

# Unintended Pregnancy, Contraceptive Practices, and Interpregnancy Interval: Updates from Michigan PRAMS

Pete Haak

PRAMS Project Coordinator

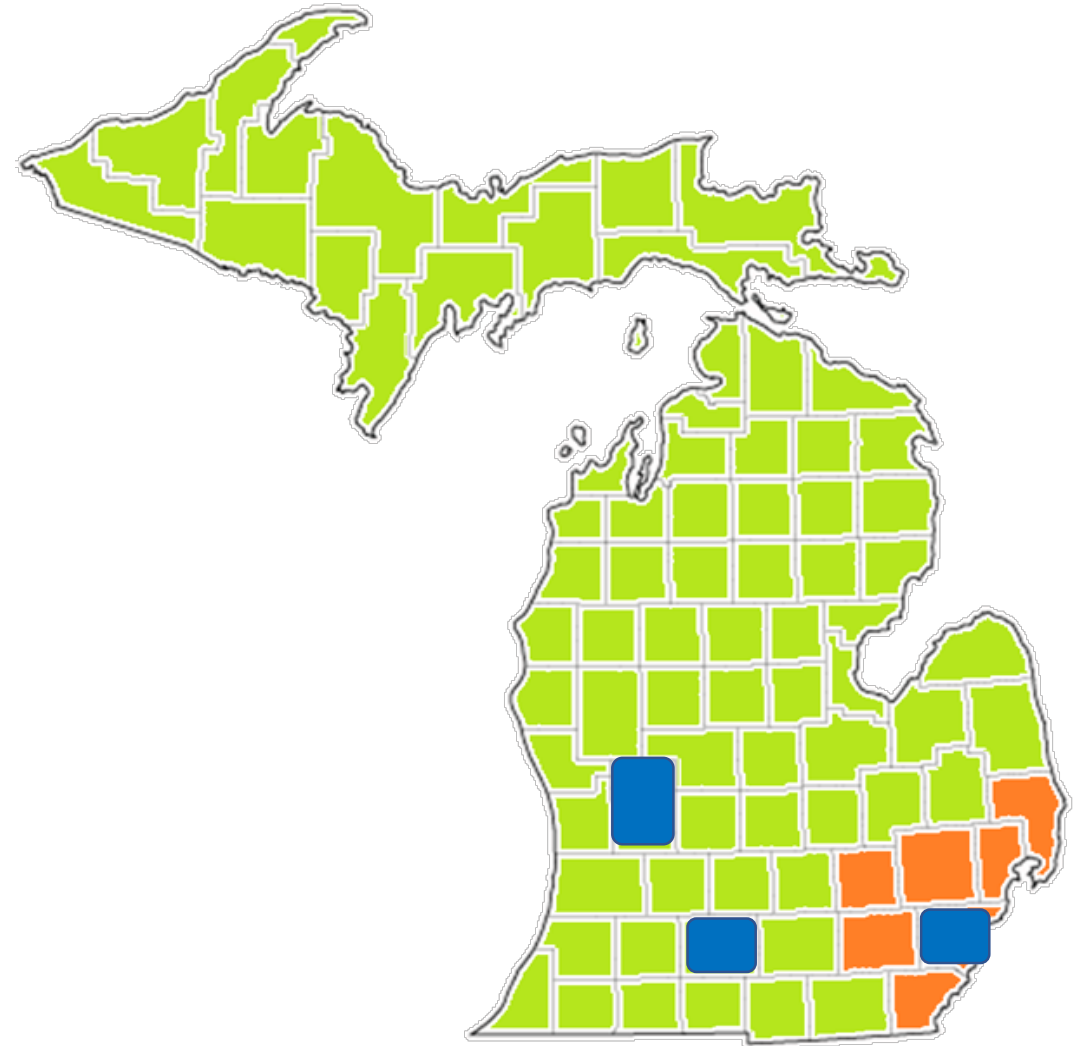
May 17, 2018

# Outline 1

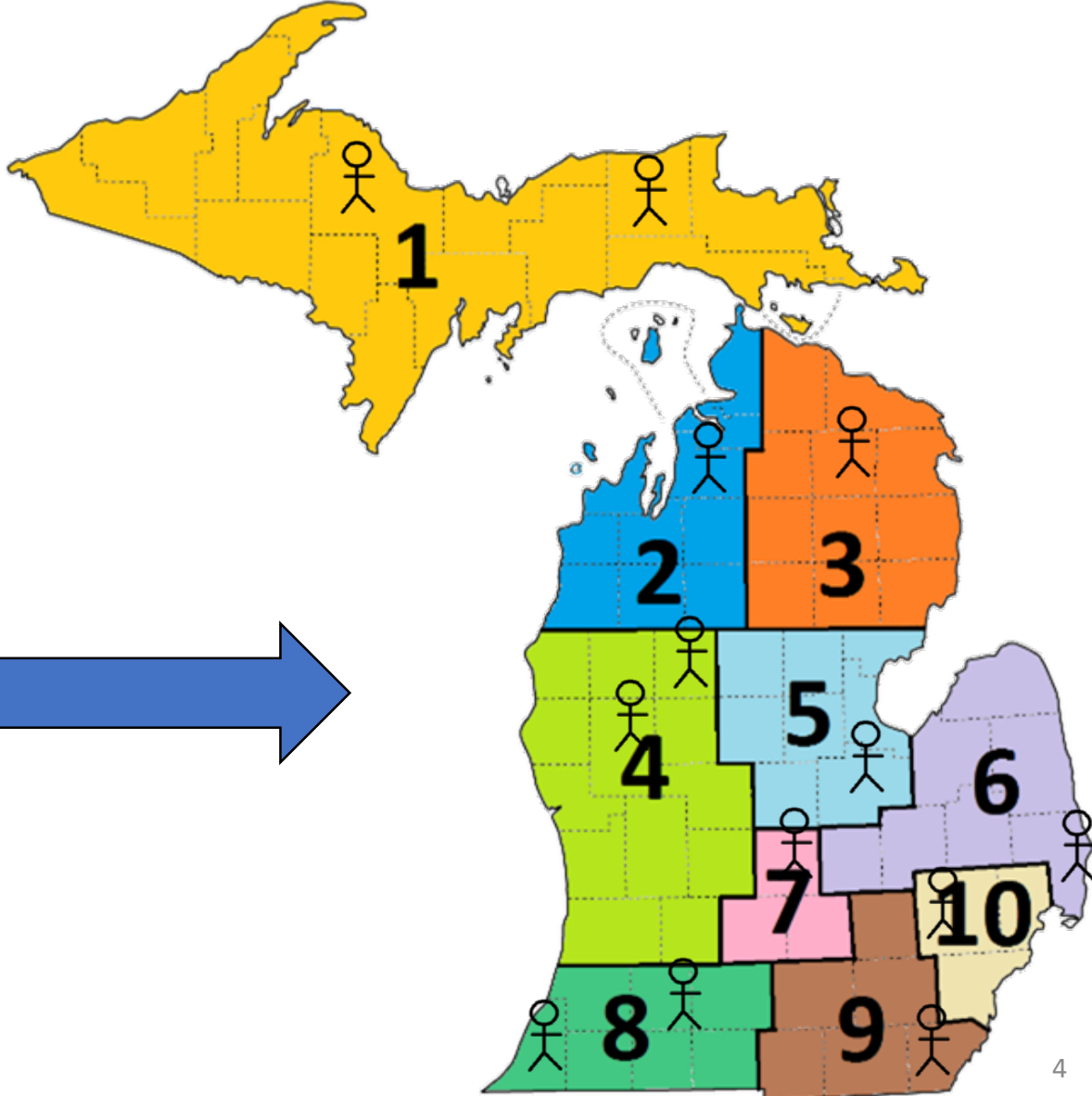
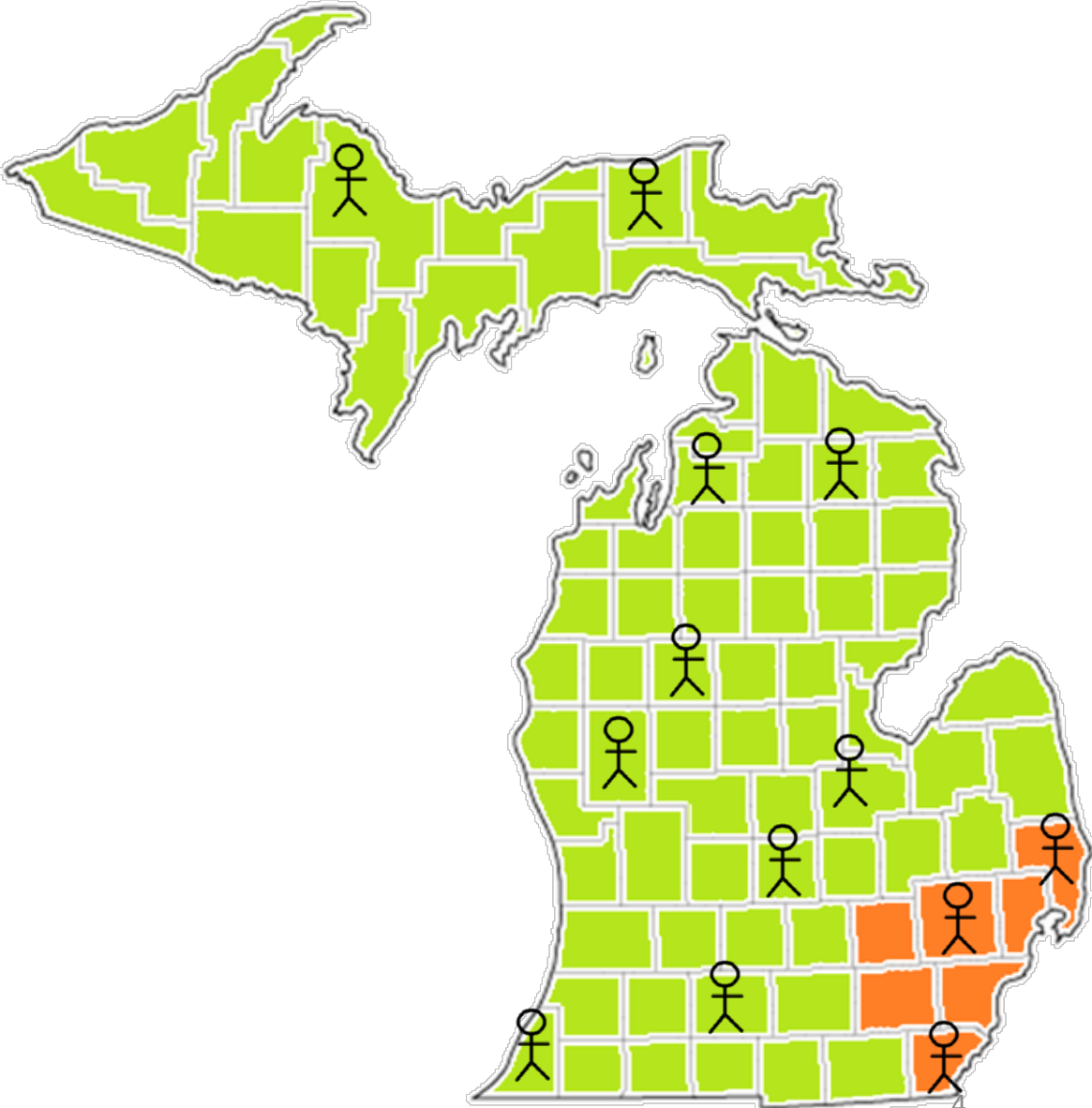
- **What is PRAMS?**
- Pregnancy Timing / Unintended Pregnancy
- Contraceptive Behavior - Before Pregnancy
- Interpregnancy Interval
- Contraceptive Behavior - After Pregnancy

# Data Source - What is PRAMS?

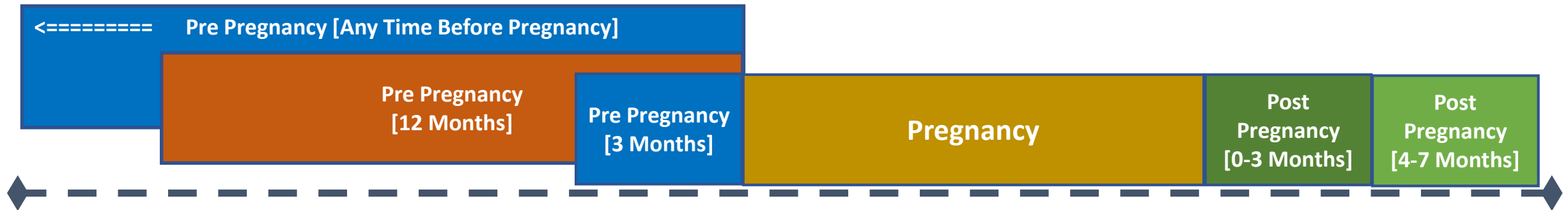
- Pregnancy Risk Assessment Monitoring System
- 2,000 - 3,600 mothers per year sampled
  - 2012-2015 = 14,216
- 50-60% mothers complete
  - 2012-2015 = 7,257
- Oversample:
  - Low birth weight
  - African American
  - Southeast Michigan [**ORANGE**]
- Kellogg County Oversamples:
  - Black mothers from three counties [**BLUE**]
  - Calhoun [12-15], Kent + Wayne [12-14]
- Survey completed 3-9 months postpartum
- Population-based survey



# Data Source - Regional PRAMS



# PRAMS Windows of Measurement



- TOPIC MAP
  - [www.michigan.gov/PRAMS](http://www.michigan.gov/PRAMS)
- Pre-pregnancy health
- Pregnancy intention
- Insurance source
- Life stressors

- Prenatal Care
  - Satisfaction with care
  - Source [clinic, hospital, doc]
  - Content of discussions
- Postpartum contraceptive use
- Breastfeeding
- Safe sleep

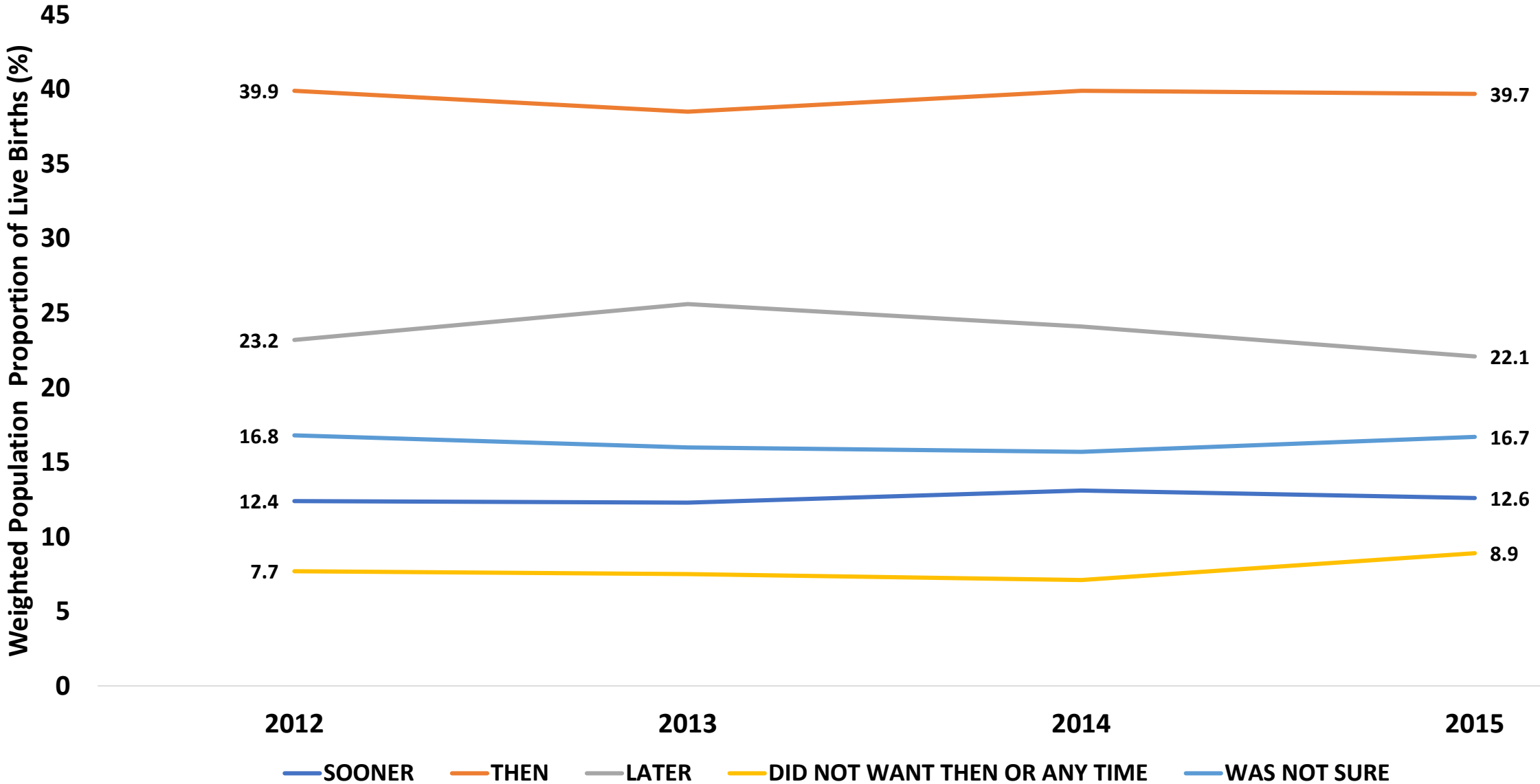
Quiz - pieces of mail sent

# Outline 2

- What is PRAMS?
- **Pregnancy Timing / Unintended Pregnancy**
- Contraceptive Behavior - Before Pregnancy
- Interpregnancy Interval
- Contraceptive Behavior - After Pregnancy

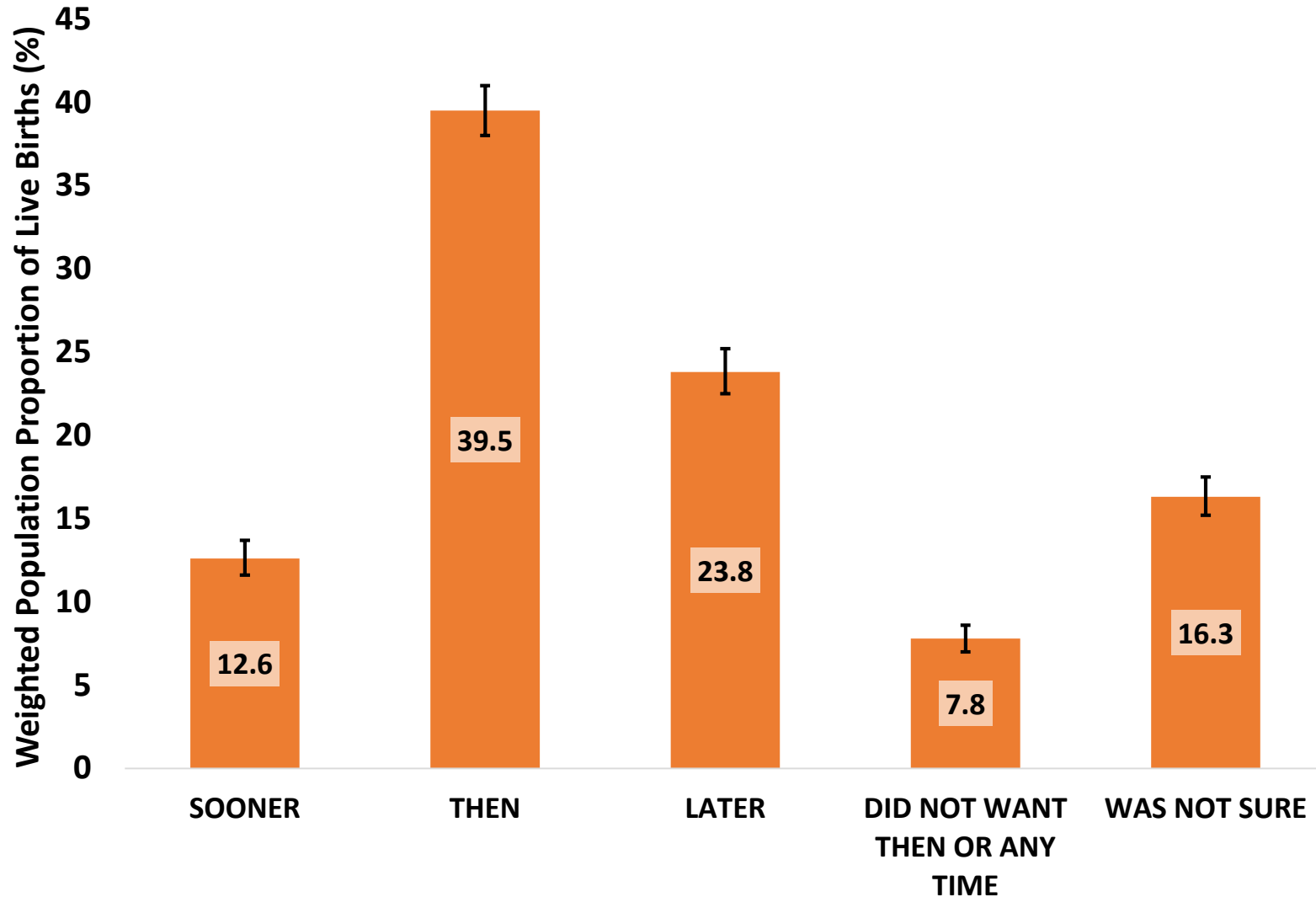
# Pregnancy Timing by Birth Year

## MI PRAMS, 2012-2015





**Pregnancy Timing  
MI PRAMS 2012-2015**



- Intended = 52.1%
  - Sooner + Then
  - 12.6% + 39.5%
- Unintended = 47.9%
  - Later + Not Want + Unsure
  - 23.8% + 7.8% + 16.3%

# Phase 6 vs Phase 7 Phrasing

14. Thinking back to *just before* you got pregnant with your *new* baby, how did you feel about becoming pregnant?

Check one answer

- I wanted to be pregnant sooner
- I wanted to be pregnant later
- I wanted to be pregnant then
- I didn't want to be pregnant then or at any time in the future

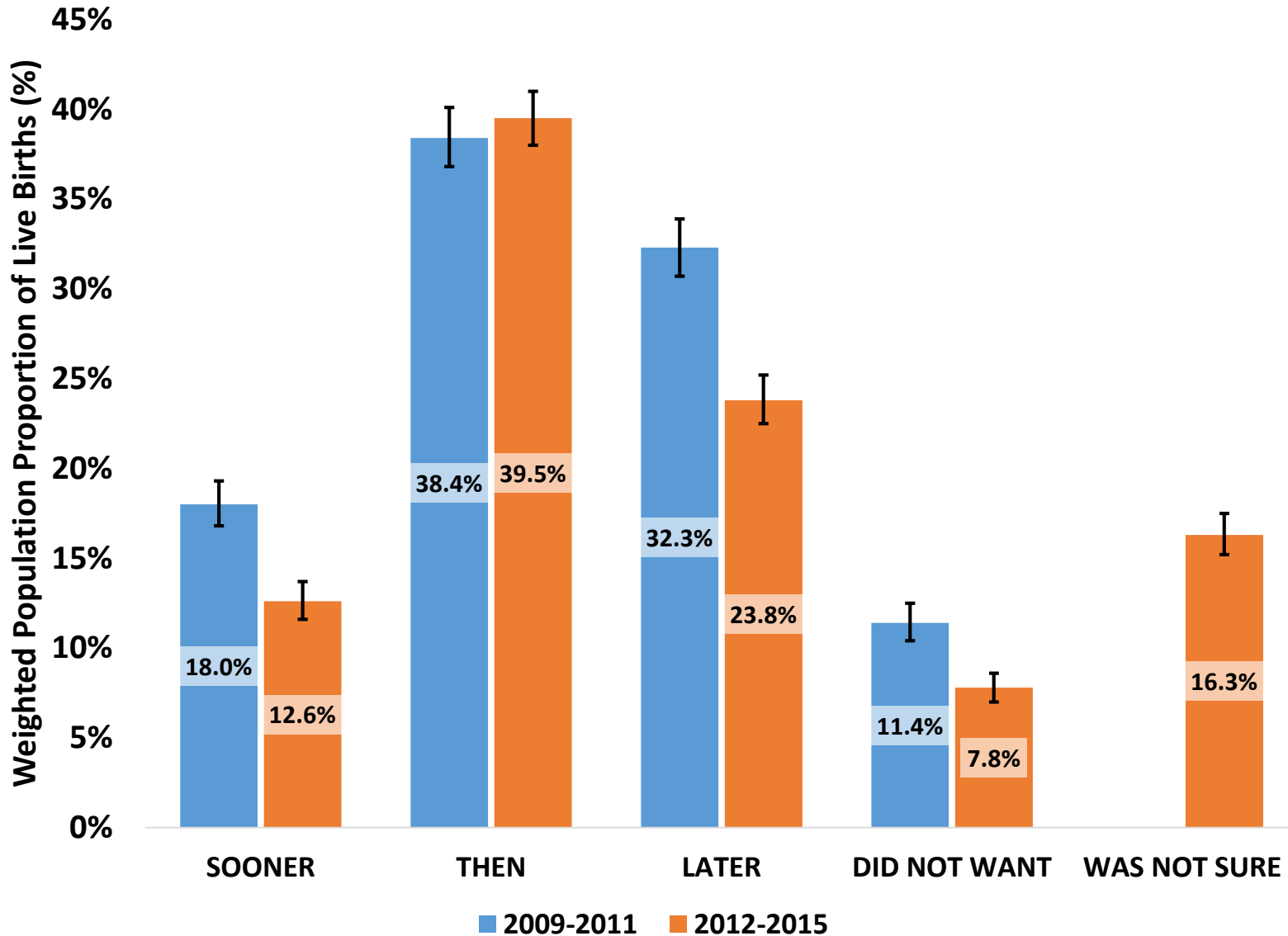
14. Thinking back to *just before* you got pregnant with your new baby, how did you feel about becoming pregnant?

Check ONE answer

- I wanted to be pregnant later
- I wanted to be pregnant sooner
- I wanted to be pregnant then
- I didn't want to be pregnant then or at any time in the future
- I wasn't sure what I wanted

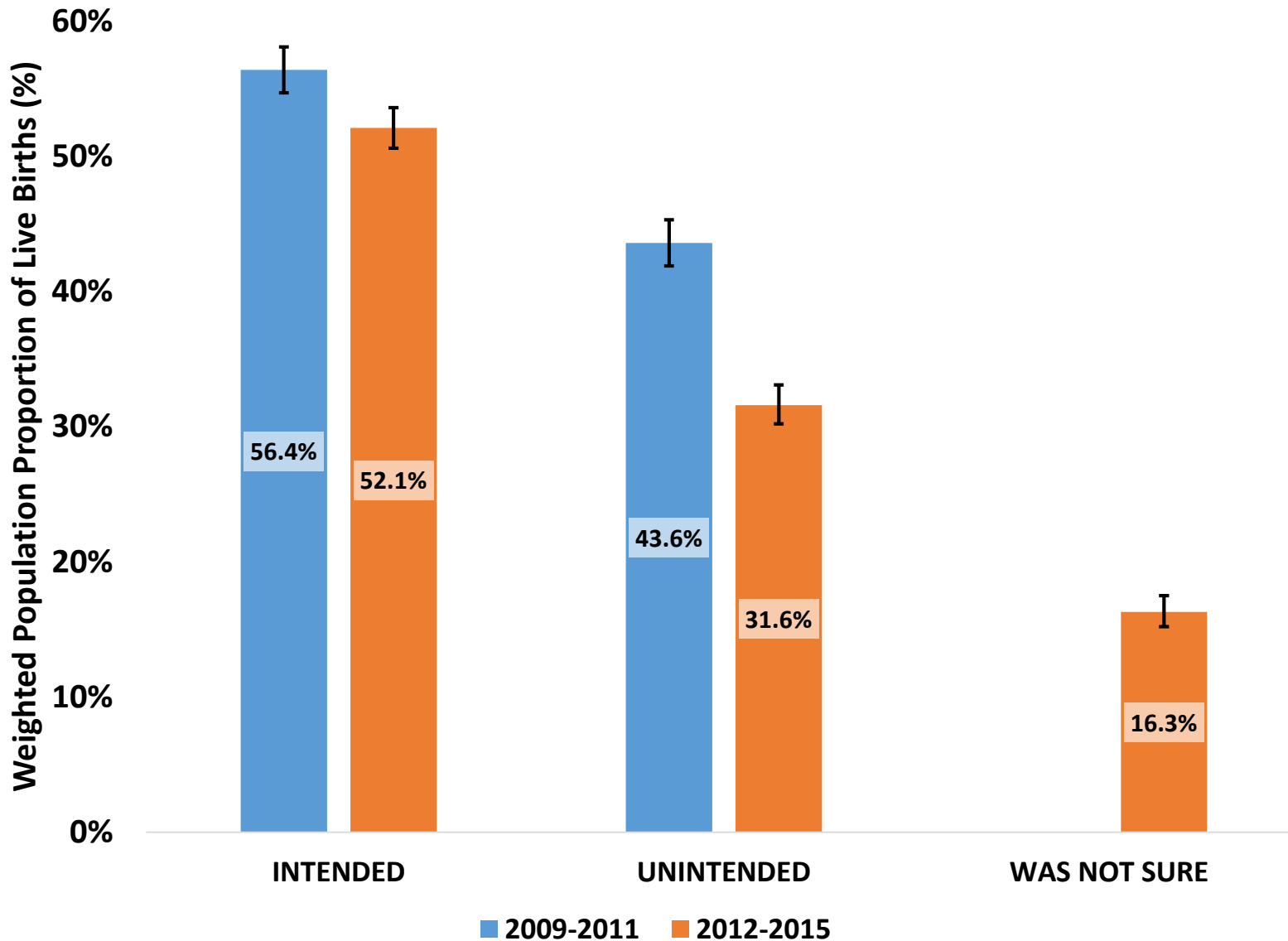
Go to  
Question 16

**Pregnancy Intention Comparison;  
MI PRAMS 2009-2011 vs 2012-2015**



- Women reporting they wanted to be pregnant 'right then' is resilient to the change in wording
- When offered the choice of 'I was not sure what I wanted'...
  - Fewer women reported that they wanted to be pregnant sooner
  - Fewer women report wanting to be pregnant later
  - Fewer women report that they did not want to be pregnant then or at any time in the future

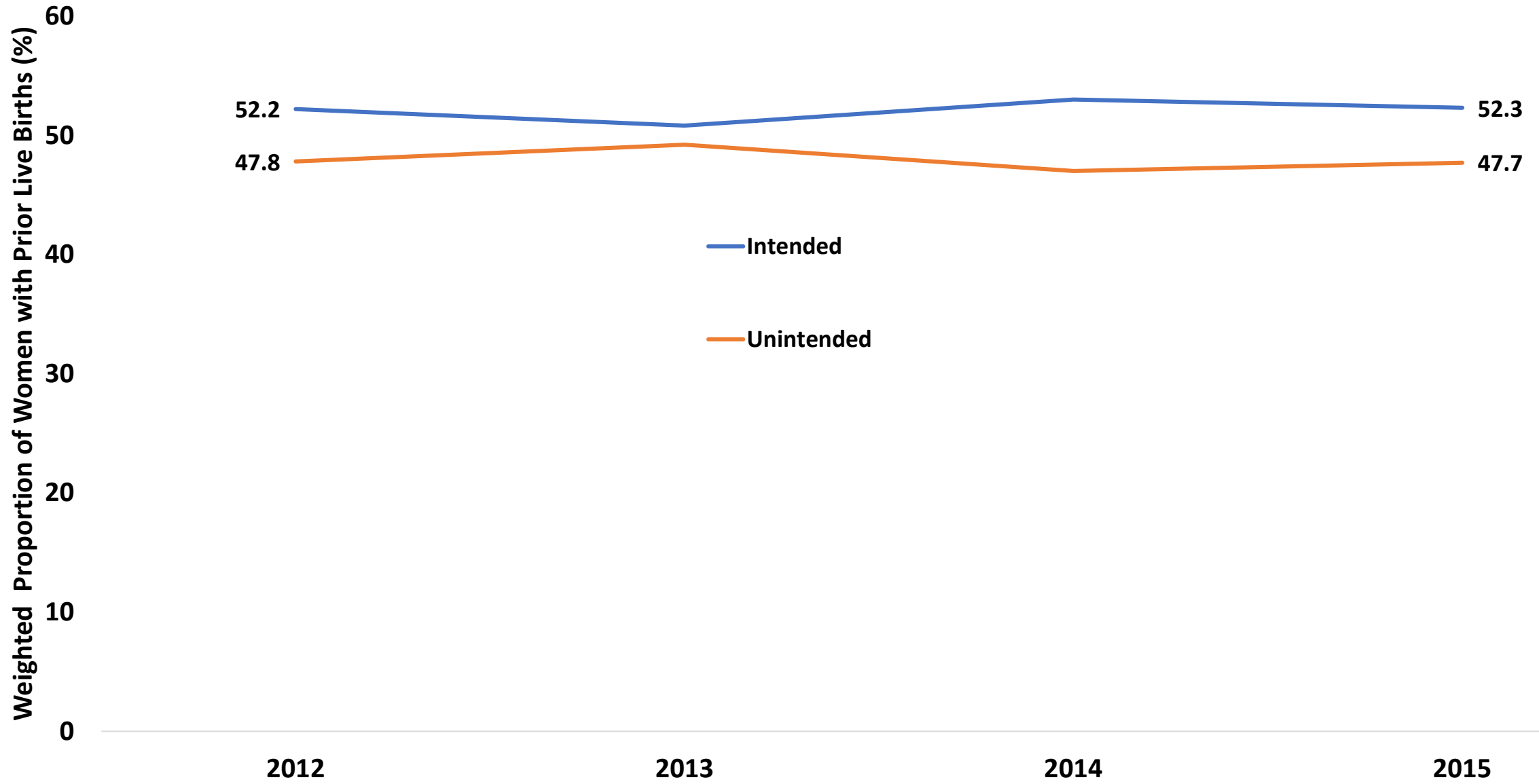
### Pregnancy Intention Comparison; MI PRAMS 2009-2011 vs 2012-2015



- While there appear to be fewer unintended pregnancies over time...
  - 43.6% (2009-2011)
  - 31.6% (2012-2015)
- There is **not** a corresponding increase in intentional pregnancies
  - 56.4% (2009-2011)
  - 52.1% (2012-2015)
- One in six Michigan women in 2012-2015 were unsure what they wanted re: pregnancy before they conceived

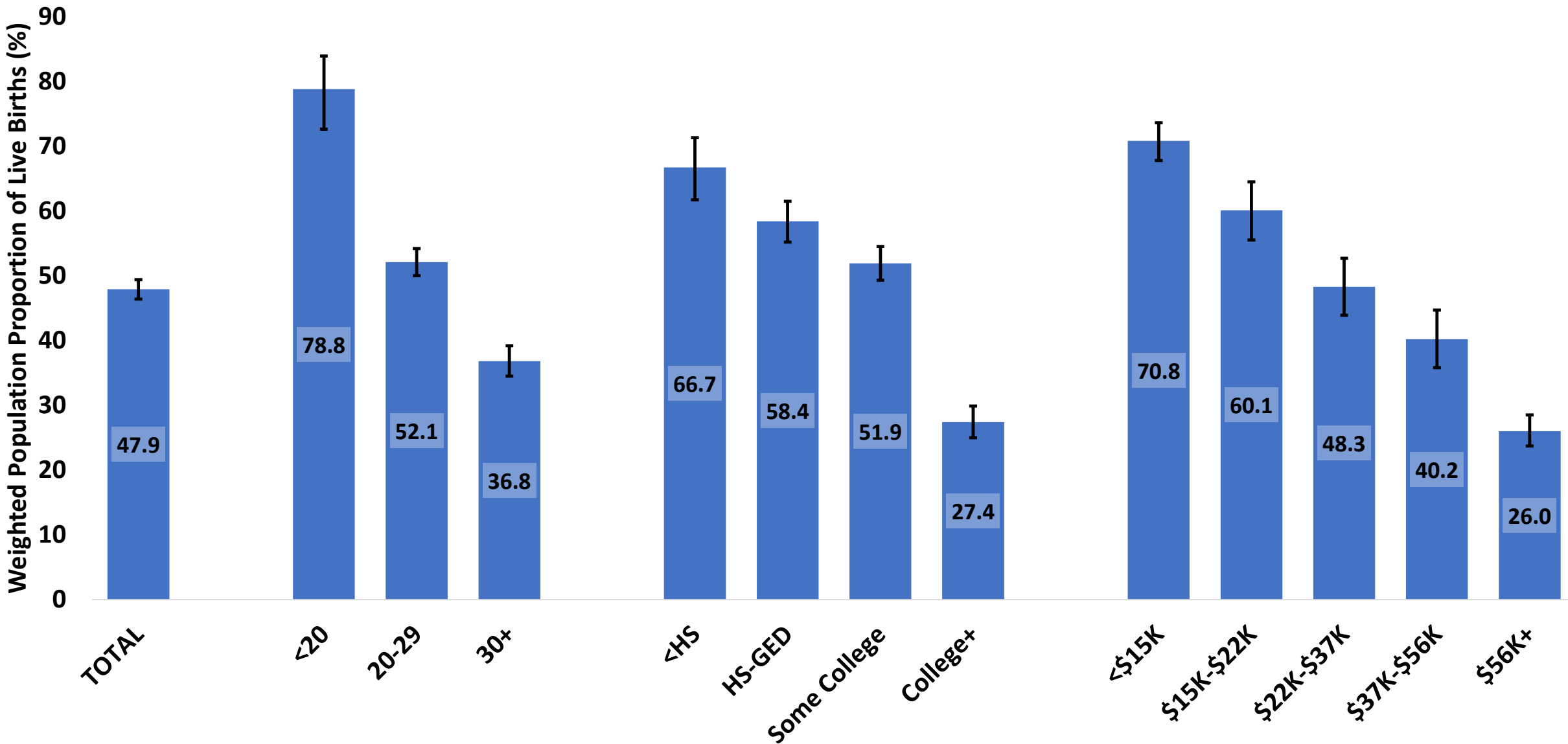
# Pregnancy Intention by Birth Year

## MI PRAMS, 2012-2015



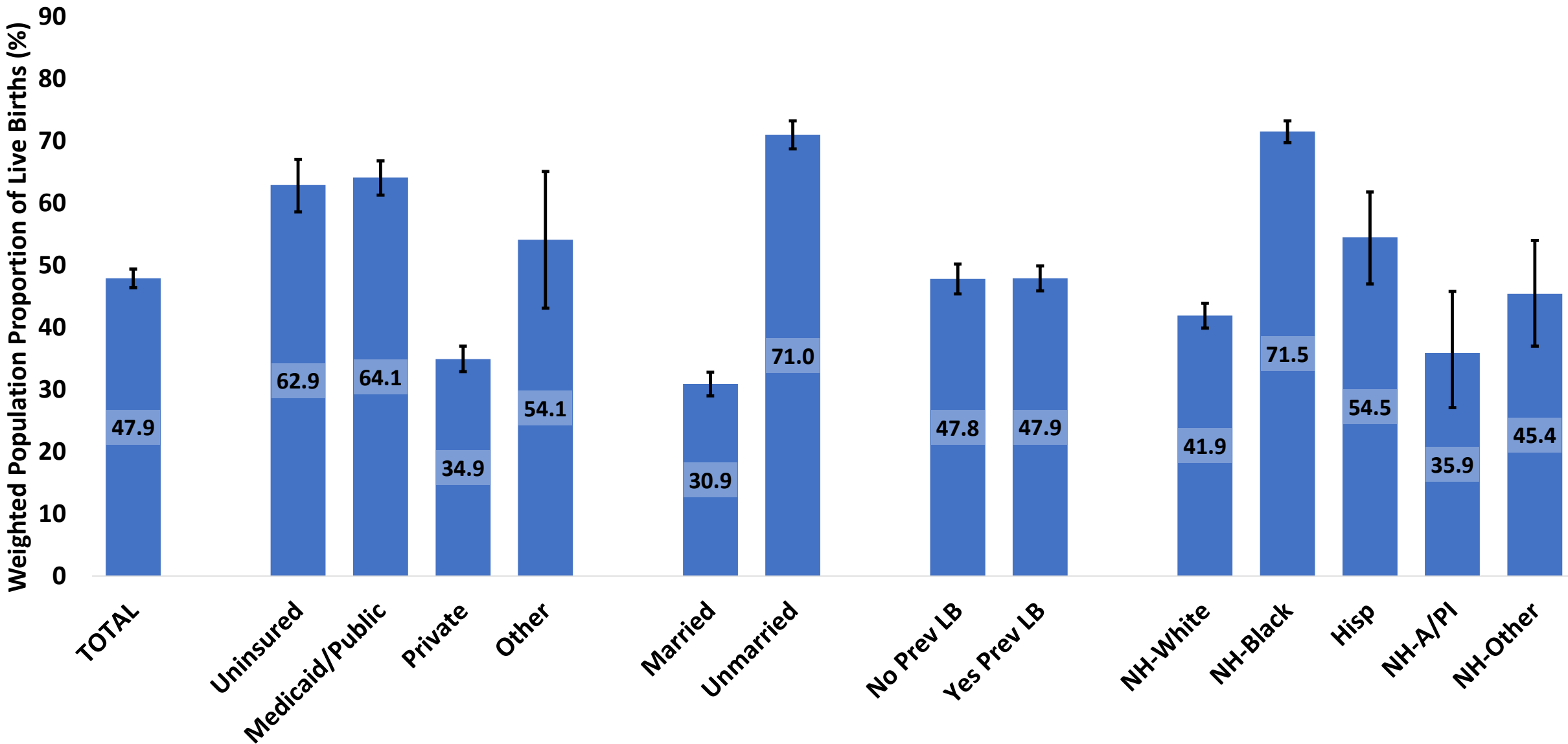
# Unintended Pregnancy by Maternal Demographics 1

## MI PRAMS, 2012-2015



# Unintended Pregnancy by Maternal Demographics 2

## MI PRAMS, 2012-2015



# Unintended Pregnancy - Observations 1

- Unintended pregnancy increases as:
  - Maternal age decreases
  - Maternal education decreases
  - Household income decreases
- Unintended pregnancy is significant higher among:
  - Mothers without private insurance before pregnancy
  - Mothers unmarried at birth
  - Non-Hispanic black mothers
- No difference:
  - Parity

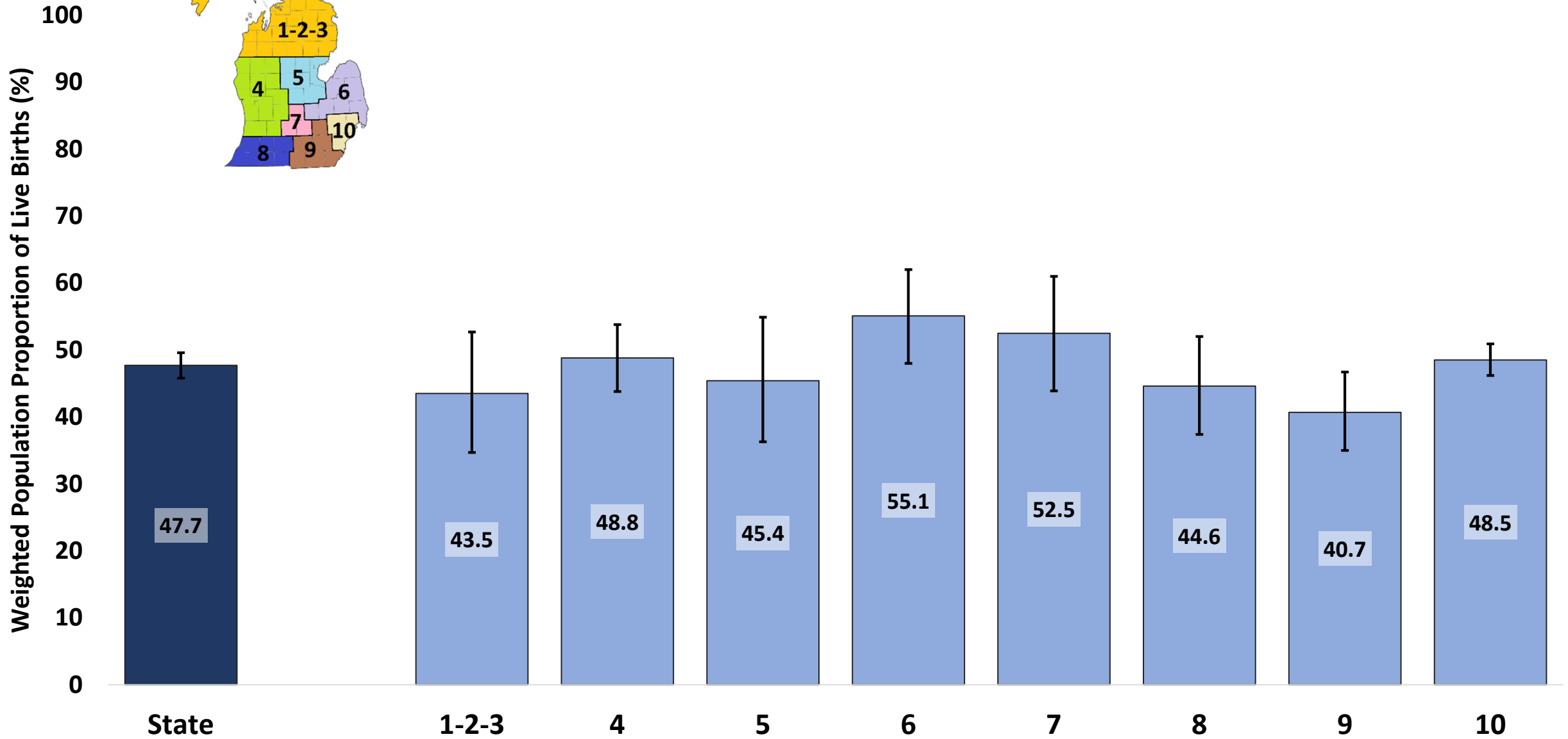
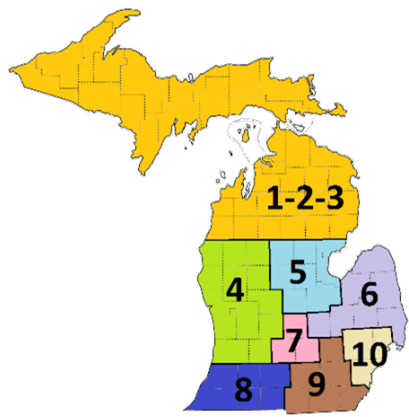


# Quiz - Number of Phone Calls Made

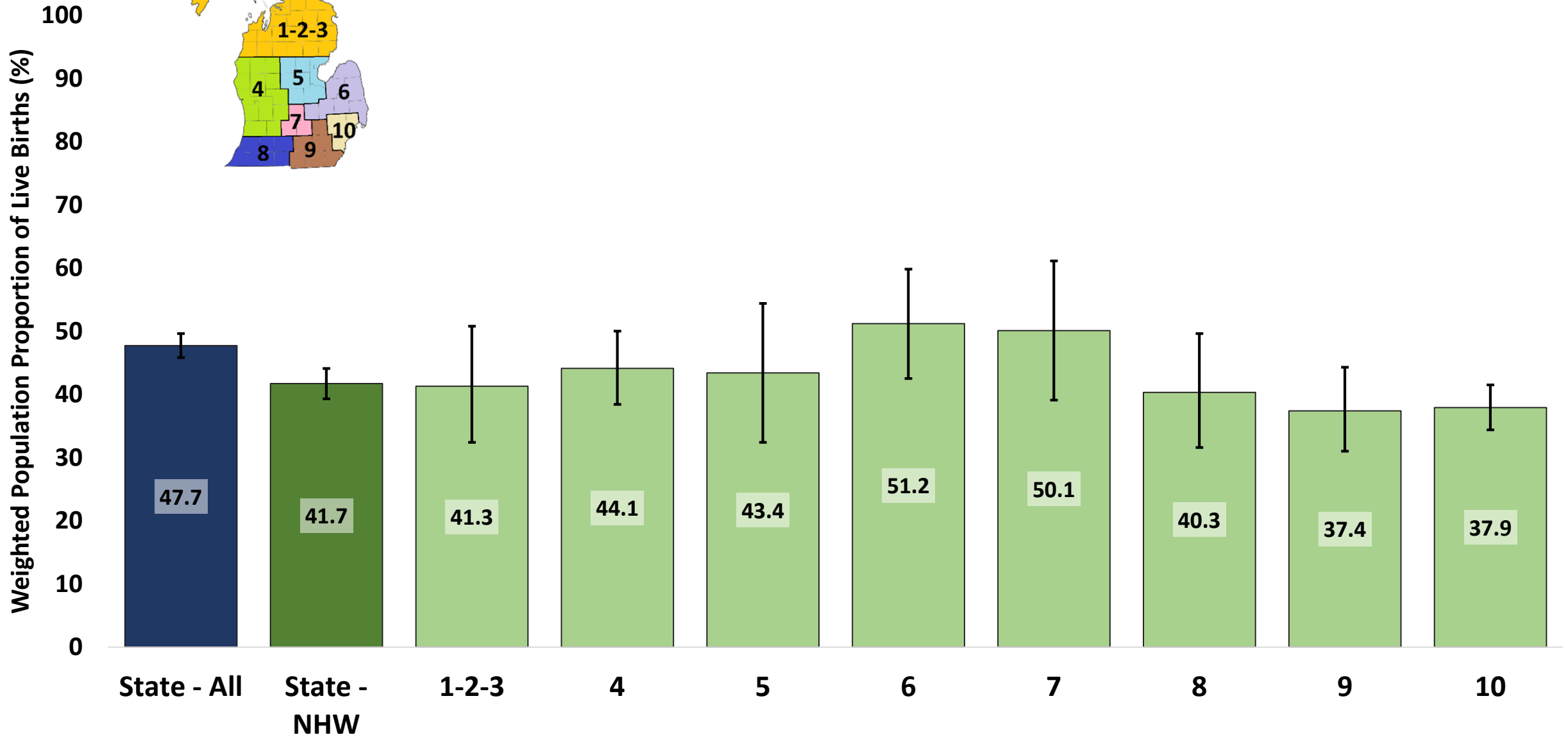
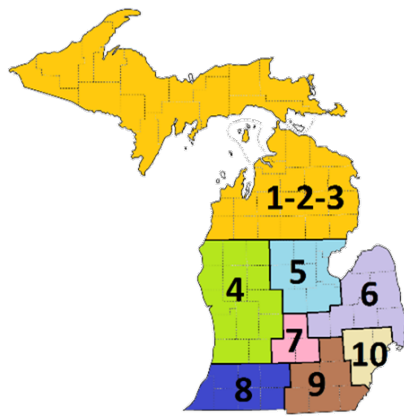
Does the proportion of mothers reporting an intended pregnancy differ by region? By maternal race/ethnicity?

# Unintended Pregnancy by Prosperity Region

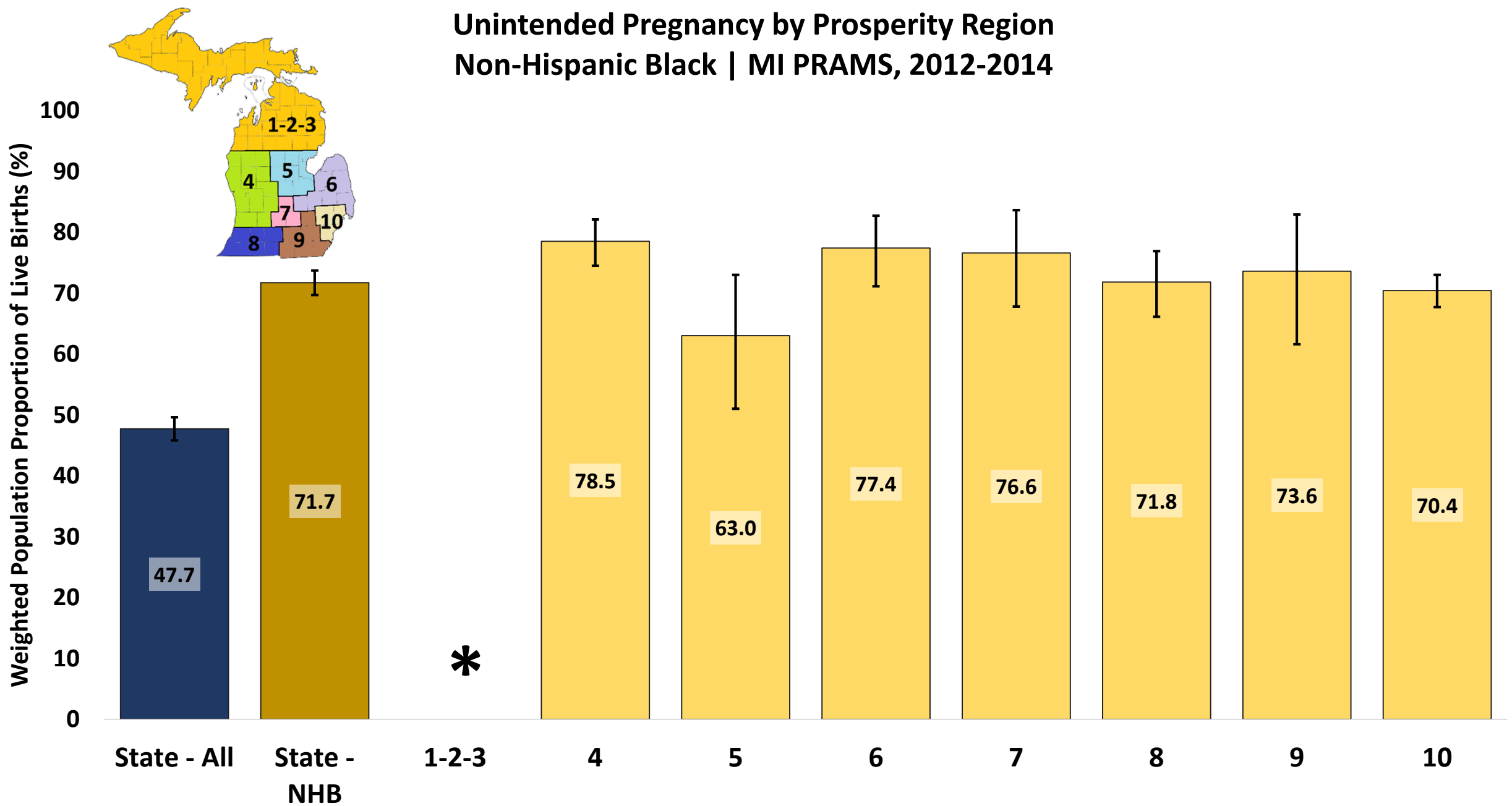
## MI PRAMS, 2012-2014



# Unintended Pregnancy by Prosperity Region Non-Hispanic White | MI PRAMS, 2012-2014

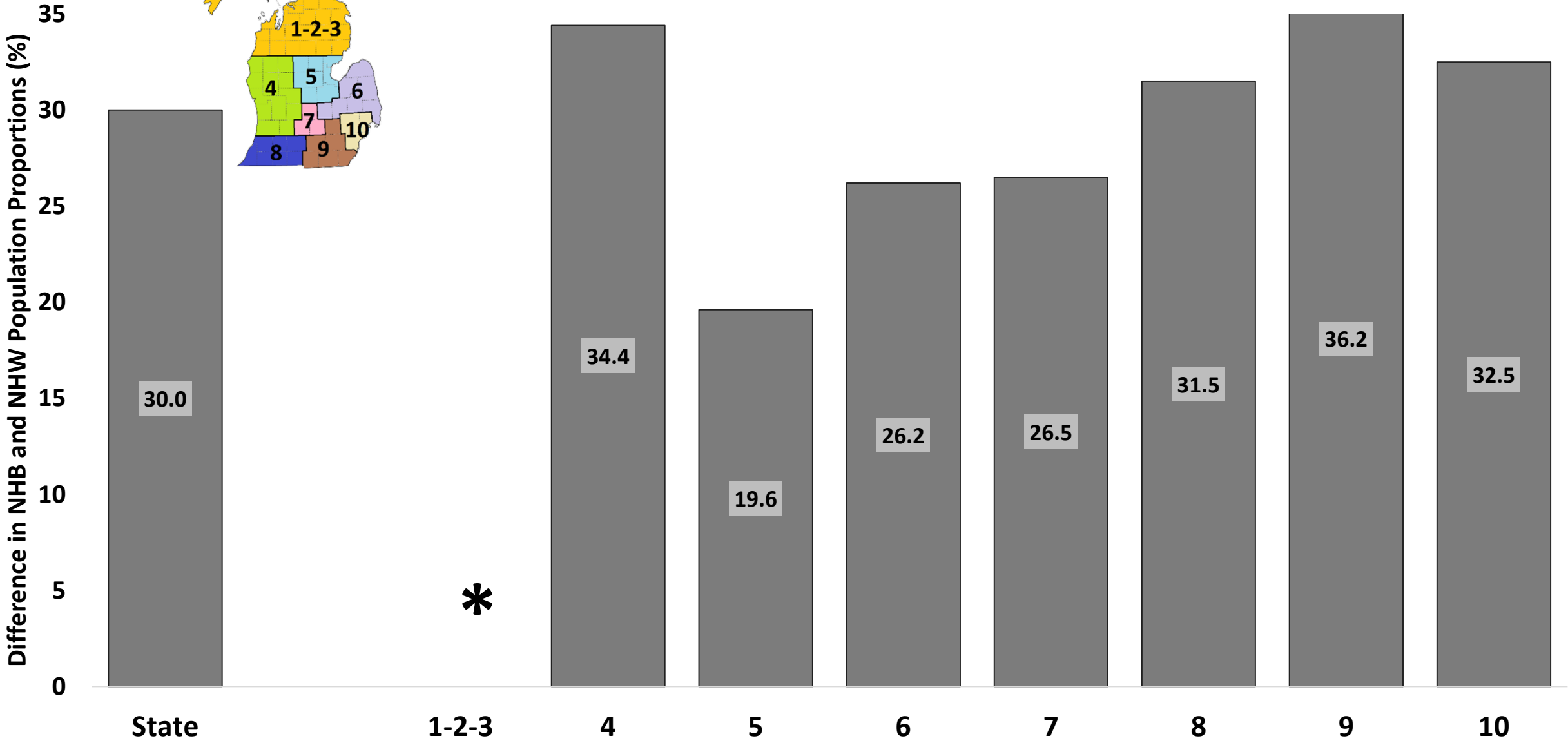


# Unintended Pregnancy by Prosperity Region Non-Hispanic Black | MI PRAMS, 2012-2014



\* Data suppressed due to small sample size or unreliable estimate

# Excess Unintended Pregnancy by Prosperity Region Rate Difference NHB - NHW | MI PRAMS, 2012-2014



\* Data suppressed due to small sample size or unreliable estimate

# Outline 3

- What is PRAMS?
- Pregnancy Timing / Unintended Pregnancy
- **Contraceptive Behavior - Before Pregnancy**
  - **Trying to Conceive**
  - **Contraceptive Use**
- Interpregnancy Interval
- Contraceptive Behavior - After Pregnancy

# Trying to Conceive

16. When you got pregnant with your new baby, were you trying to get pregnant?

No

Yes → **Go to Page 4, Question 19**

17. When you got pregnant with your new baby, were you or your husband or partner doing anything to keep from getting pregnant? Some things people do to keep from getting pregnant include using birth control pills, condoms, withdrawal, or natural family planning.

No

Yes → **Go to Page 4, Question 20**

**Go to Page 4, Question 18**

- Trying to get pregnant:
  - Yes = 49.7% (95% CI: 48.2-51.3%)
  - No = 50.3% (95% CI: 48.7-51.8%)
    - ~218,400 women across '12-'15
    - ~54,600 women per year
  - These women answered #17
- Doing anything to prevent pregnancy:
  - Yes = 22.6% (95% CI: 21.3-23.9%)
    - "Avoiding pregnancy"
  - No = 27.7% (95% CI: 26.4-29.1%)
    - "Neither trying nor avoiding"
    - ~120,400 women across '12-'15
    - ~30,000 women per year



# Not Trying to Conceive - Not Preventing

18. What were your reasons or your husband's or partner's reasons for not doing anything to keep from getting pregnant?

**Check ALL that apply**

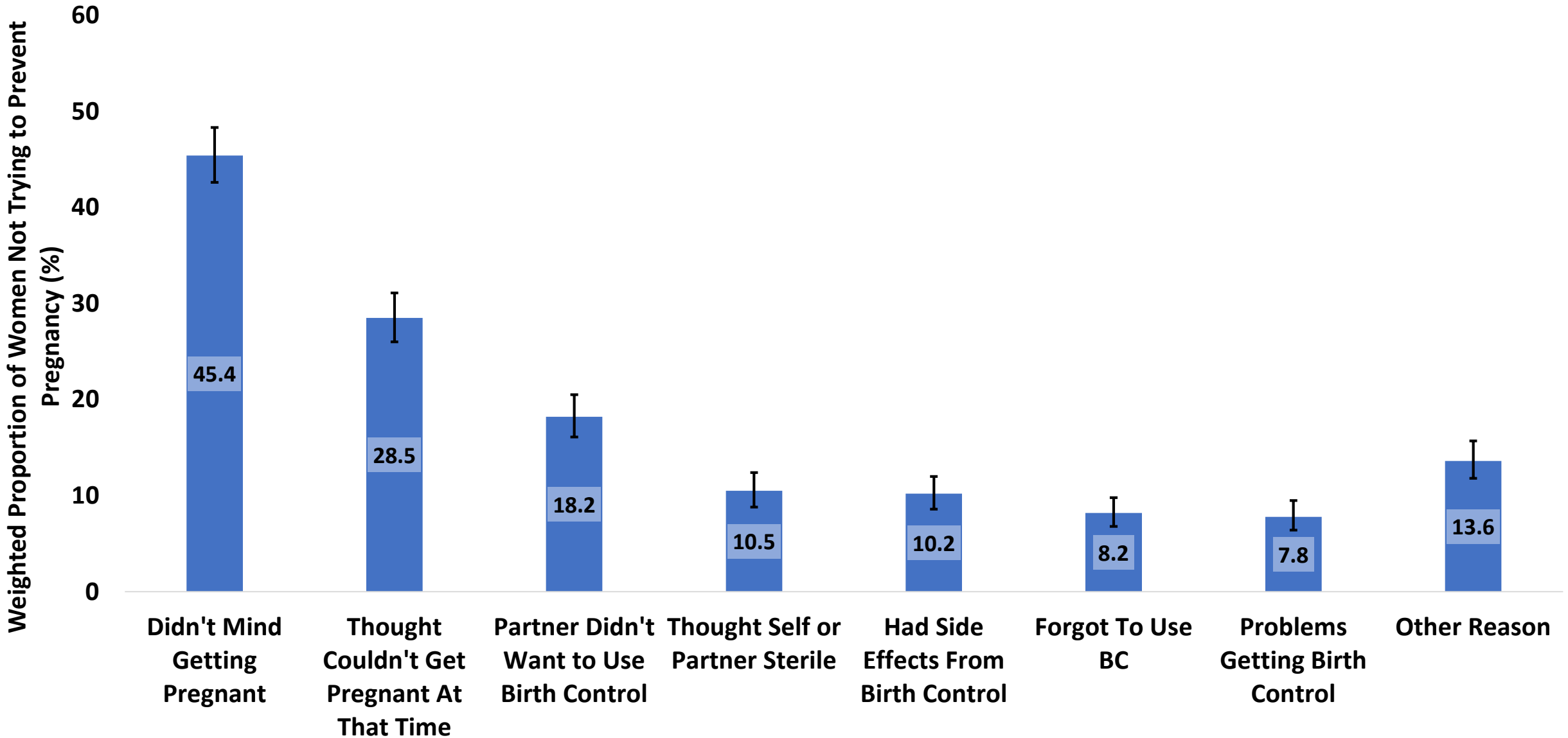
- I didn't mind if I got pregnant
- I thought I could not get pregnant at that time
- I had side effects from the birth control method I was using
- I had problems getting birth control when I needed it
- I thought my husband or partner or I was sterile (could not get pregnant at all)
- My husband or partner didn't want to use anything
- I forgot to use a birth control method
- Other \_\_\_\_\_ → Please tell us:

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Quiz - rank reasons for not trying to prevent pregnancy

# Specific Reasons for Not Trying to Prevent Pregnancy

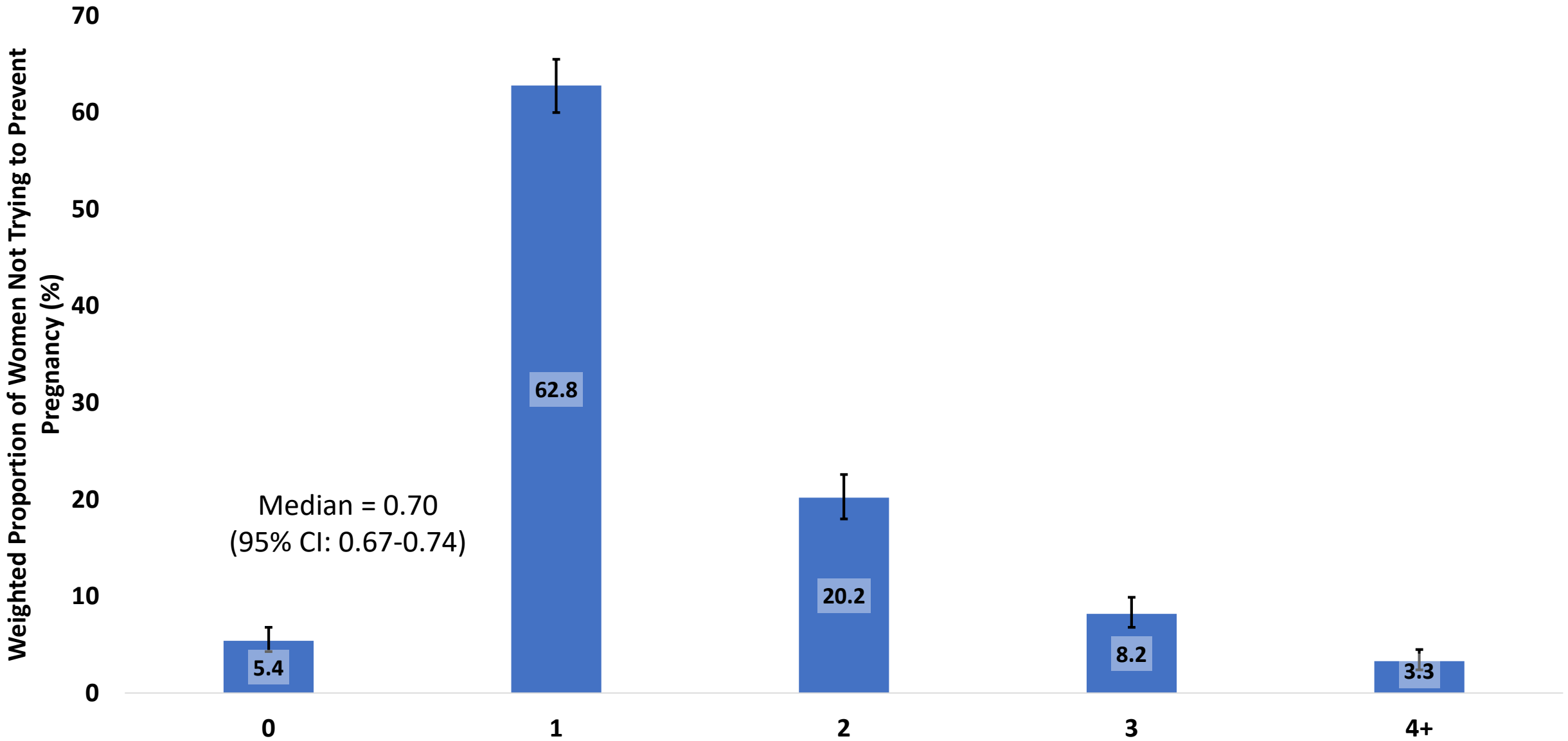
## MI PRAMS, 2012-2015



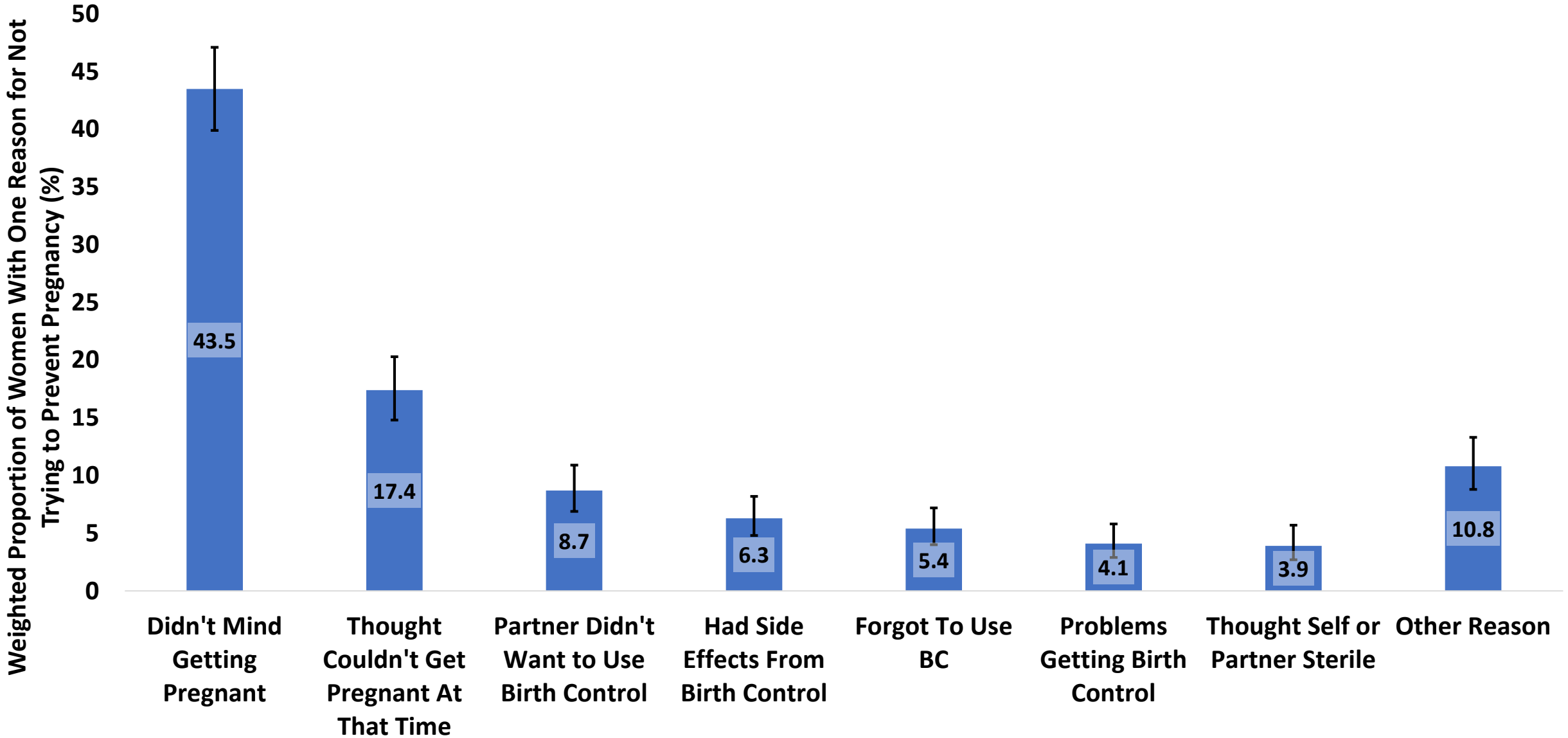
*Note: Check all that apply question - total may be greater than 100%*

# Number of Reasons for Not Trying to Prevent Pregnancy

## MI PRAMS, 2012-2015



# Reasons for Not Trying to Prevent Pregnancy among Women with One Reason Selected | MI PRAMS, 2012-2015



# Contraceptive Behavior - Observations

- Around half of mothers were trying to get pregnant
  - 49.7% (95% CI: 48.2-51.3%)
- Under a quarter (22.6%) were doing something to prevent pregnancy
  - More effective contraceptive practices
- Over a quarter of Michigan mothers were not trying to get pregnant but also not doing anything to prevent pregnancy
  - More prevalent reasons for not using BC:
    - "Thought could not get pregnant at that time"
    - "Husband or partner didn't want to use birth control"
  - Less prevalent reasons for not using BC:
    - "Thought husband or partner sterile"
    - "Side effects from BC"
- Many women have just one reason for not trying to prevent pregnancy
  - "Didn't Mind Getting Pregnant" was the most frequent reason

# Outline 4

- What is PRAMS?
- Pregnancy Timing / Unintended Pregnancy
- Contraceptive Behavior - Before Pregnancy
- **Interpregnancy Interval**
- Contraceptive Behavior - After Pregnancy

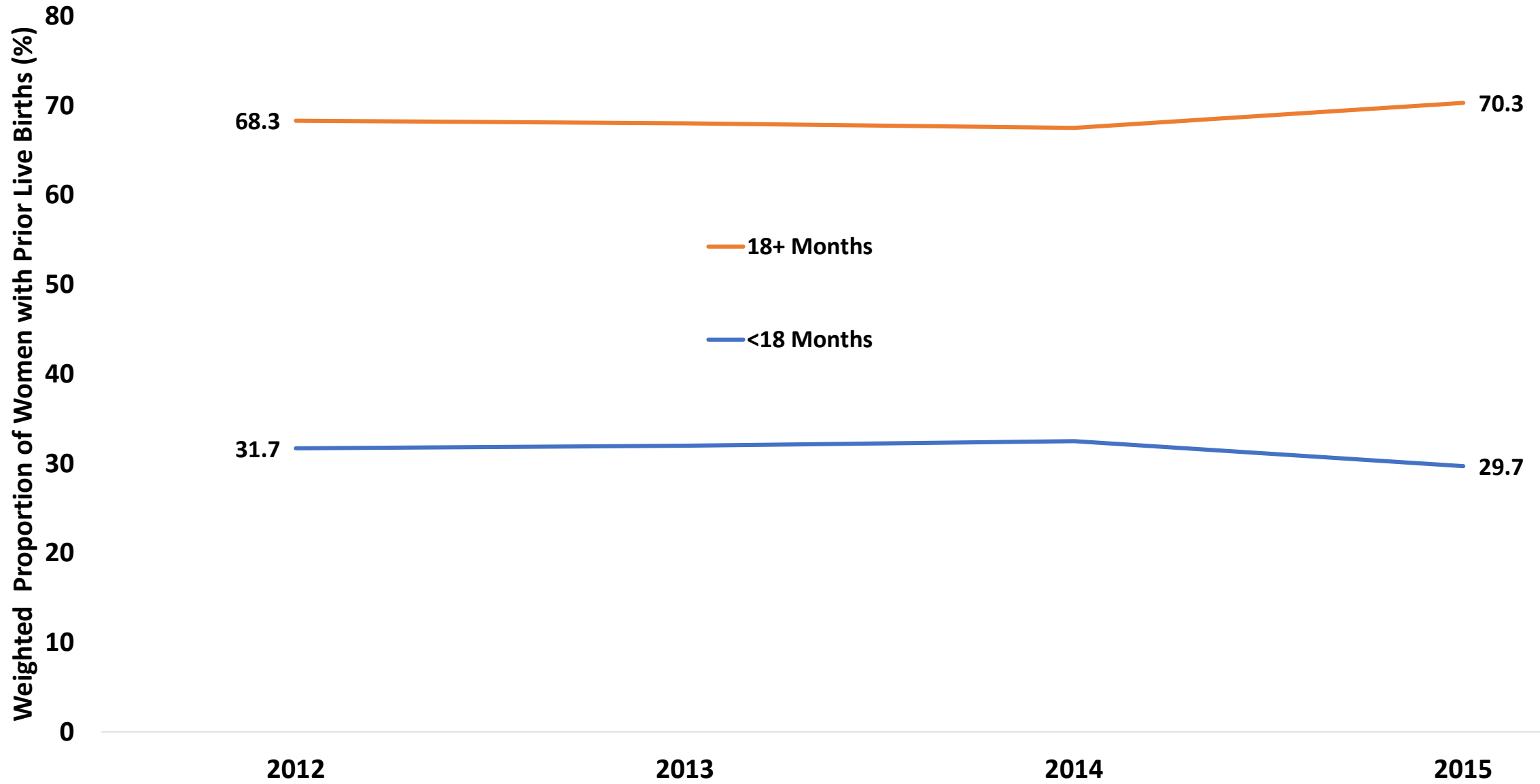
# Interpregnancy Interval (IPI) in PRAMS

- PRAMS is a sample of Michigan mothers
- Smaller numbers than annual birth file
  - Another source of IPI
- Strength of IPI in PRAMS is in data not available on birth certificate
  - Income
  - Pregnancy intention
- Results limited to women with a prior live birth
  - Does not include women with fetal loss, miscarriage, stillbirth before this live birth
- Short IPI less than 18 months



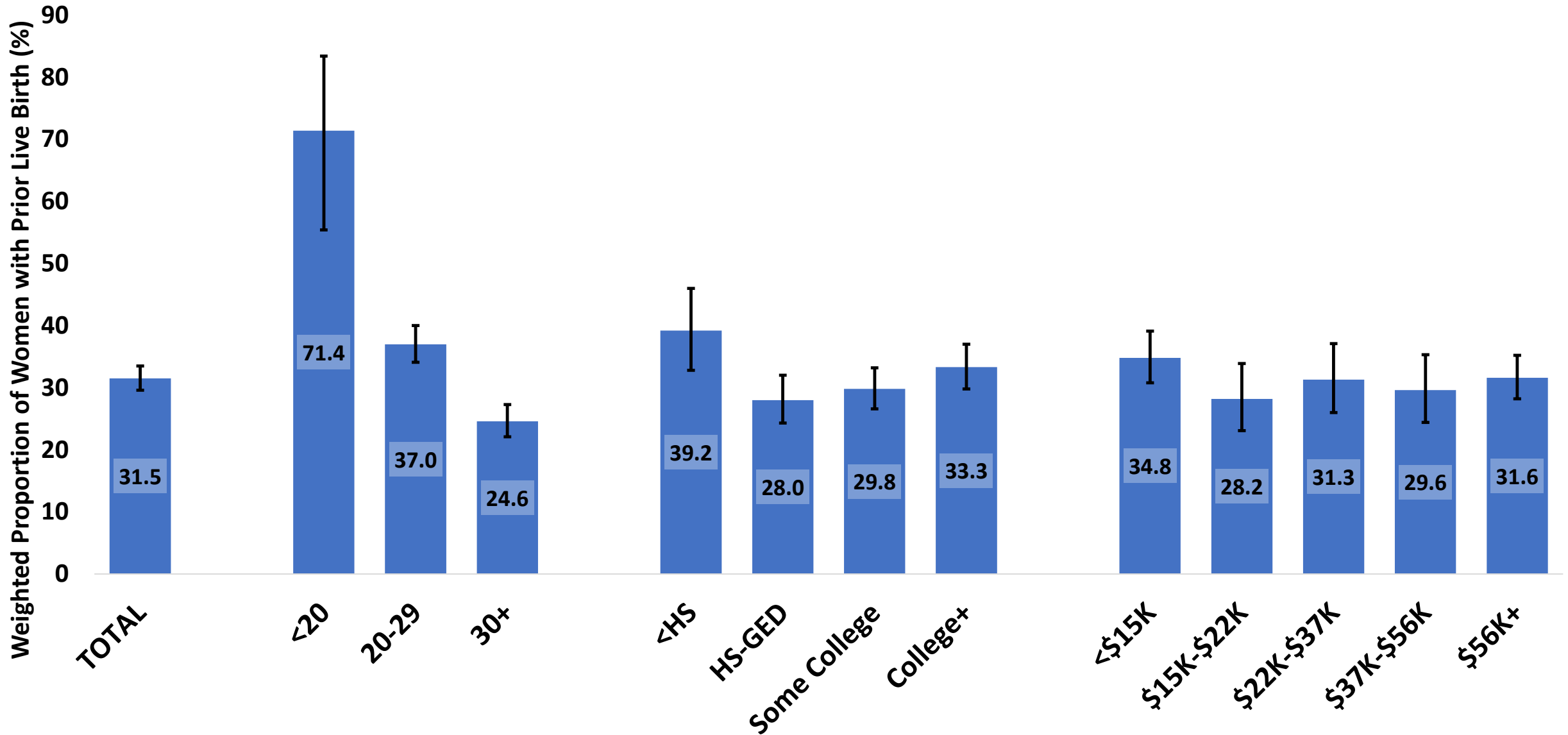
# Interpregnancy Interval by Birth Year

## MI PRAMS, 2012-2015



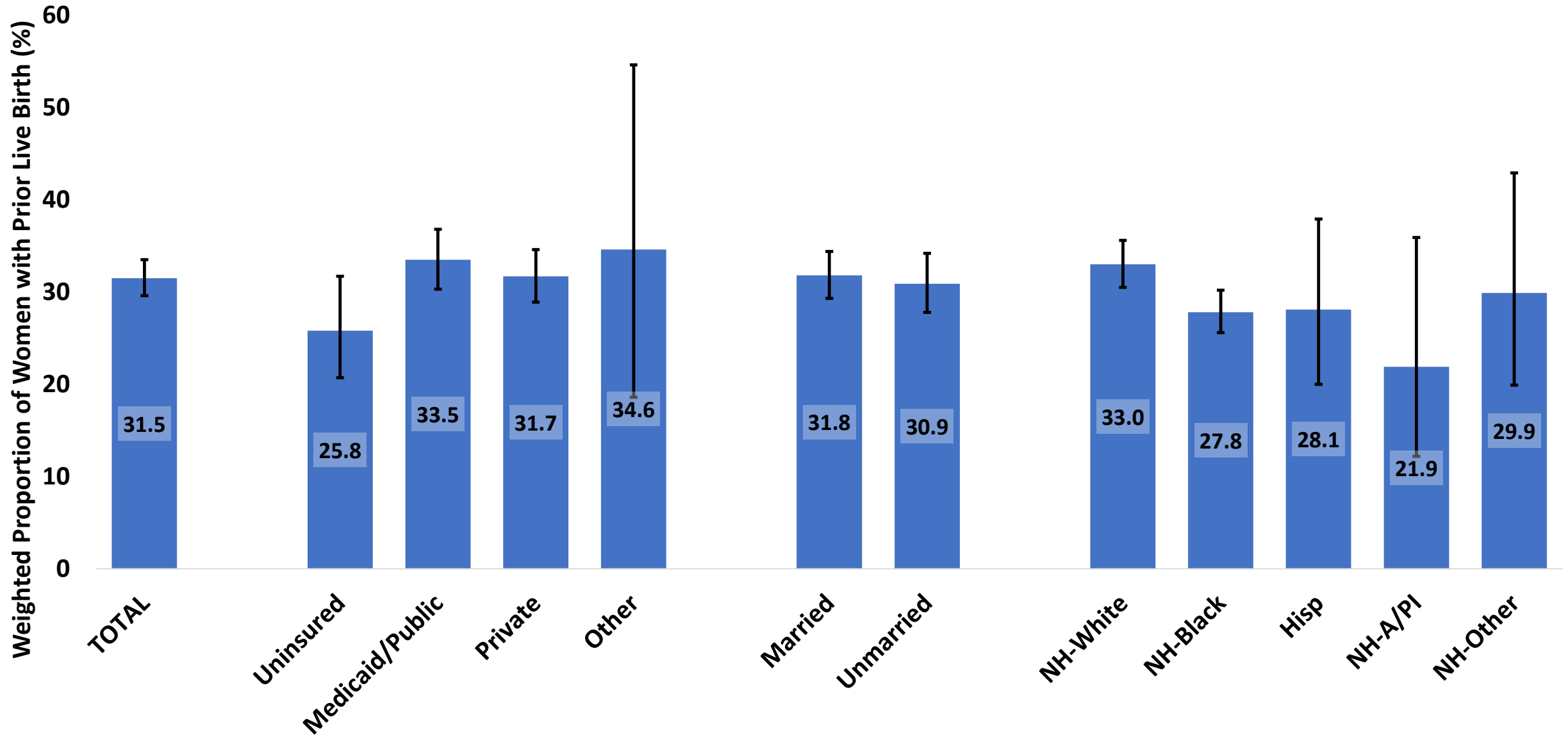
# Interpregnancy Interval <18 Months by Maternal Demographics 1

## MI PRAMS, 2012-2015



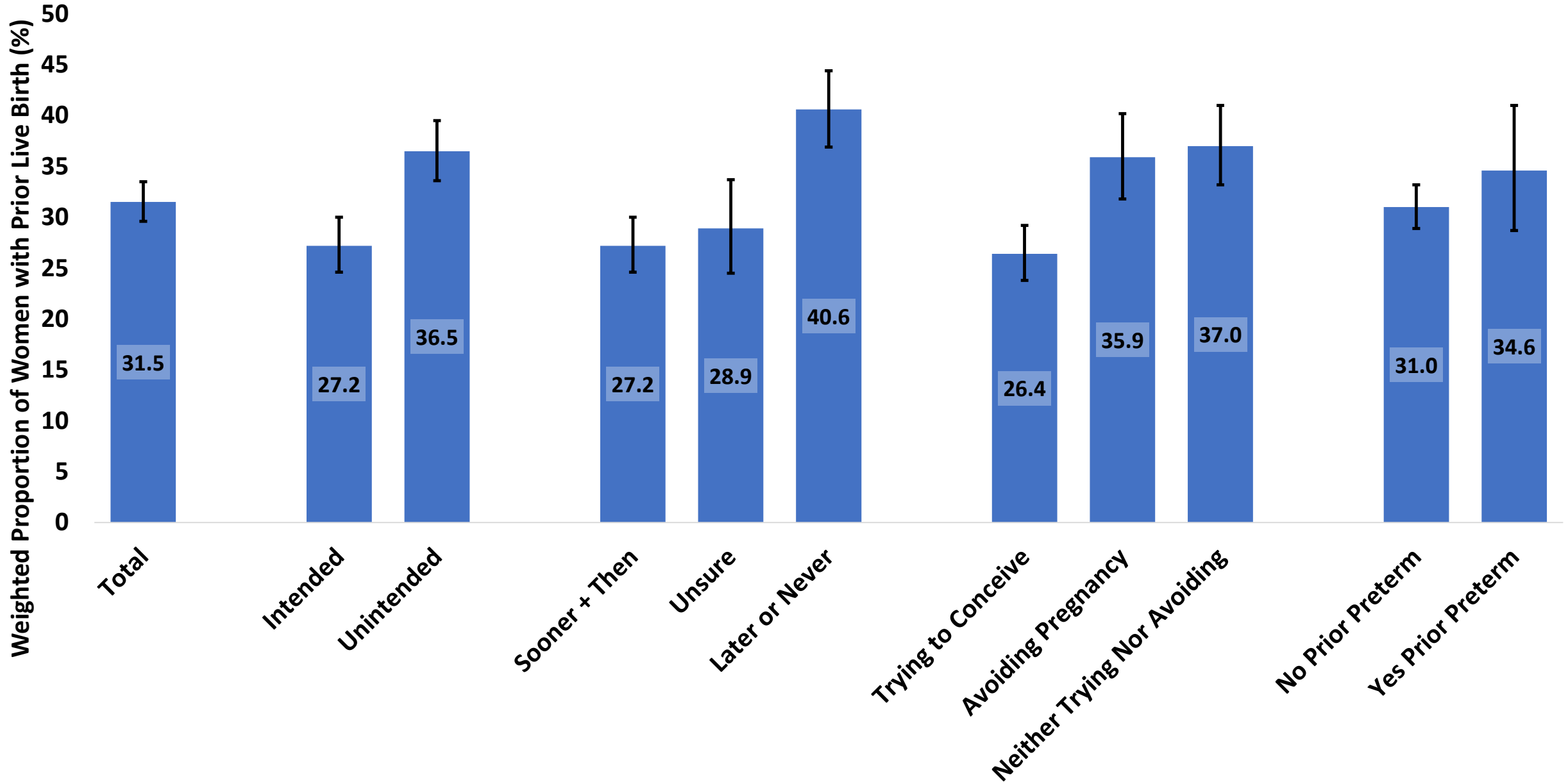
# Interpregnancy Interval <18 Months by Maternal Demographics 2

## MI PRAMS, 2012-2015



# Interpregnancy Interval <18 Months by Maternal Demographics 3

## MI PRAMS, 2012-2015



# Interpregnancy Interval - Observations

- No trend across maternal education, income groups
- Significant trend across maternal age
  - $p$  for trend  $< 0.0001$
  - Teen mothers with a prior birth are a small high risk group
- Fewer non-Hispanic black mothers had a short IPI compared to non-Hispanic white mothers
  - $p = 0.0030$
- Compared to other maternal demographics, larger differences in interpregnancy interval were seen with:
  - Pregnancy intention
  - Prepregnancy contraceptive behavior

# Outline 5

- What is PRAMS?
- Pregnancy Timing / Unintended Pregnancy
- Contraceptive Behavior - Before Pregnancy
- Interpregnancy Interval
- **Contraceptive Behavior - After Pregnancy**

# Last Quiz! Postpartum Contraceptive Use

# No Contraceptive Use After Pregnancy

63. Are you or your husband or partner doing anything *now* to keep from getting pregnant? Some things people do to keep from getting pregnant include using birth control pills, condoms, withdrawal, or natural family planning.

No  
 Yes → **Go to Question 65**

- "NO" = 21.5% of mothers of live births
- 95% CI: 20.2-22.8%
- ~23,200 mothers per year from 2012-2015

64. What are your reasons or your husband's or partner's reasons for not doing anything to keep from getting pregnant *now*?

**Check ALL that apply**

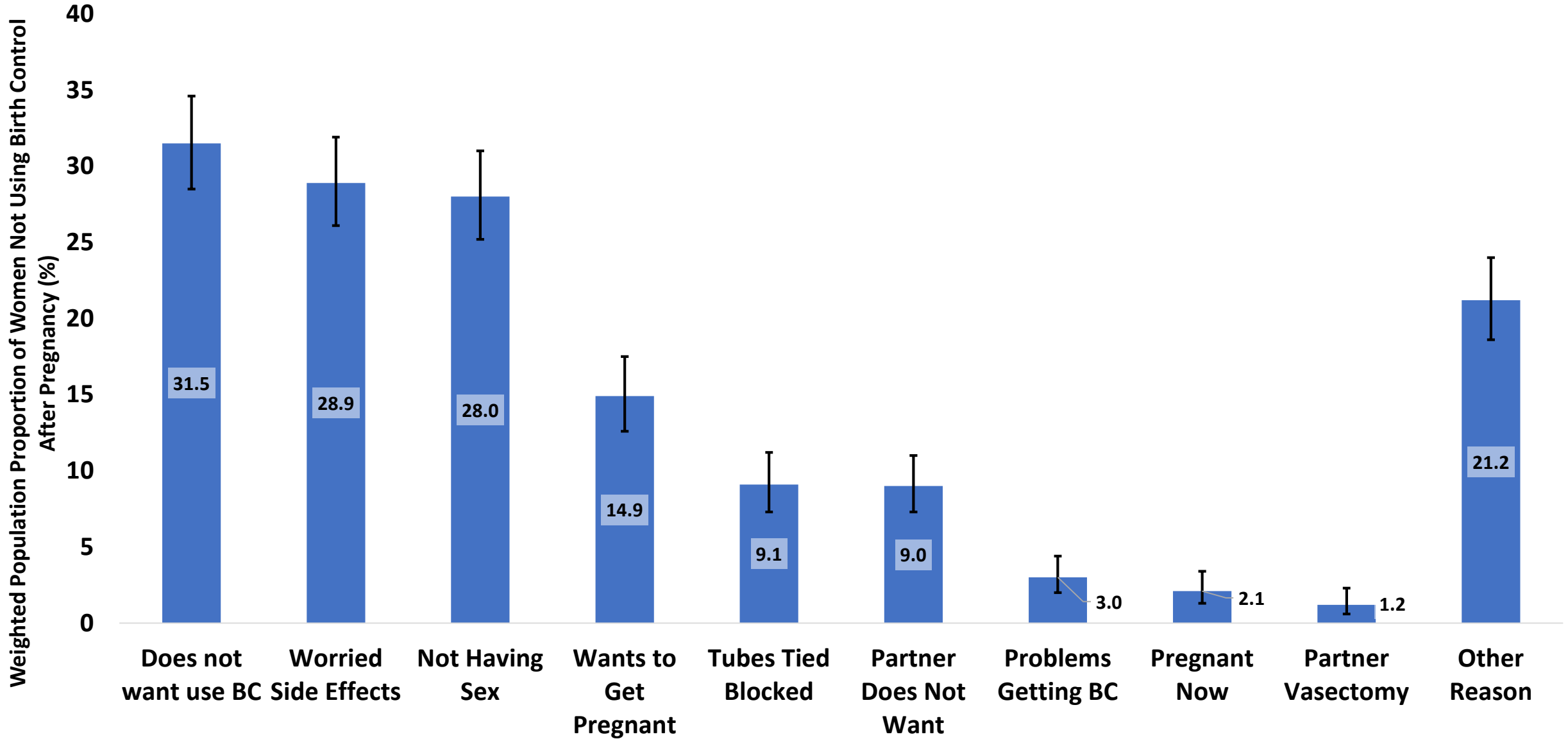
- I am not having sex
- I want to get pregnant
- I don't want to use birth control
- I am worried about side effects from birth control
- My husband or partner doesn't want to use anything
- I have problems getting birth control when I need it
- I had my tubes tied or blocked
- My husband or partner had a vasectomy
- I am pregnant now
- Other → Please tell us:

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# Reasons for Not Using Birth Control After Pregnancy

## MI PRAMS, 2012-2015



*Note: Check all that apply question - total may be greater than 100%*

# Yes Contraceptive Use After Pregnancy

63. Are you or your husband or partner doing anything *now* to keep from getting pregnant? Some things people do to keep from getting pregnant include using birth control pills, condoms, withdrawal, or natural family planning.

No  
 Yes → **Go to Question 65**

- "YES" = 78.5% of mothers of live births
- 95% CI: 77.2-79.8%
- ~84,800 mothers per year from 2012-2015

**Among women who were not using any birth control before pregnancy, 74.6% (95% CI: 71.9-77.1%) are using some form of birth control after pregnancy**

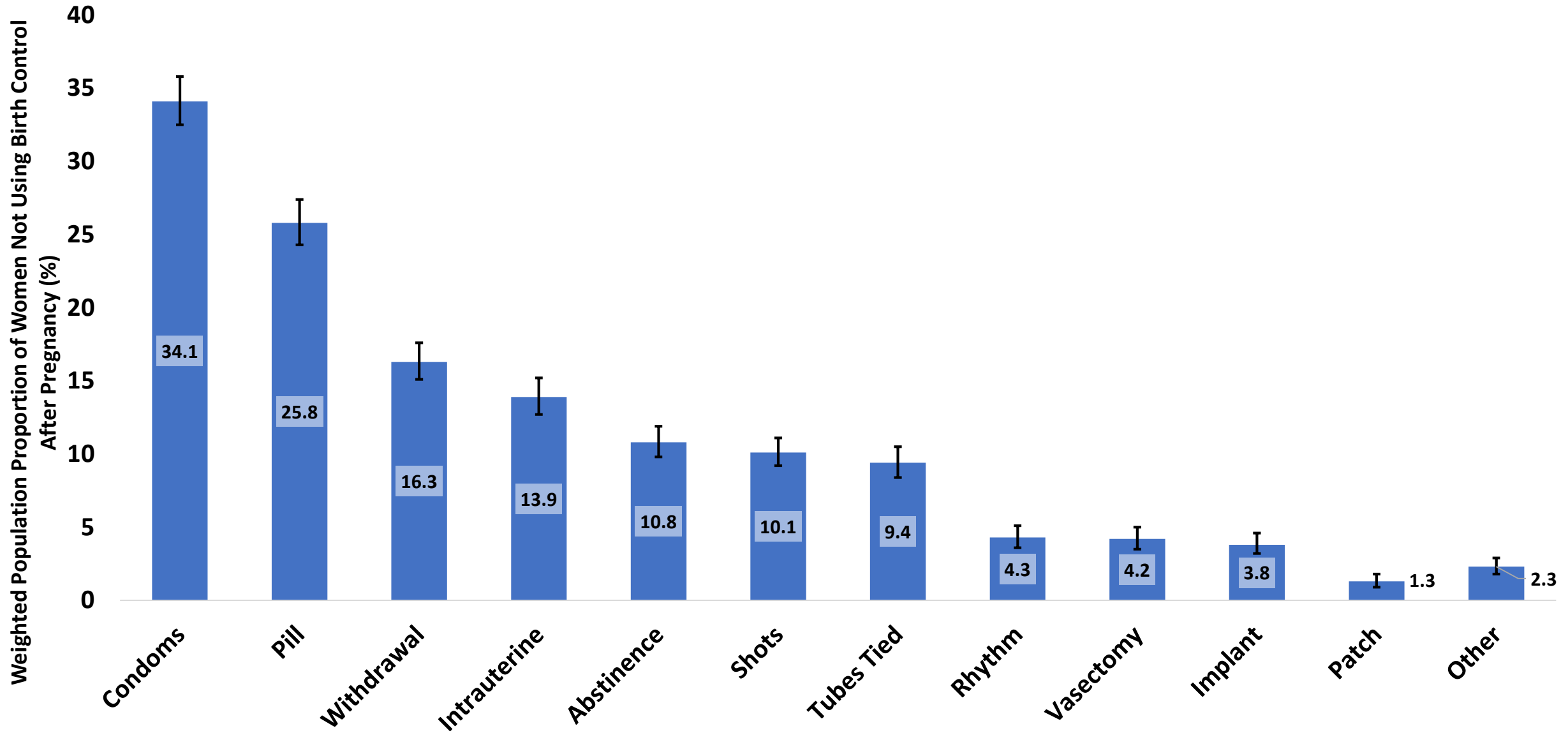
65. What kind of birth control are you or your husband or partner using *now* to keep from getting pregnant?

**Check ALL that apply**

- Tubes tied or blocked (female sterilization, Essure®, Adiana®)
- Vasectomy (male sterilization)
- Birth control pill
- Condoms
- Injection (Depo-Provera®)
- Contraceptive implant (Implanon®)
- Contraceptive patch (OrthoEvra®) or vaginal ring (NuvaRing®)
- IUD (including Mirena® or ParaGard®)
- Natural family planning (including rhythm method)
- Withdrawal (pulling out)
- Not having sex (abstinence)
- Other → Please tell us:

# Birth Control Practices After Pregnancy

## MI PRAMS, 2012-2015



*Note: Check all that apply question - total may be greater than 100%*

# Postpregnancy Contraceptive Practices - Observations

- About one in five Michigan mothers are not using any contraceptives in the months after pregnancy
  - 21.5% (95% CI: 20.2-22.8%)
  - Among these mothers, many do not want to use BC or are worried about the side effects
  - One in seven want to get pregnant
- Four in five Michigan mothers are using contraceptive practices
  - 78.5% (95% CI: 77.2-79.8%)
  - Among these mothers, condoms and the pill are the most frequent methods
- 3/4 of women who were **not using BC** before pregnancy were doing something postpartum to prevent pregnancy
  - 74.6% (95% CI: 71.9-77.1%)

# Limitations and Strengths

## Strengths

- Random selection
- Response rate 50-60%
- Weighted
- Consistent methodology
  - Compare over time
  - Compare between states
- Oversample
  - Low-birth weight
  - Black
- Non-responder adjustments
- "Honest" answers

## Limitations

- Sample-based study
- Single point in time
- Live births
- English speakers
- Low respondents from some at-risk groups
  - Hispanic
  - Non-white, non-black
  - Age <20
- Potential biases:
  - Responders vs non-responders
  - Socially desirable responses
  - Recall bias
  - Unmeasured confounders?

# MI PRAMS People

- **MDHHS**

- Patricia McKane, DVM MPH
- Chris Fussman, MS
- Jill Hardy
- Hannah Sauter
- Anna Raykov
- Madeleine Booth
- Mei You, MS
- Carol Davis
- Virginia Ganzevoort
- Karen Andruszewski
- Yan Tian - Interpregnancy Interval

- **CDC**

- Nan Ruffo MPA
- Tanya Williams MPH
- Rutgers Bloustein Center for Survey Research (2016 -->)
  - Nancy Wolff
  - Vanessa Loyola | Griselda Villanueva
- Michigan State University Office for Survey Research
  - (1987 - 2015)
- Larry Hembroff Survey Consulting

# Conclusion

- The mission of Michigan PRAMS is to **collect** high-quality data and **provide** analytic products that help **facilitate** positive changes for Michigan mothers and babies.
- If these results have been useful for you or your organization, please let us know! Your reports of how PRAMS data has been useful to your organization are vital to keeping PRAMS running.
- ***If you need different analyses to help make positive changes for the mothers and babies that you serve, please contact me!***
- ***HaakP@Michigan.gov***