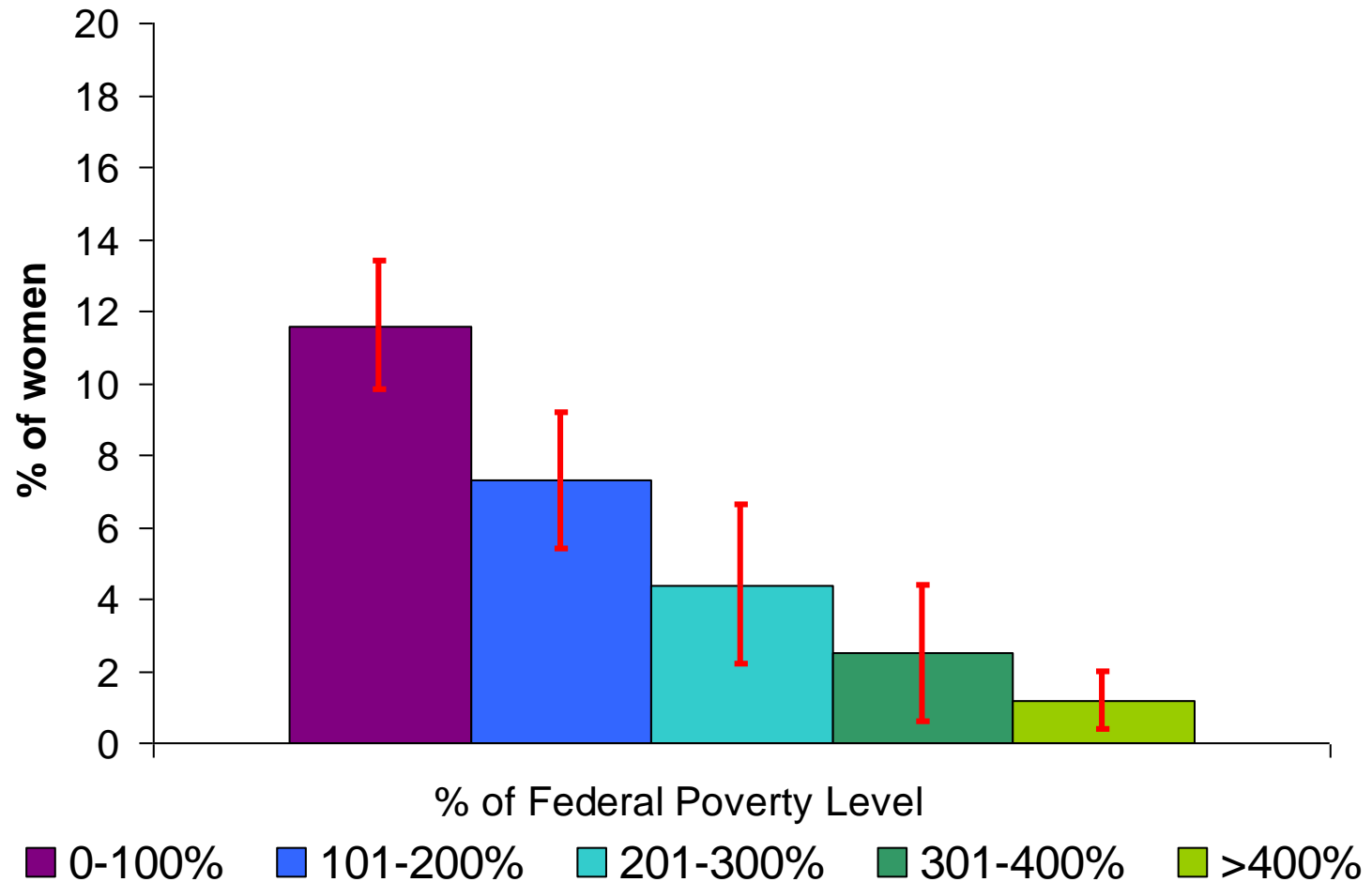
- Half of childbearing women have low incomes and many have serious hardships. (Maternal & Child Health Journal 2010)
- Economic hardships in childhood are common and associated with subsequent risks to maternal health & well-being. (Maternal & Child Health Journal 2017)
- Chronic worry about racism is associated with preterm birth. (PLOS One 2017)
- Greater use of dental care during pregnancy is associated with health-care providers promoting oral health. (under review)
- ACA appears to have improved health insurance coverage before, during and after pregnancy (will submit soon)

Maternal Hardships Around the Time of Pregnancy: The Environment Into Which Babies Are Born

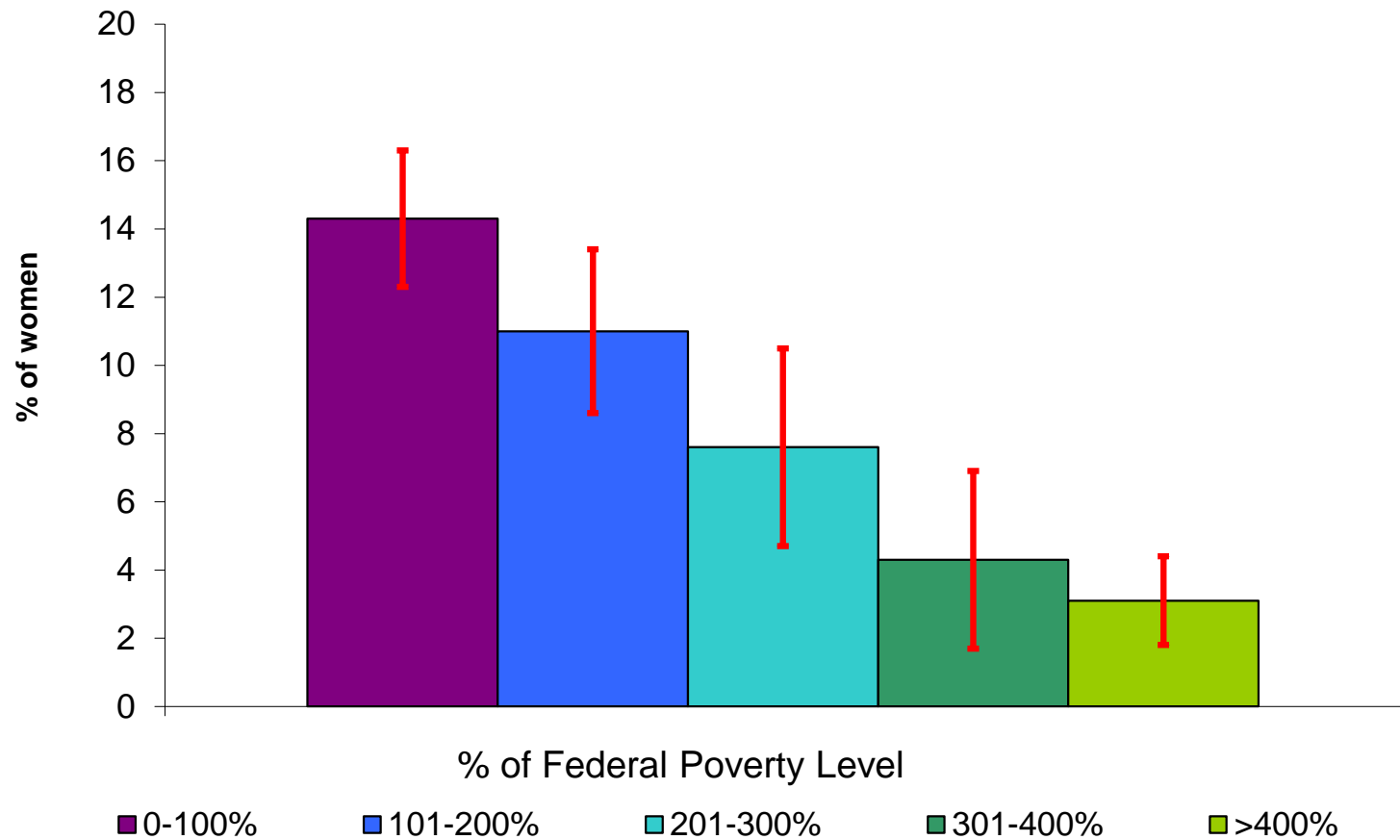
Homeless or no regular place to sleep at some point during her pregnancy



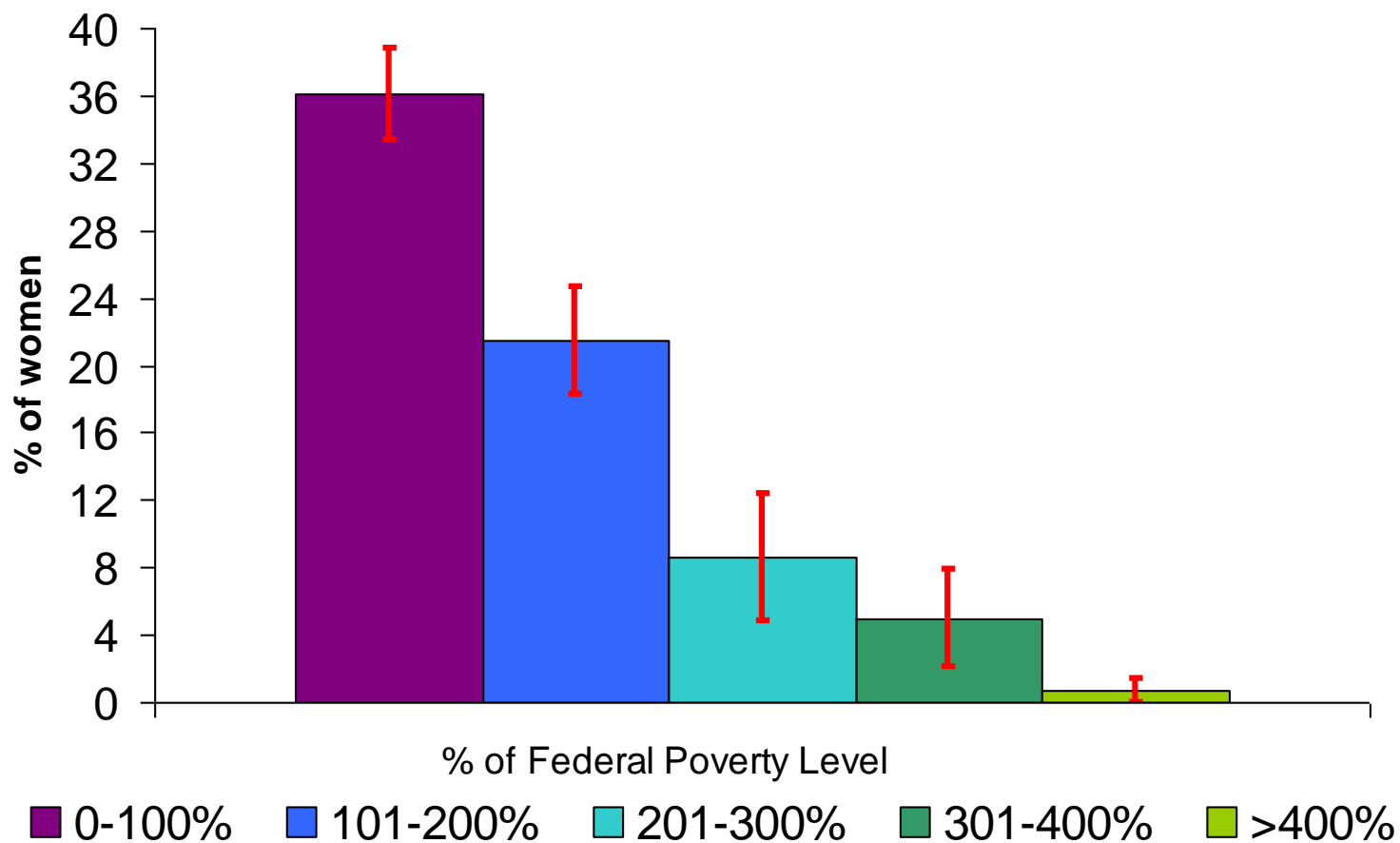
Separated/divorced during her pregnancy



She involuntarily lost her job during her pregnancy



Food insecurity during her pregnancy



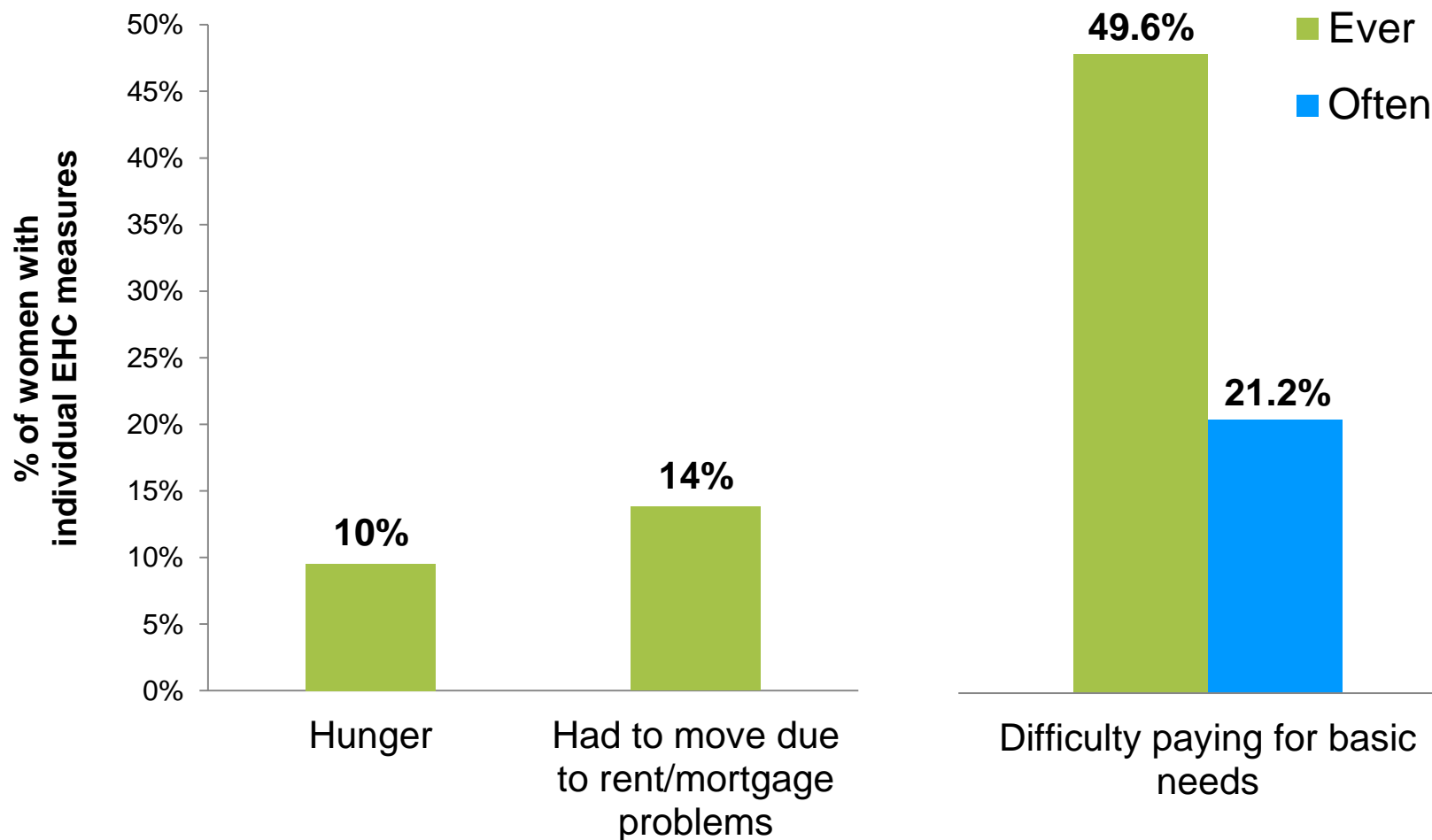
Economic Hardship Should Count as an Adverse Childhood Experience

- Adverse Childhood Experience (ACE) studies
 - Revealed high prevalence of child abuse and other childhood psychosocial trauma with enduring health effects.
 - Demonstrated the link between adverse childhood experiences and ill health in adulthood.
 - Did not focus on root causes of adverse childhood experiences, including economic hardship

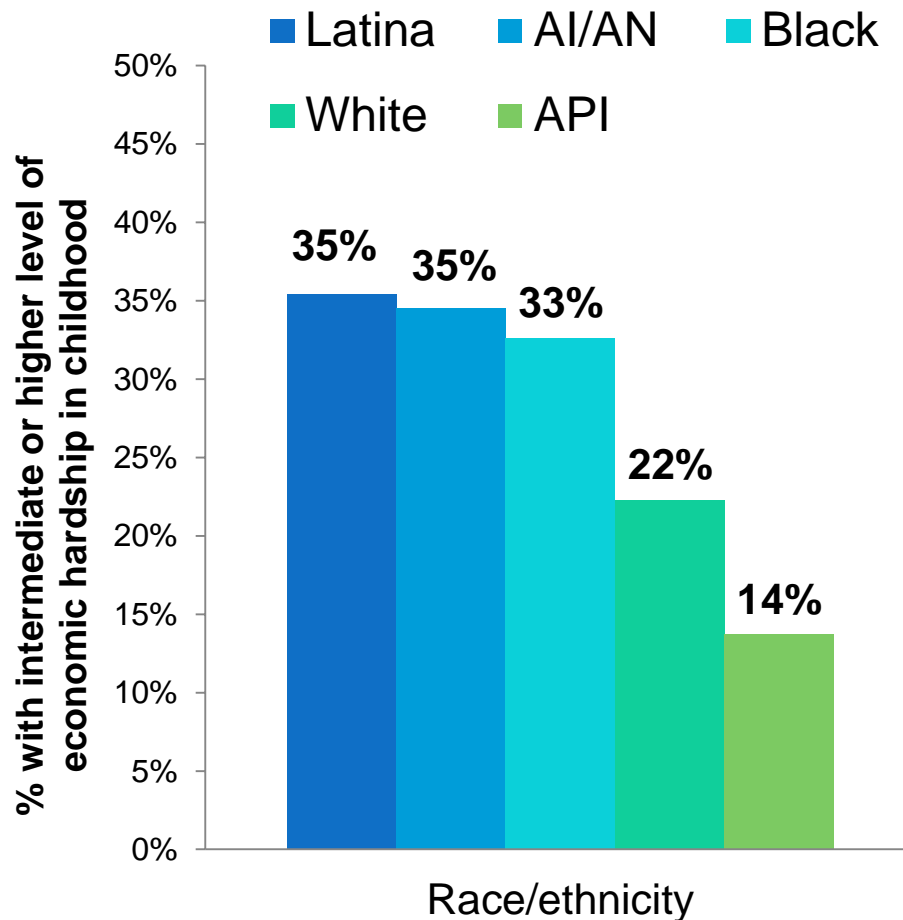
Economic hardship during childhood

- Economic hardship in a woman's childhood could impact her later health in several ways:
 - Physical hazards like poor nutrition, toxic exposures
 - Her parents' stress due to financial strain could → less support & stimulation of children, family dysfunction, child abuse, stressed children
 - Effects on children's cognitive, emotional, behavioral development could lead to low income & unhealthy behaviors in young adulthood
 - Chronic disease

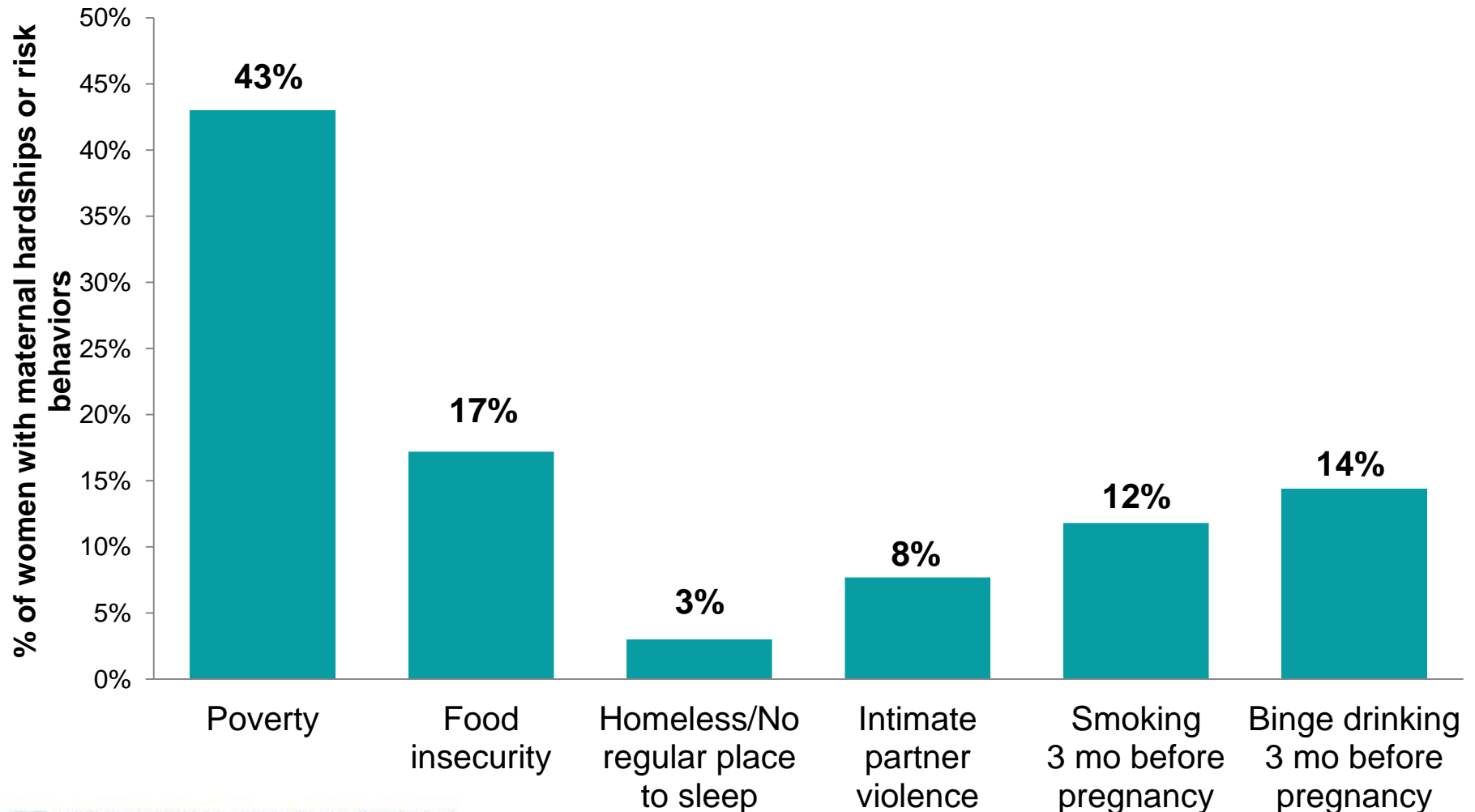
How common are economic hardships in childhood?



Intermediate/higher level of economic hardship in childhood, by race/ethnicity



Maternal health risks around the time of pregnancy were not rare events



Economic hardships in childhood were associated with maternal health risks

- Intermediate or higher levels of economic hardship in childhood were associated with 5 of the 6 threats to maternal health/well-being:
 - Poverty, food insecurity, homelessness/no regular place to sleep, IPV during pregnancy, binge drinking
- Associations with most maternal health risks persisted after controlling for potential confounders
- Higher levels of economic hardship in childhood appeared associated with greater maternal health risks

Economic hardship in childhood: Conclusions

- Common, especially among women of color.
- Linked with maternal (& long-term) health risks.
- Staggering potential impact on child & adult health statewide
- Policies to address ACEs need to address economic hardships in childhood.



Preterm Birth Disparities: Is Chronic Worry About Racism a Missing Piece of the Puzzle?

Race, racism, and birth outcomes

Bloomberg Businessweek

April 02, 2018 6:01 AM

For Black Women, Education Is No Protection Against Infant Mortality

● In contrast to whites, the most educated are the most likely to lose their babies

By Peter Coy



7:02

+ QUEUE

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EMBED

TRANSCRIPT



YOU, ME AND THEM: EXPERIENCING DISCRIMINATION IN AMERICA

How Racism May Cause Black Mothers To Suffer The Death Of Their Infants

December 20, 2017 - 5:01 AM ET
Heard on Morning Edition

RHITU CHATTERJEE

REBECCA DAVIS



Samantha Pierce of Cleveland has a 7-year-old daughter, Camryn. In 2009, Pierce gave premature birth to twins. The babies did not survive. Scientists say black women lead more stressful lives, which makes them more likely to give birth prematurely and puts their babies at risk of dying.

Dustin Franz for NPR



5:49

+ QUEUE

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TRANSCRIPT



YOU, ME AND THEM: EXPERIENCING DISCRIMINATION IN AMERICA

Scientists Start To Tease Out The Subtler Ways Racism Hurts Health

November 11, 2017 - 8:07 AM ET
Heard on Weekend Edition Saturday

RAE ELLEN BICHELL



The New York Times Magazine

Share

Why America's Black Mothers and Babies Are in a Life-or-Death Crisis

The answer to the disparity in death rates has everything to do with the lived experience of being a black woman in America.

By LINDA VILLAROSA APRIL 11, 2018



Persistent racial disparities in preterm birth: An unequal start in life

- Preterm birth is the #1 risk factor for infant mortality.
- Strongly predicts childhood developmental disability
- Also linked with adult chronic disease
- Causes unknown (but likely involve preconception factors)



Stress could be important, based on epidemiologic evidence and neuro-science

- Stress could result from economic hardship or direct psychological effects of racism
- Studies have identified biological mechanisms through which chronic stress can damage health
 - Inflammation and immune function appear important
 - Can trigger labor



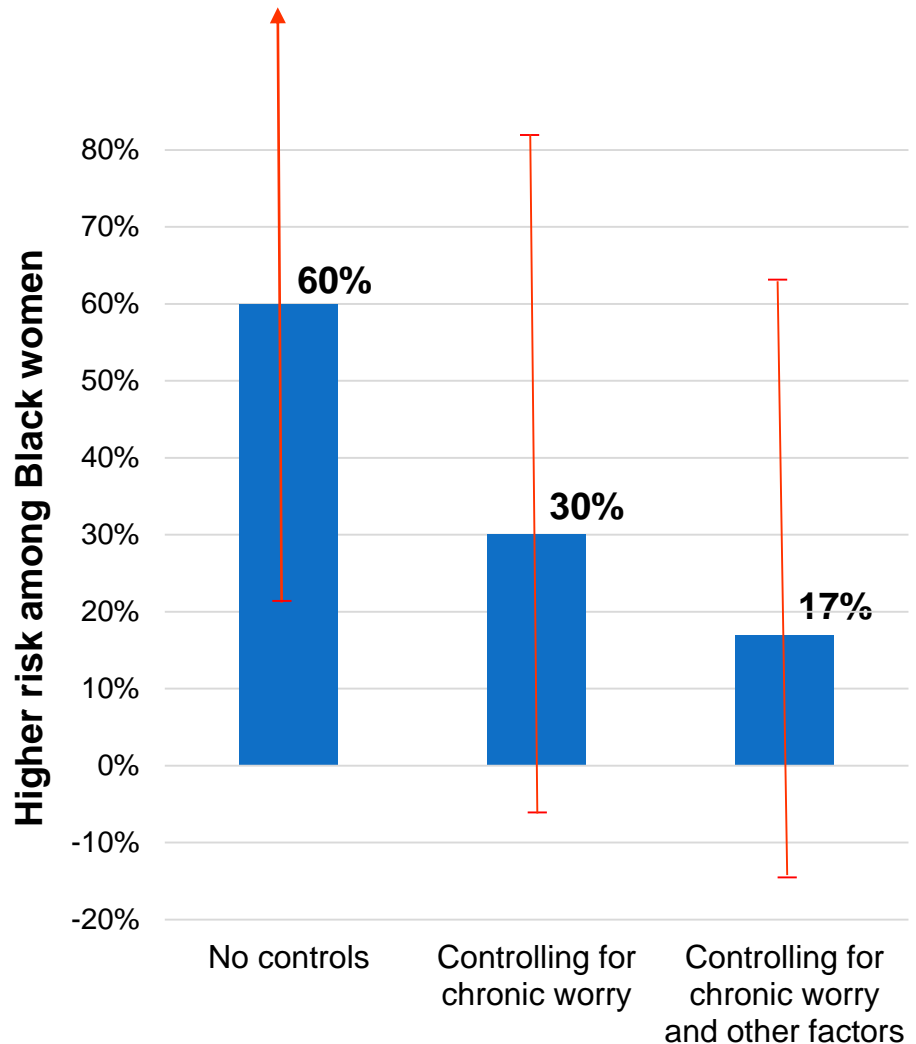
Does chronic worry about racism contribute to Black/White disparities in preterm birth?

- US-born, non-Hispanic Black (2,201) or White (8,122) women; MIHA 2011-2014
- “...how often have you worried that you might be treated or viewed unfairly because of your race or ethnic group?”
 - “Chronic” = very or somewhat often
- 37% of Black women reported chronic worry about unfair race-based treatment



Chronic worry about racism may contribute to Black women's elevated rates of PTB

- Without considering anything else, the PTB rate was 60% higher among Black women
- After controlling for chronic worry about racism, Black women's increased risk was reduced to 30% and was no longer significant
- After adding relevant variables like age, # births, education, etc., Black women's increased risk was reduced to 17% and was non-significant



Chronic worry about racism: Implications

- Not definitive but warrants further study.
- Racism-related stress is biologically plausible as a contributor to preterm birth disparities.
- Genetic explanations don't fit the data, although gene-environment interactions are possible.
- Reducing racism may be crucial to eliminate racial disparities in preterm birth.



Potential future analyses using MIHA

- Maternal hardships (track over time)
- Maternal mental health: need, access & barriers to care
- Maternity leave
- Infant sleep environment
- Health of African American mothers and newborns in CA
- Maternal and infant oral health care
- ACA effects on maternal & newborn insurance coverage
- Cannabis and opioid use
- Follow-up survey of toddlers



Thank you

More information about MIHA:

www.cdph.ca.gov/MIHA