



Content of Prenatal Care Discussions in Michigan: Successes and Missed Opportunities

NOVEMBER 28, 2017

PETERSON HAAK

PRAMS PROJECT COORDINATOR

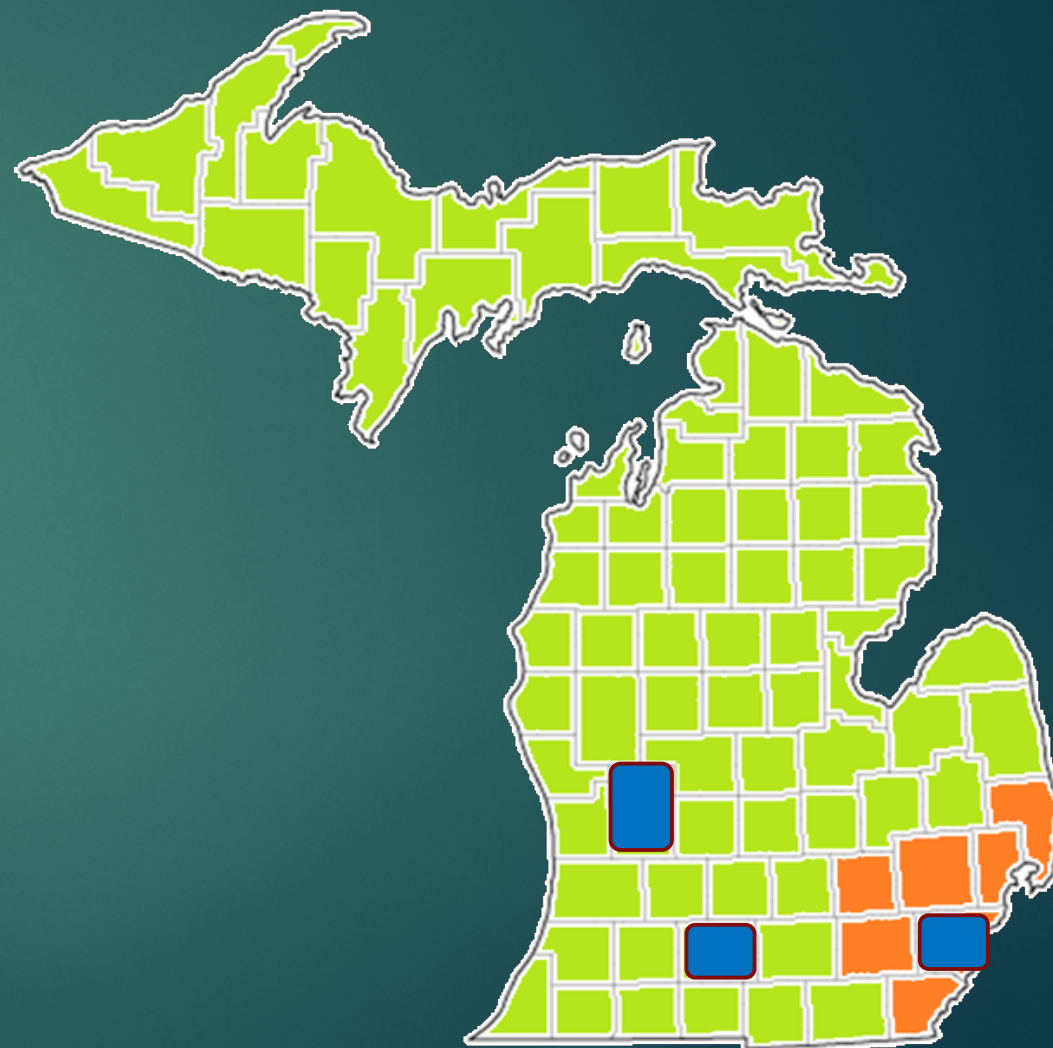
MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

Outline

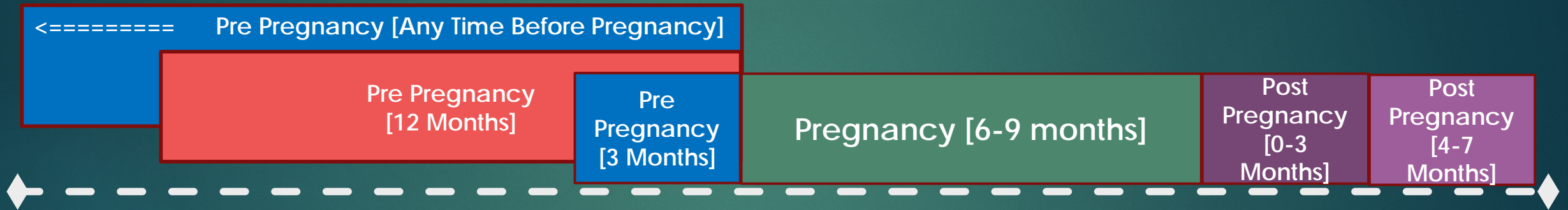
- ▶ Data source: MI PRAMS
- ▶ Prepregnancy period
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 - ▶ Frequency of health condition / behavior
 - ▶ Adequacy of prenatal care by topic coverage
- ▶ Do conversations matter?

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[12-13], Wayne[12-13]
- ▶ Survey completed 3-9 months post-partum
- ▶ Population based survey



PRAMS Windows of Measurement



PRAMS - Letters Sent [QUIZ]

- ▶ How many pieces of mail did MI PRAMS send to collect this data [2012-2015]?
- ▶ 25,000
- ▶ 50,000
- ▶ 75,000
- ▶ 100,000

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Pregnancy Intention

- ▶ What proportion of women report that, at the time they became pregnant, they had intended to become pregnant?
- ▶ A: 25%
- ▶ **B: 50%**
- ▶ C: 75%
- ▶ D: 90%



Pregnancy Intention Categories

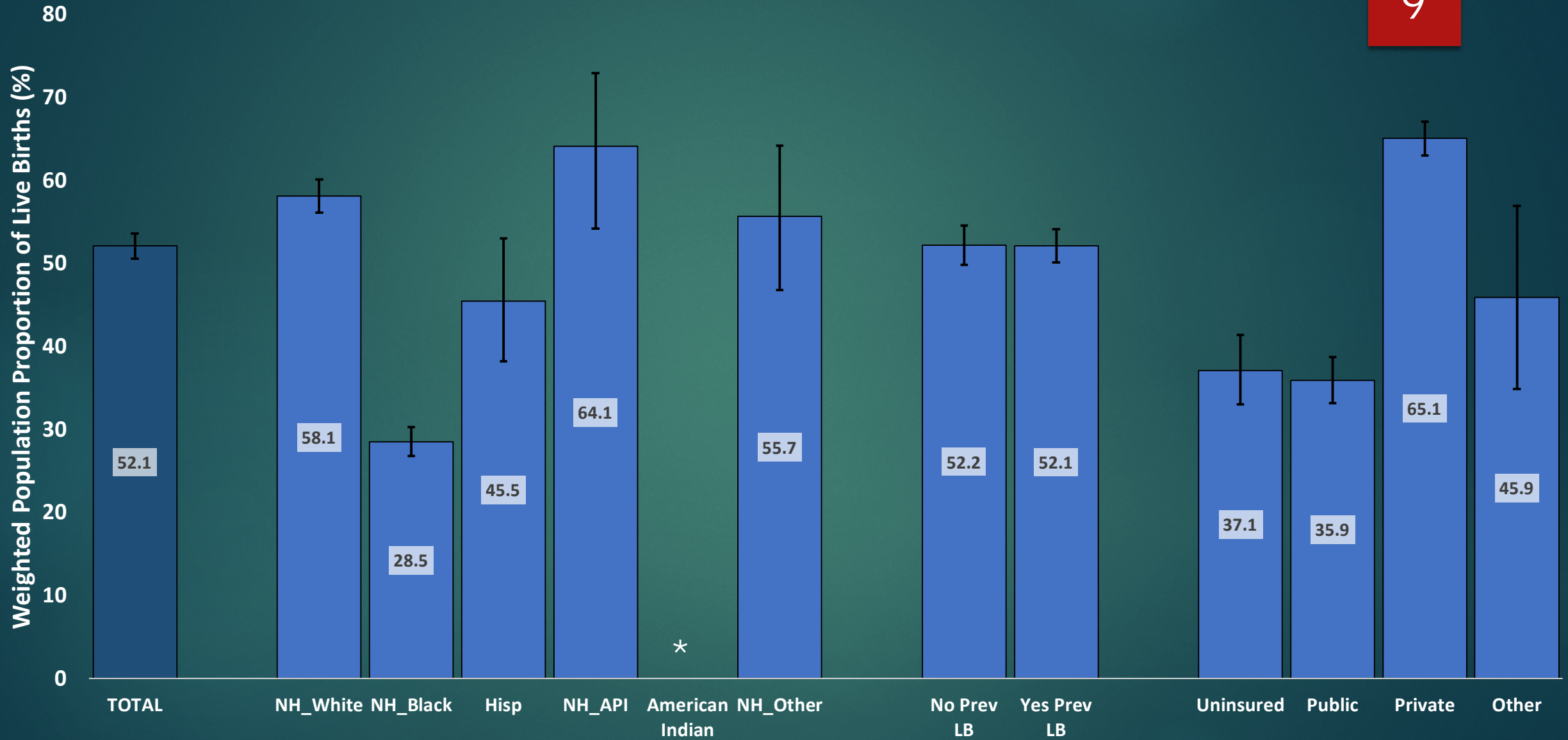
MI PRAMS, 2012-2015





Intended Pregnancy by Maternal Demographics [1]

MI PRAMS, 2012-2015



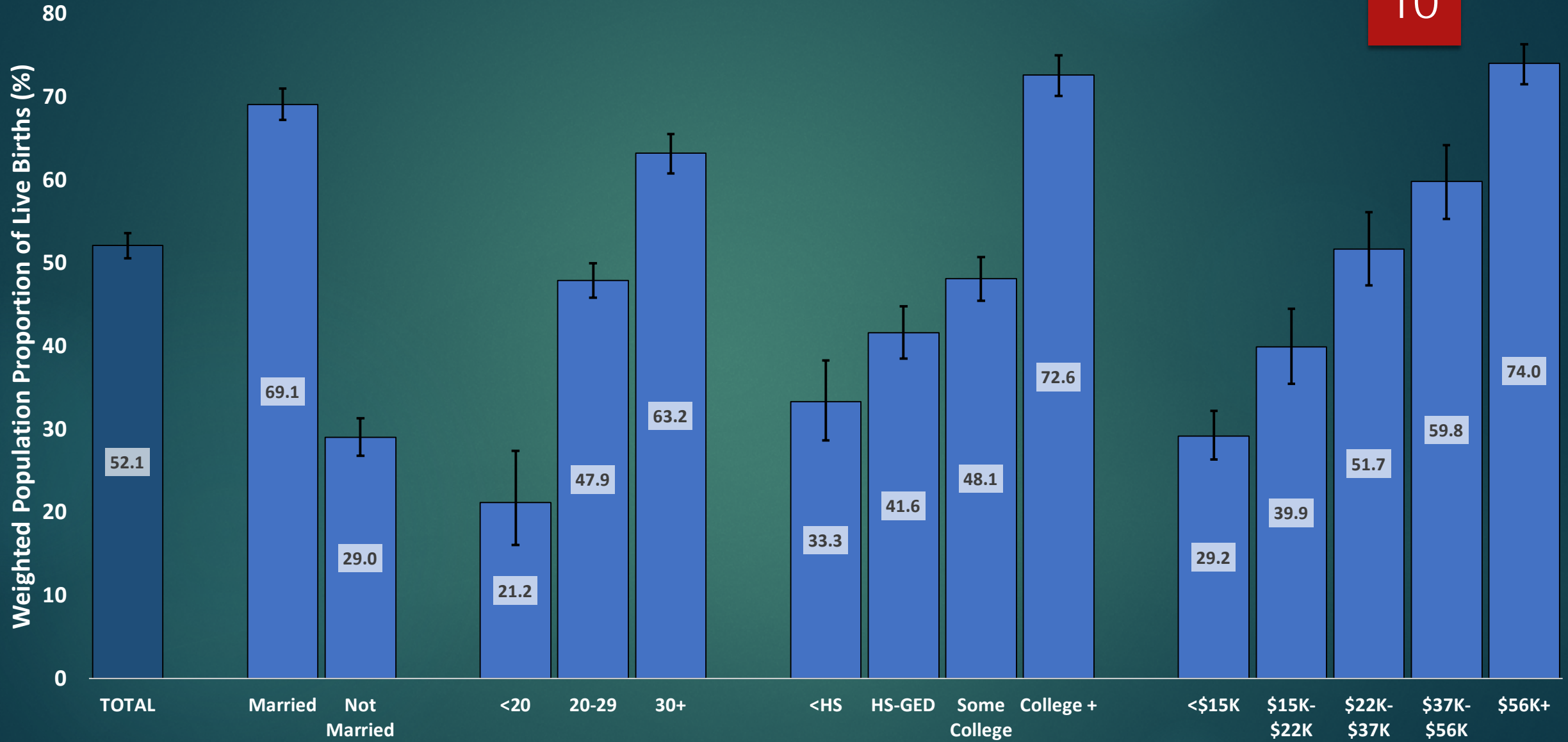
* data not shown due to <6 respondents or Relative Standard Error (RSE) > 50%



Intended Pregnancy by Maternal Demographics [2]

MI PRAMS, 2012-2015

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Prevalence of Prepregnancy Health Risks, MI PRAMS 2012-2015

| Health Issue | Sample Frequency | Weighted Frequency | Weighted Percent | 95% CI |
|------------------------|------------------|--------------------|------------------|-------------|
| Any Alcohol | 4,174 | 274,819 | 63.2 | (61.7-64.7) |
| Exercise < 3X Week | 4,307 | 245,311 | 56.2 | (54.6-57.7) |
| No Prenatal Vitamin | 4,238 | 238,169 | 54.1 | (52.6-55.7) |
| BMI Outside Normal | 4,003 | 226,490 | 51.4 | (49.8-52.9) |
| No Teeth Cleaning | 3,029 | 174,260 | 39.9 | (38.4-41.4) |
| Any Smoking | 1,933 | 122,922 | 28.3 | (26.8-29.7) |
| Anxiety | 1,065 | 75,329 | 17.2 | (16.0-18.4) |
| Anemia | 1,443 | 59,371 | 13.5 | (12.6-14.6) |
| Asthma | 1,049 | 57,892 | 13.2 | (12.2-14.3) |
| Depression | 900 | 54,800 | 12.5 | (11.5-13.6) |
| Thyroid Problems | 338 | 22,998 | 5.2 | (4.6-6.0) |
| Hypertension | 521 | 21,672 | 4.9 | (4.4-5.6) |
| Partner Physical Abuse | 288 | 12,917 | 3.0 | (2.5-3.5) |
| Diabetes | 207 | 9,579 | 2.2 | (1.8-2.7) |
| Heart Problems | 147 | 8,209 | 1.9 | (1.5-2.4) |
| Epilepsy | 91 | 4,122 | 0.9 | (0.7-1.2) |



Total Number of Prepregnancy Risks Reported by Mothers

MI PRAMS 2012-2015

Few (≤ 2) Risks:

- ↑ Age ≥ 30
- ↑ Ed \geq College
- ↑ Income \geq \$56K
- ↑ non-Hispanic Asian
- ↑ Private insurance
- ↑ Married
- ↑ Intended
- ↓ Non-Hispanic Black
- ↓ Will get PNC at:
 - Hospital clinic
 - Health department clinic
 - Community health center

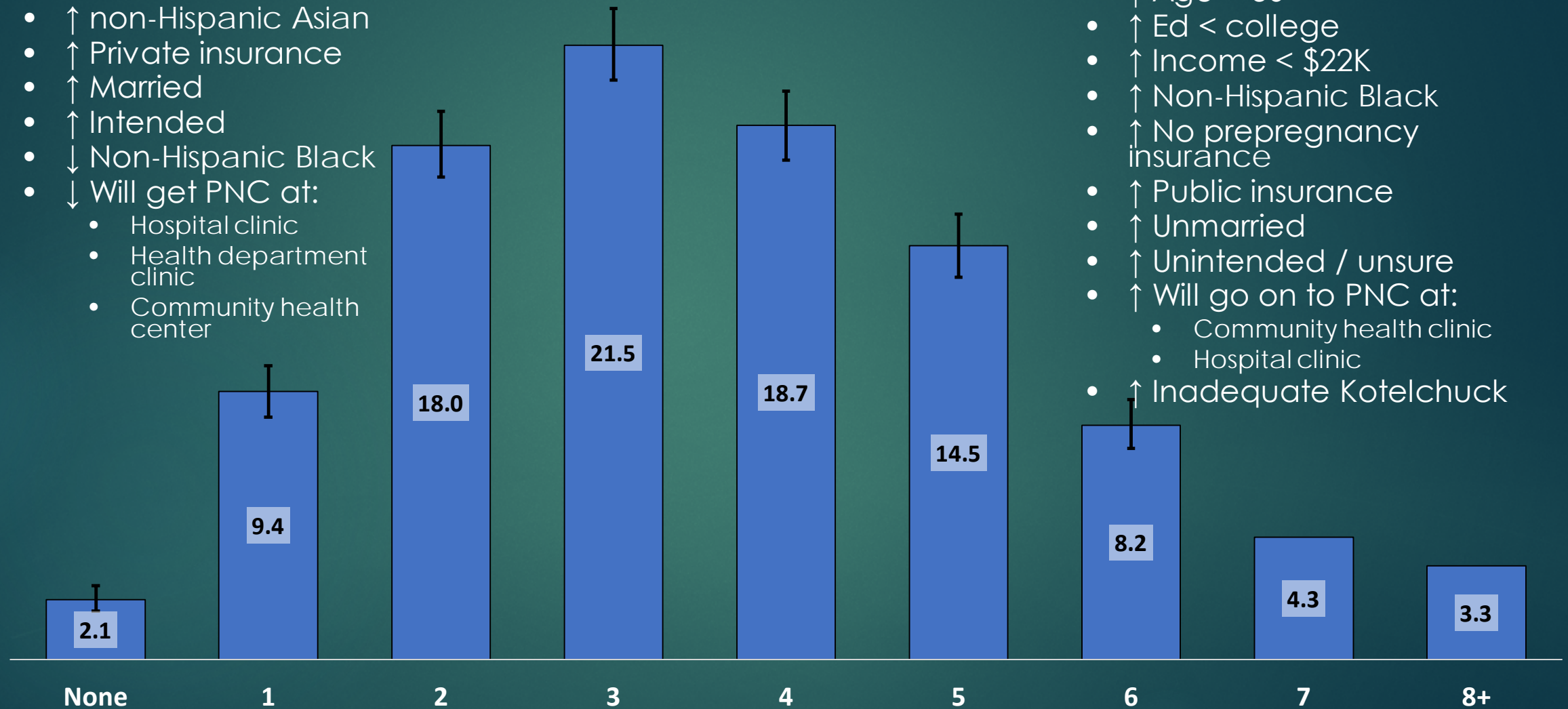
Many (≥ 5) Risks:

- ↑ Age < 30
- ↑ Ed $<$ college
- ↑ Income $<$ \$22K
- ↑ Non-Hispanic Black
- ↑ No prepregnancy insurance
- ↑ Public insurance
- ↑ Unmarried
- ↑ Unintended / unsure
- ↑ Will go on to PNC at:
 - Community health clinic
 - Hospital clinic
- ↑ Inadequate Kotelchuck

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Weighted Population Proportion of Live Births (%)

25
20
15
10
5
0



Outline

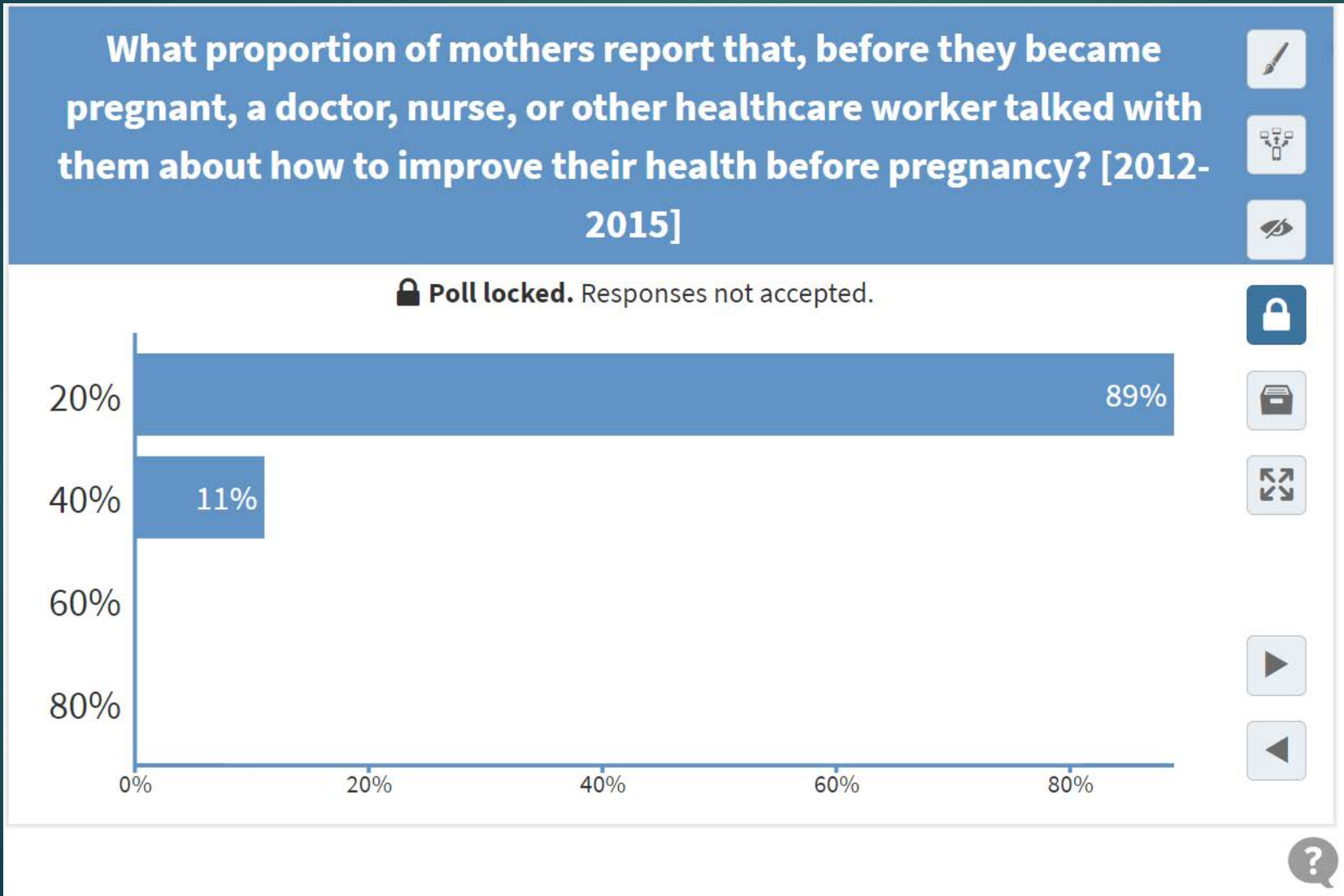
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Prepregnancy Counseling about Pregnancy Health [QUIZ]

- ▶ What proportion of women report that, before they became pregnant with their new baby, a doctor, nurse, or other health care worker talked with them about how to improve their health before pregnancy [2012-2015]?
- ▶ A: 20%
- ▶ B: 40%
- ▶ C: 60%
- ▶ D: 80%

Prepregnancy Counseling - Results

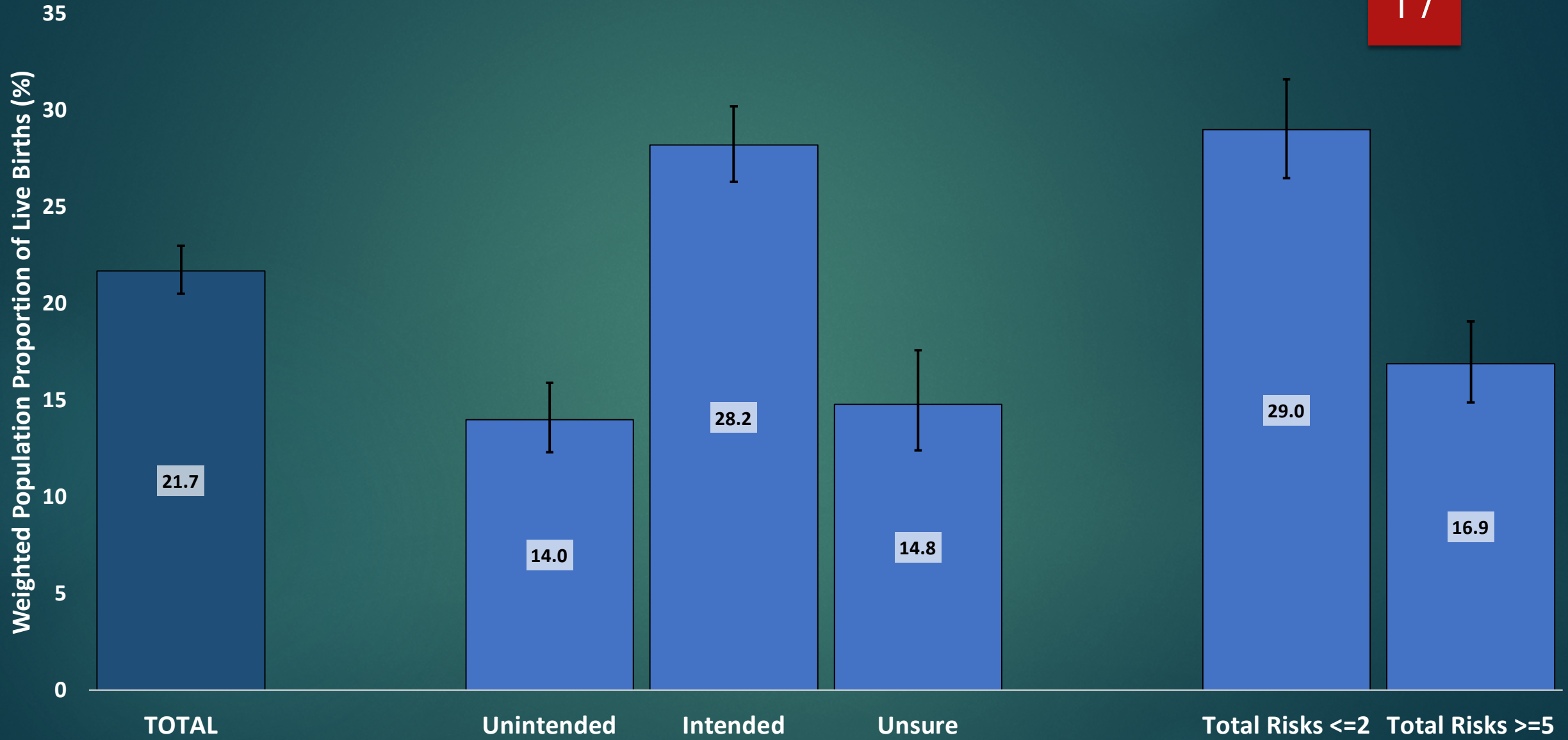




Any Prepregnancy Health Counseling by Selected Demographics

MI PRAMS, 2012-2015

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Summary 1: Prepregnancy Health, Counseling

- ▶ Around half of all Michigan pregnancies were intended
- ▶ Prepregnancy health risks are common
 - ▶ 30% of mothers start pregnancy with 5 or more health risks
 - ▶ Only 2.1% of mothers report no prepregnancy health risks
- ▶ Prepregnancy counseling about pregnancy health is rare
 - ▶ 78.3% report no prepregnancy counseling
- ▶ Mothers with more prepregnancy risks are less likely to report any prepregnancy counseling
- ▶ *We must maximize the value and impact of prenatal care visits*

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Prenatal Care

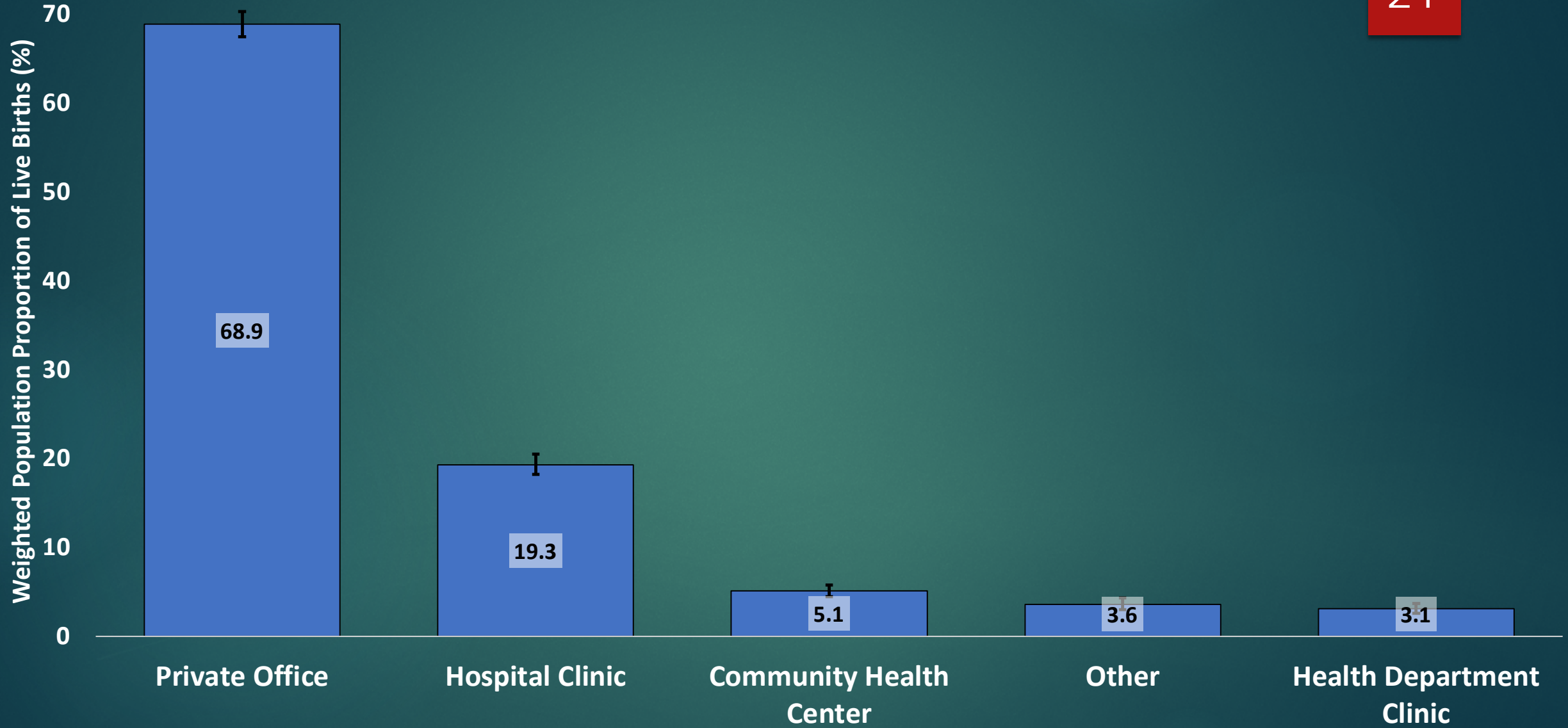
20





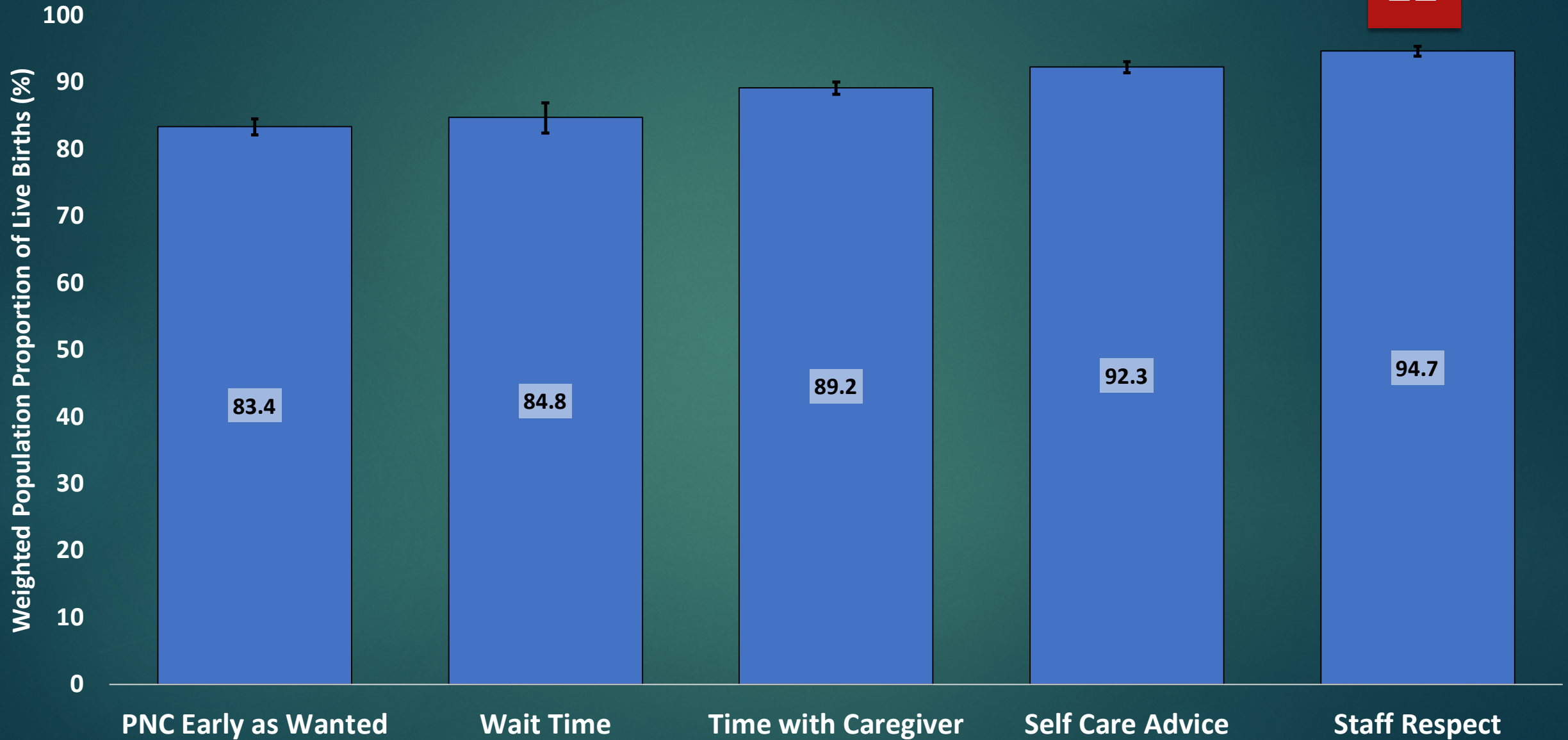
Primary Source / Location of Prenatal Care Visits MI PRAMS 2012-2015

21





Mother's Perception of / Satisfaction with Prenatal Care MI PRAMS 2012-2015



Outline

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24. During any of your prenatal care visits, did a doctor, nurse, or other health care worker talk with you about any of the things listed below? Please count only discussions, not reading materials or videos. For each item, check **No if no one talked with you about it or **Yes** if someone did.**

- | | No | Yes |
|---|--------------------------|--------------------------|
| a. How much weight I should gain during my pregnancy | <input type="checkbox"/> | <input type="checkbox"/> |
| b. How smoking during pregnancy could affect my baby..... | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Breastfeeding my baby | <input type="checkbox"/> | <input type="checkbox"/> |
| d. How drinking alcohol during pregnancy could affect my baby | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Using a seat belt during my pregnancy..... | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Medicines that are safe to take during my pregnancy | <input type="checkbox"/> | <input type="checkbox"/> |

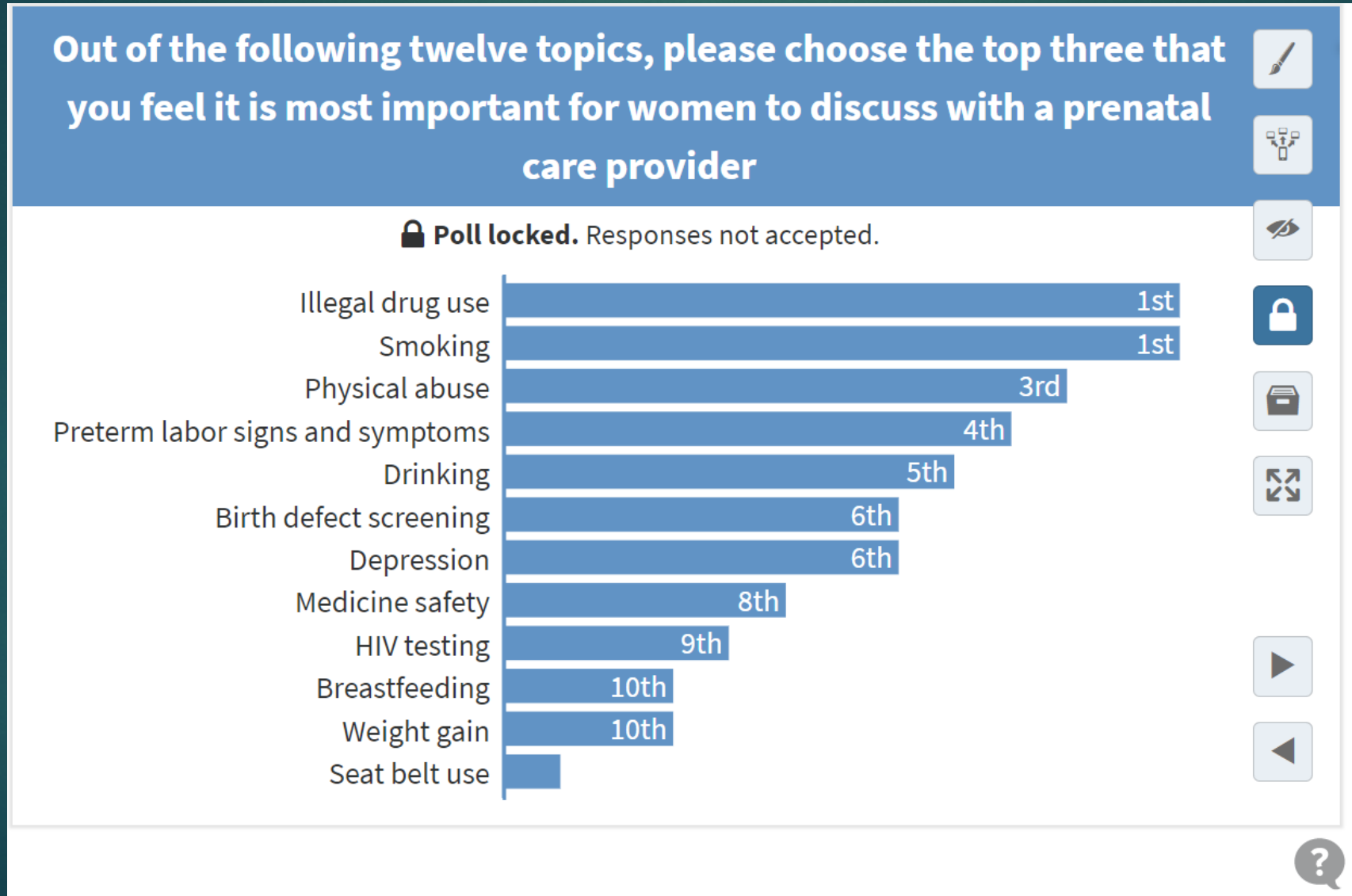
- | | | |
|--|--------------------------|--------------------------|
| g. How using illegal drugs could affect my baby | <input type="checkbox"/> | <input type="checkbox"/> |
| h. Doing tests to screen for birth defects or diseases that run in my family | <input type="checkbox"/> | <input type="checkbox"/> |
| i. The signs and symptoms of preterm labor (labor more than 3 weeks before the baby is due)..... | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Getting tested for HIV (the virus that causes AIDS) | <input type="checkbox"/> | <input type="checkbox"/> |
| k. What to do if I feel depressed during my pregnancy or after my baby is born..... | <input type="checkbox"/> | <input type="checkbox"/> |
| l. Physical abuse to women by their husbands or partners | <input type="checkbox"/> | <input type="checkbox"/> |

Ranking Activity [QUIZ]

25

- ▶ Of the following topics, please rank the top three that you feel must be discussed at least once during prenatal care visits with mothers
- ▶ (sort quiz activity)

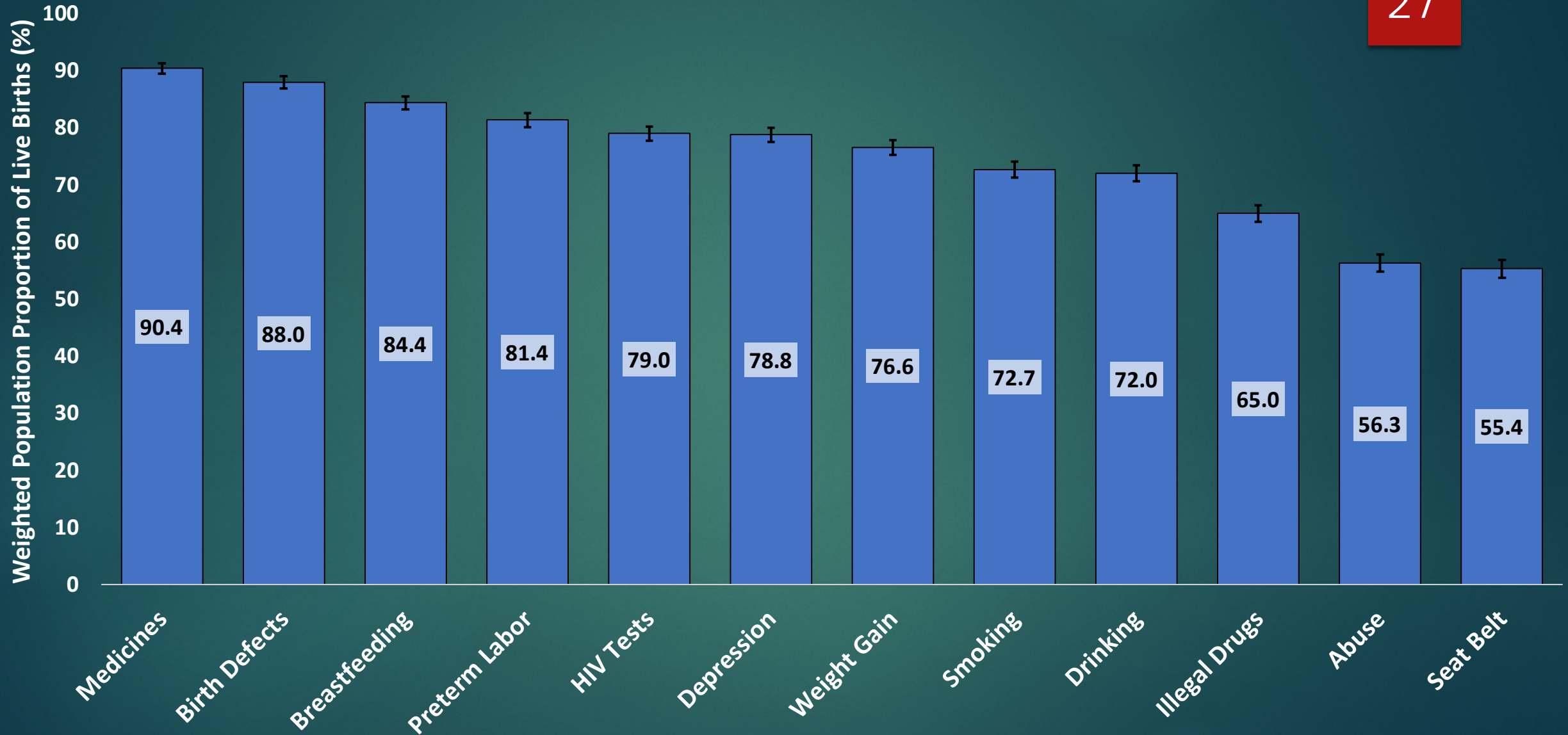
Ranking Activity - Results





Prenatal Care Discussions, by Topic

MI PRAMS, 2012-2015



Outline

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How Well Are Prenatal Care Conversations Reaching Their Targets?

- ▶ Is there a difference in prenatal care conversations breaking apart the mothers who **most need** to discuss topics and those with less need?
- ▶ How many conversations are hitting their "targets?"
- ▶ For many items, PRAMS assesses which mothers had the greatest need for discussion / intervention on these topics
 - ▶ Physical abuse
 - ▶ Depression
 - ▶ Weight gain
 - ▶ Preterm labor
 - ▶ Alcohol use
 - ▶ Smoking
 - ▶ Illegal drug use*



Physical Abuse by Husband / Partner

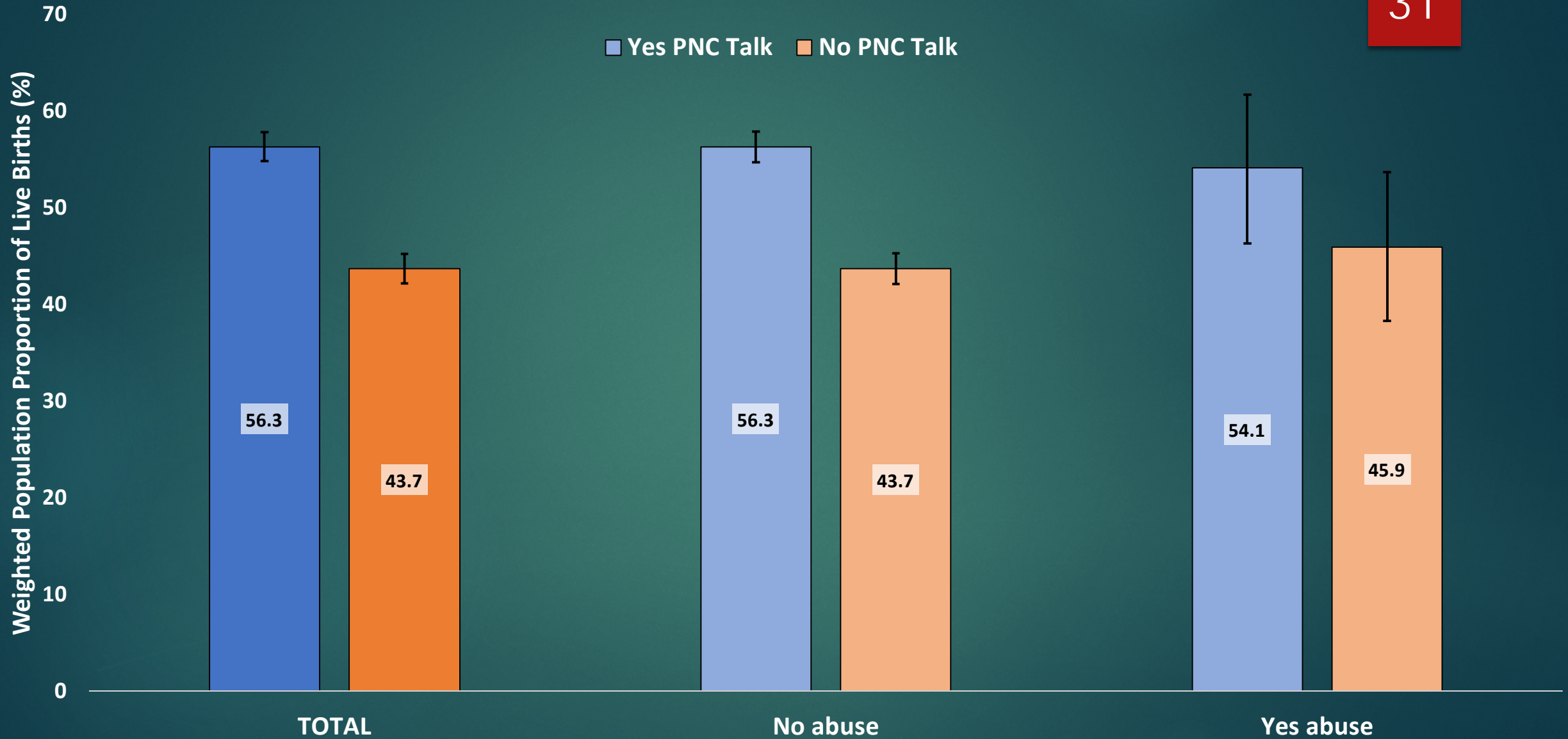
- ▶ During the 12 months before pregnancy, or at any time during pregnancy, did your husband or partner:
 - ▶ Push, hit, slap, kick, choke, or physically hurt you in any way?
- ▶ Michigan: 3.9% (95% CI: 3.4% - 4.5%)
 - ▶ Age < 20: 8.9% (95% CI: 6.1% - 12.9%)
 - ▶ Non-Hispanic Black: 7.4% (95% CI: 6.5% - 8.5%)
 - ▶ Prepregnancy Medicaid: 7.1% (95% CI: 5.8% - 8.6%)
 - ▶ Education <HS, HS-GED: 6.0% (95% CI: 4.9% - 7.4%)



Prenatal Care Discussions About Partner Abuse by Mother Was Abused

MI PRAMS, 2012-2015

31



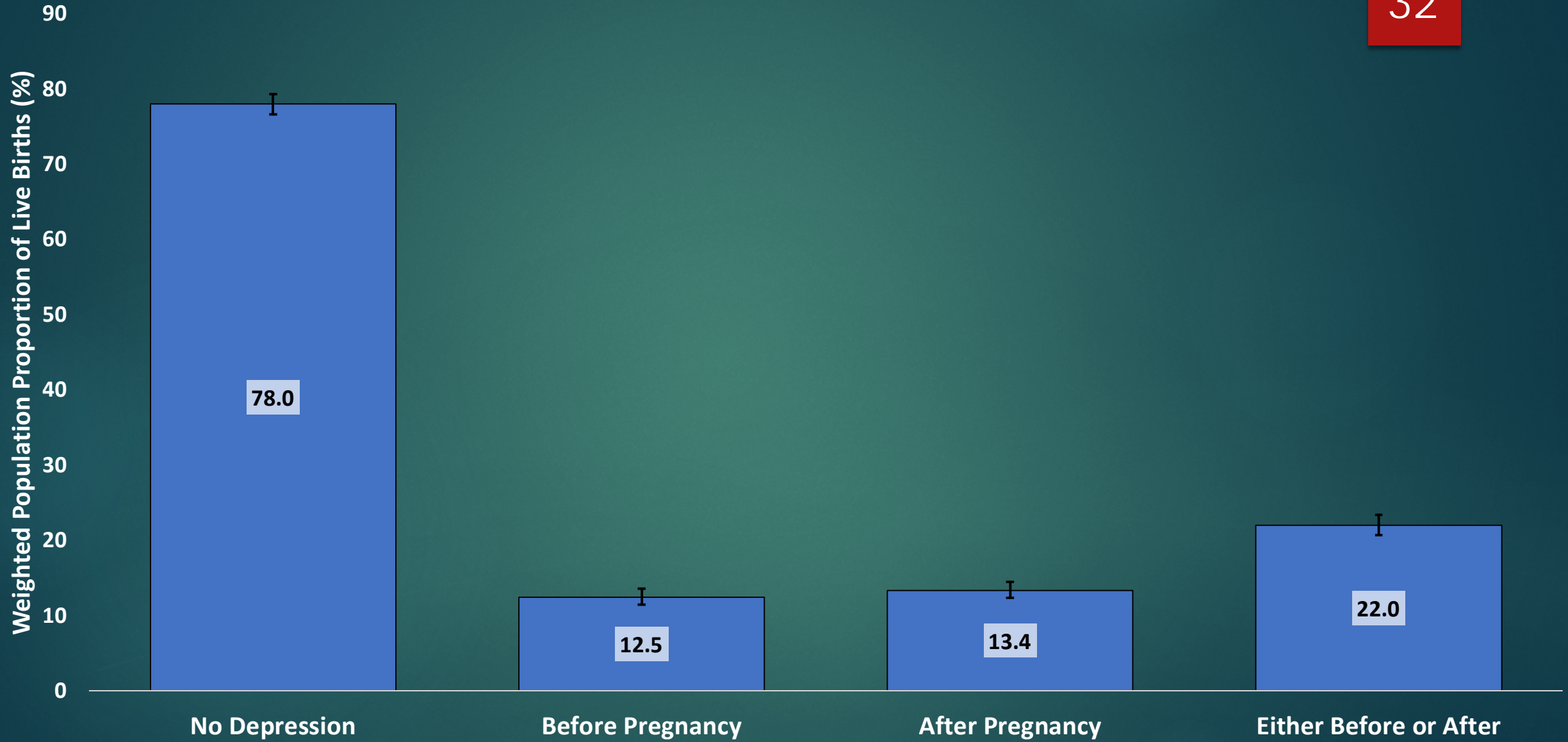
Mothers who were abused were no more likely to discuss this topic than mothers who were not abused



Depression Around Pregnancy

MI PRAMS, 2012-2015

32

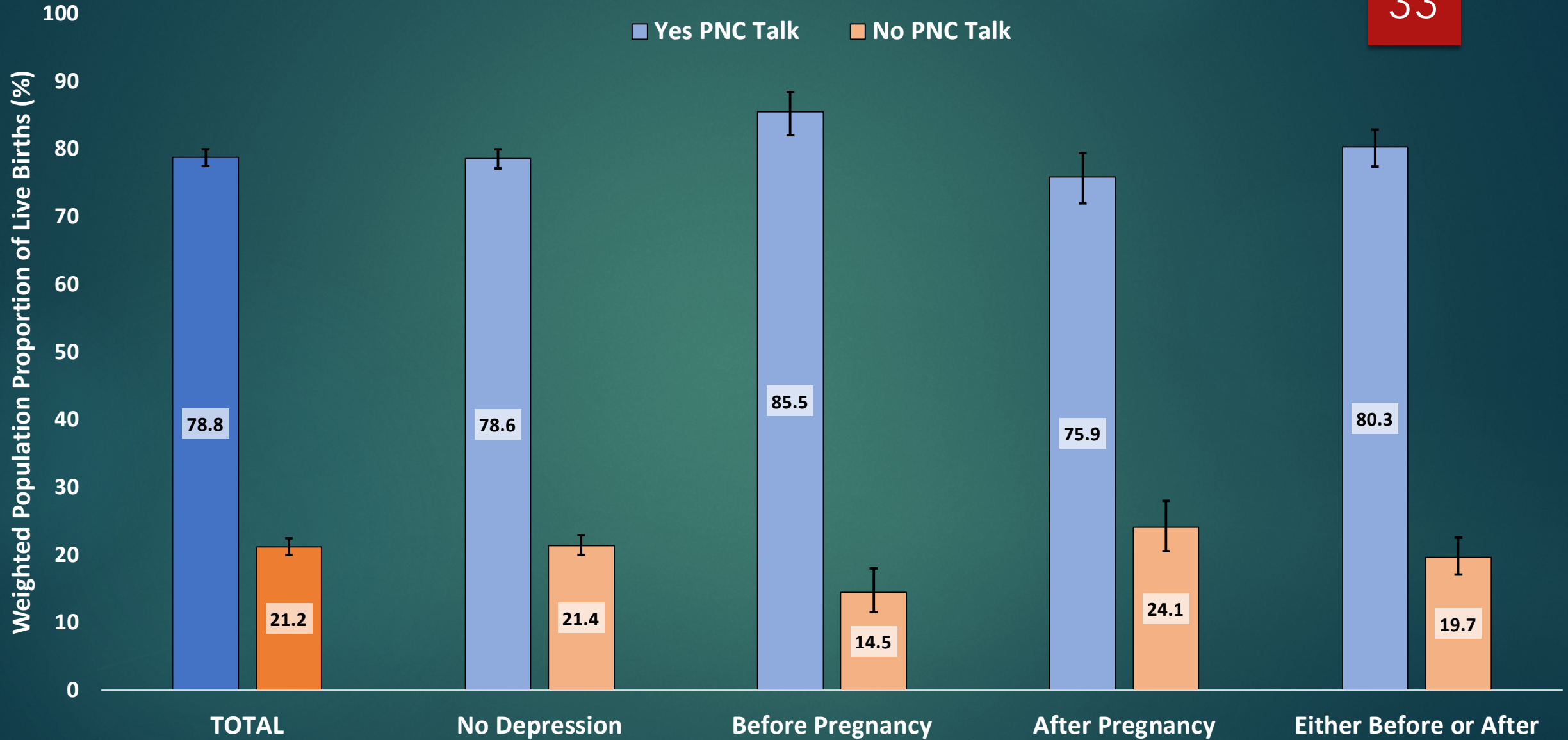




Prenatal Care Discussions about Depression by Maternal Depression Status

MI PRAMS, 2012-2015

33

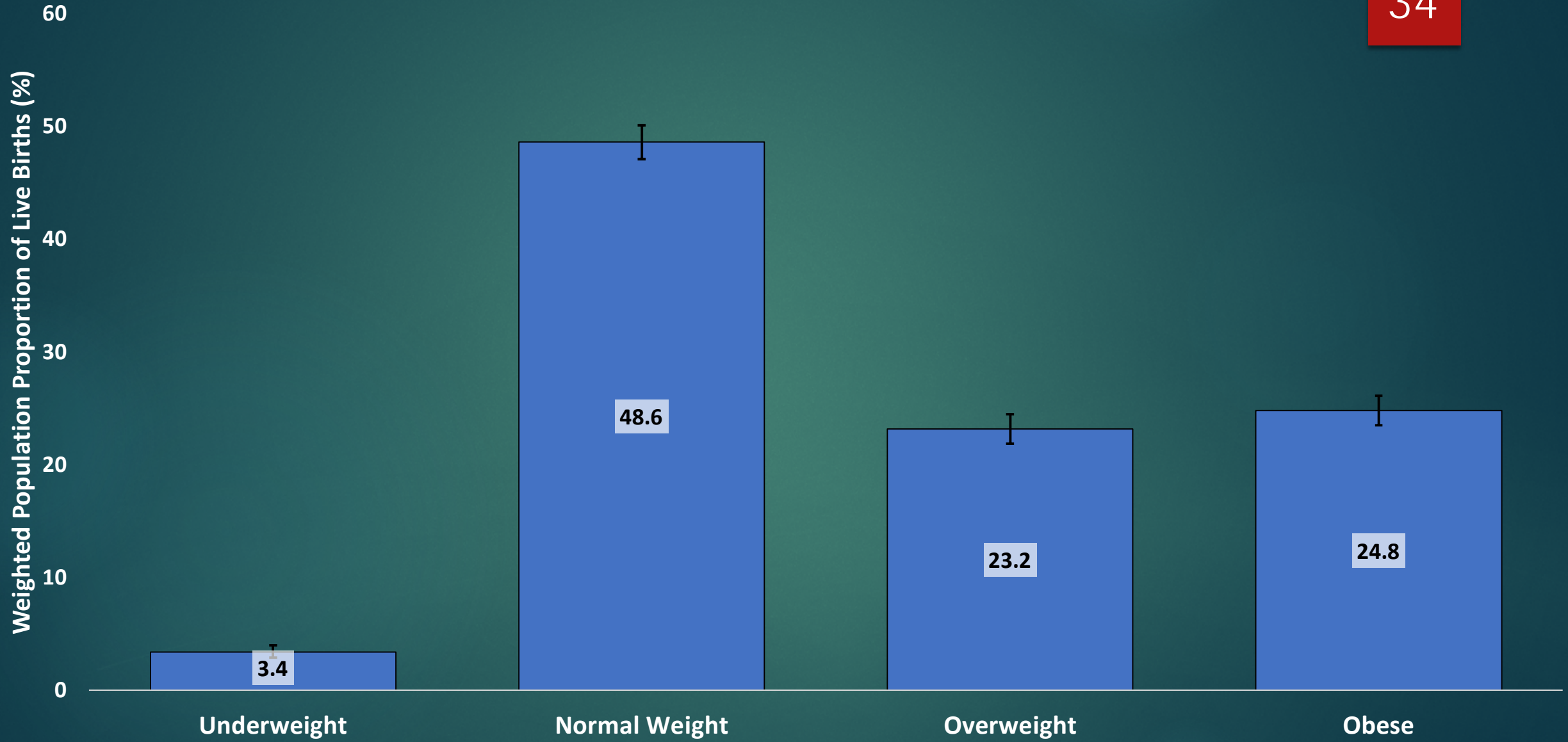


Most mothers who experienced depression were no more likely to discuss this topic than mothers without depression



Prepregnancy BMI MI PRAMS, 2012-2015

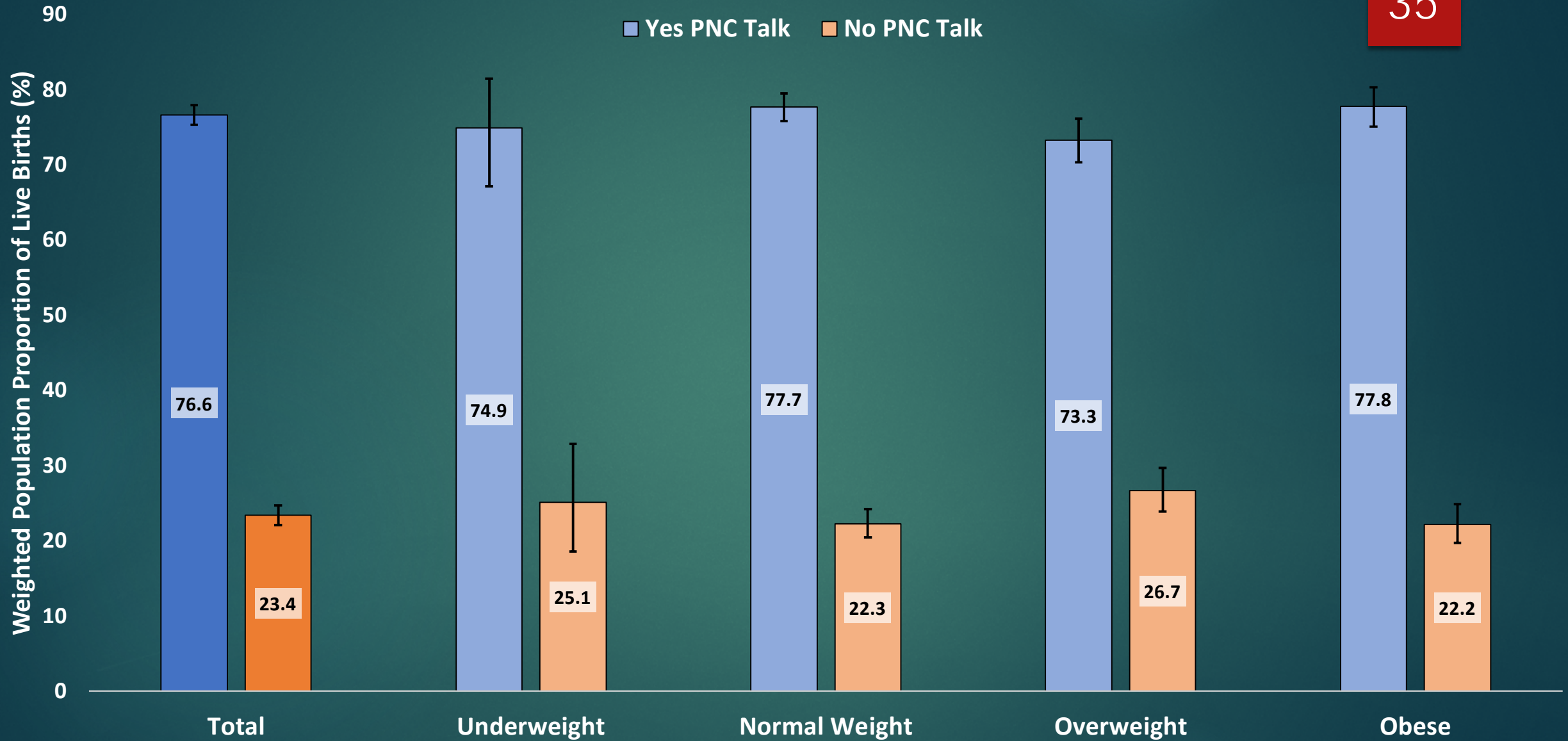
34





Prenatal Care Discussions about Pregnancy Weight Gain by Prepregnancy BMI MI PRAMS, 2012-2015

35

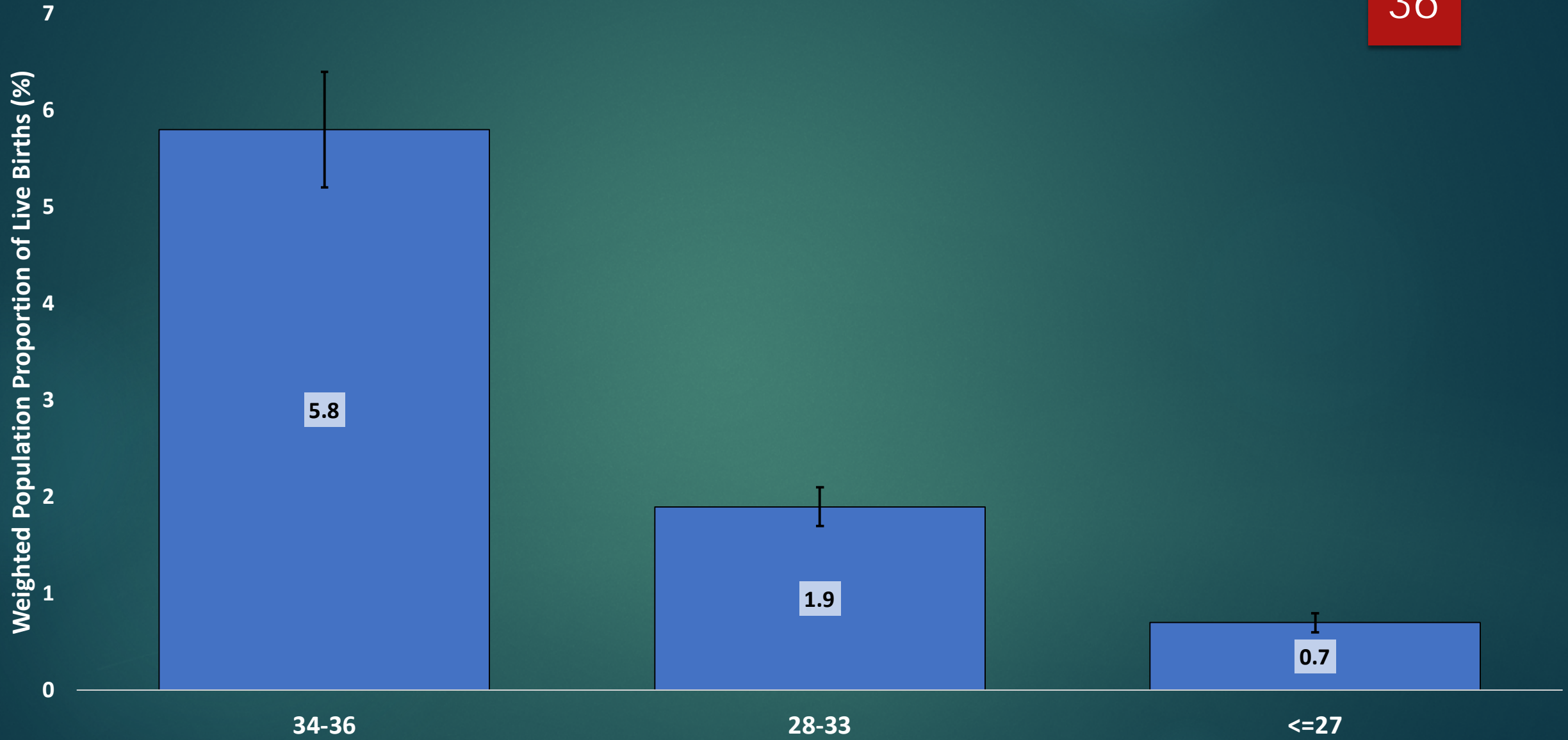


Across prepregnancy BMI groups, mothers were no more or less likely to discuss recommended pregnancy weight gain



Clinical Estimate of Gestational Age MI PRAMS, 2012-2015

36

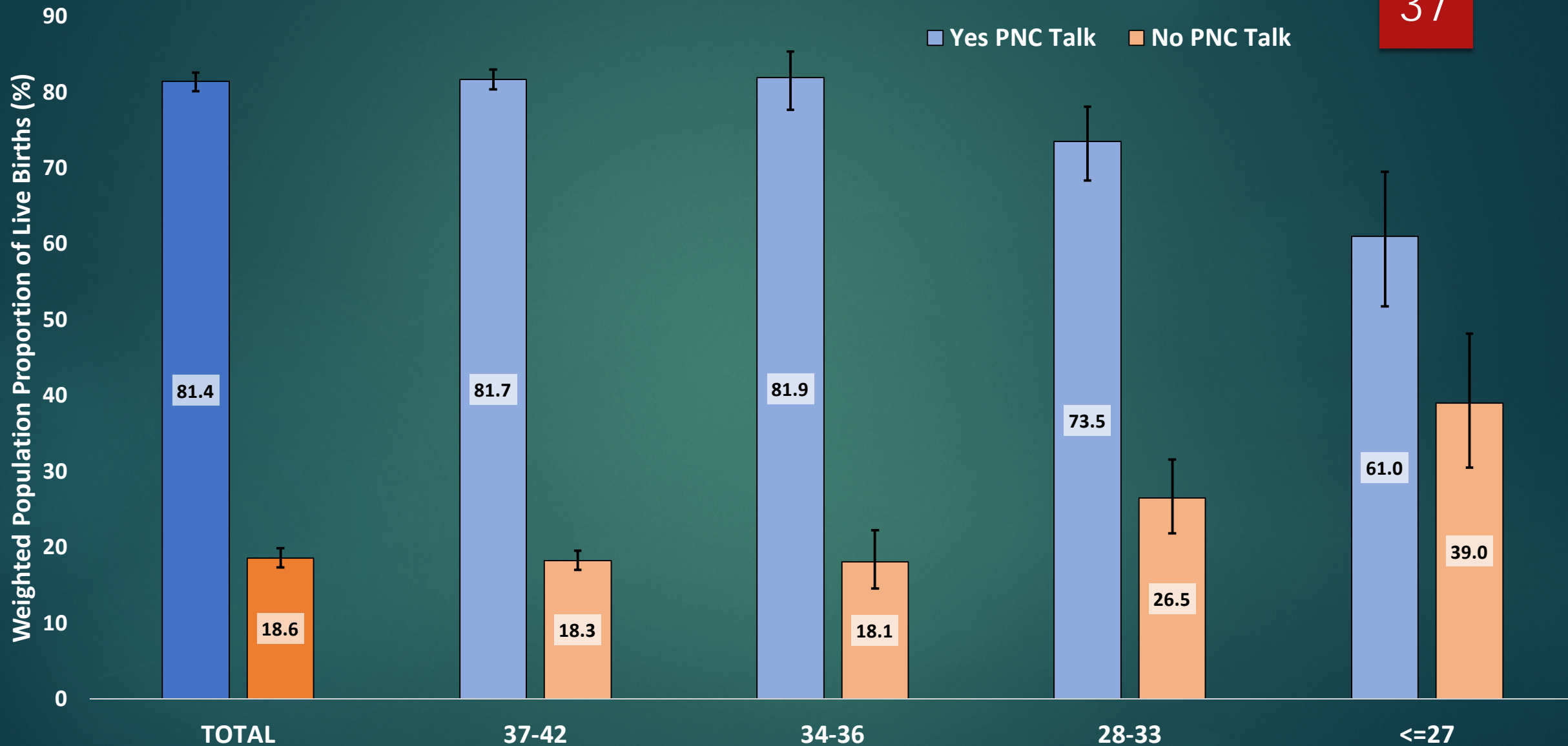




Prenatal Care Discussions about Signs of Preterm Labor by Gestational Age

MI PRAMS, 2012-2015

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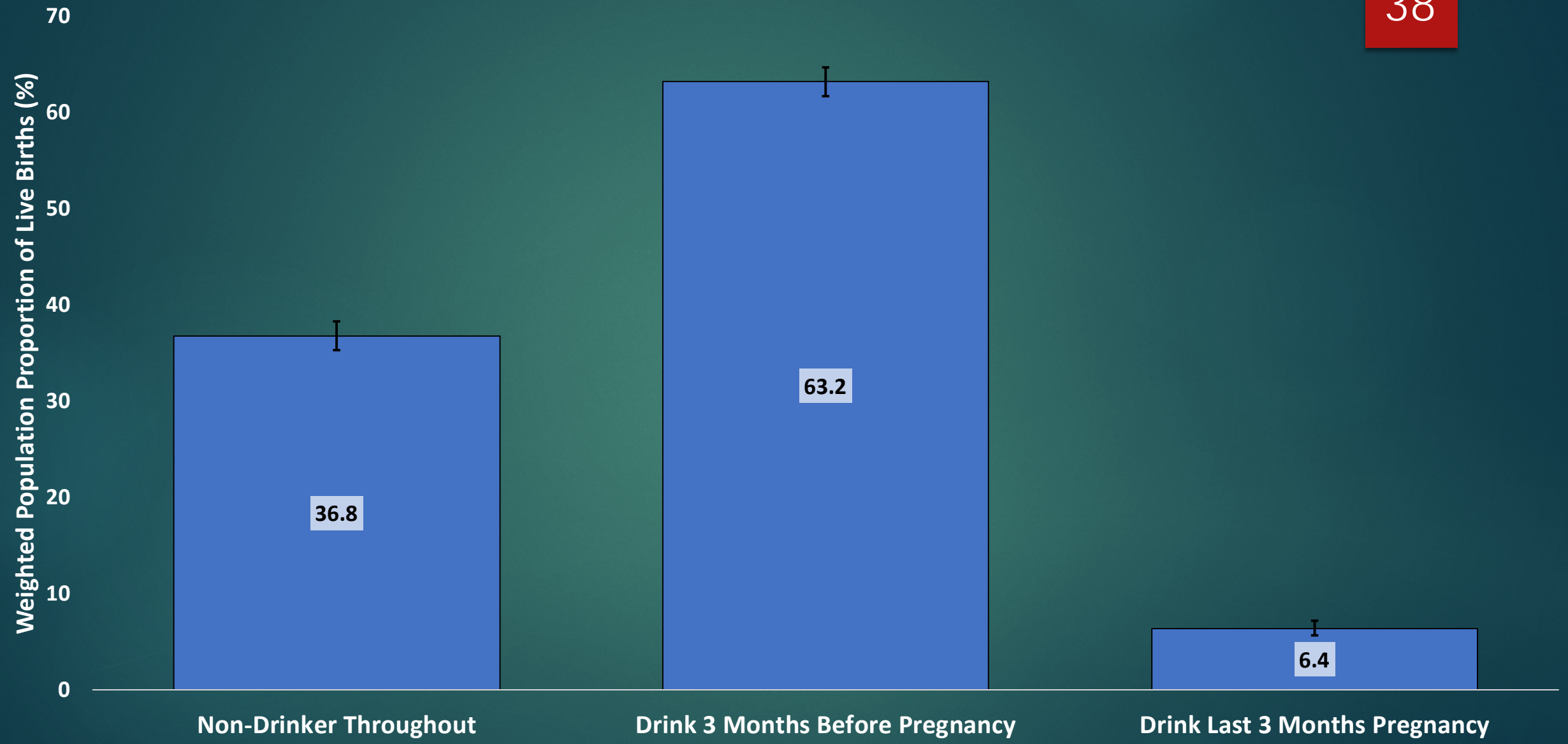
Mothers who experienced preterm birth were less likely to discuss this topic than women with a late preterm or term birth



Alcohol Consumption Before and During Pregnancy

MI PRAMS, 2012-2015

38

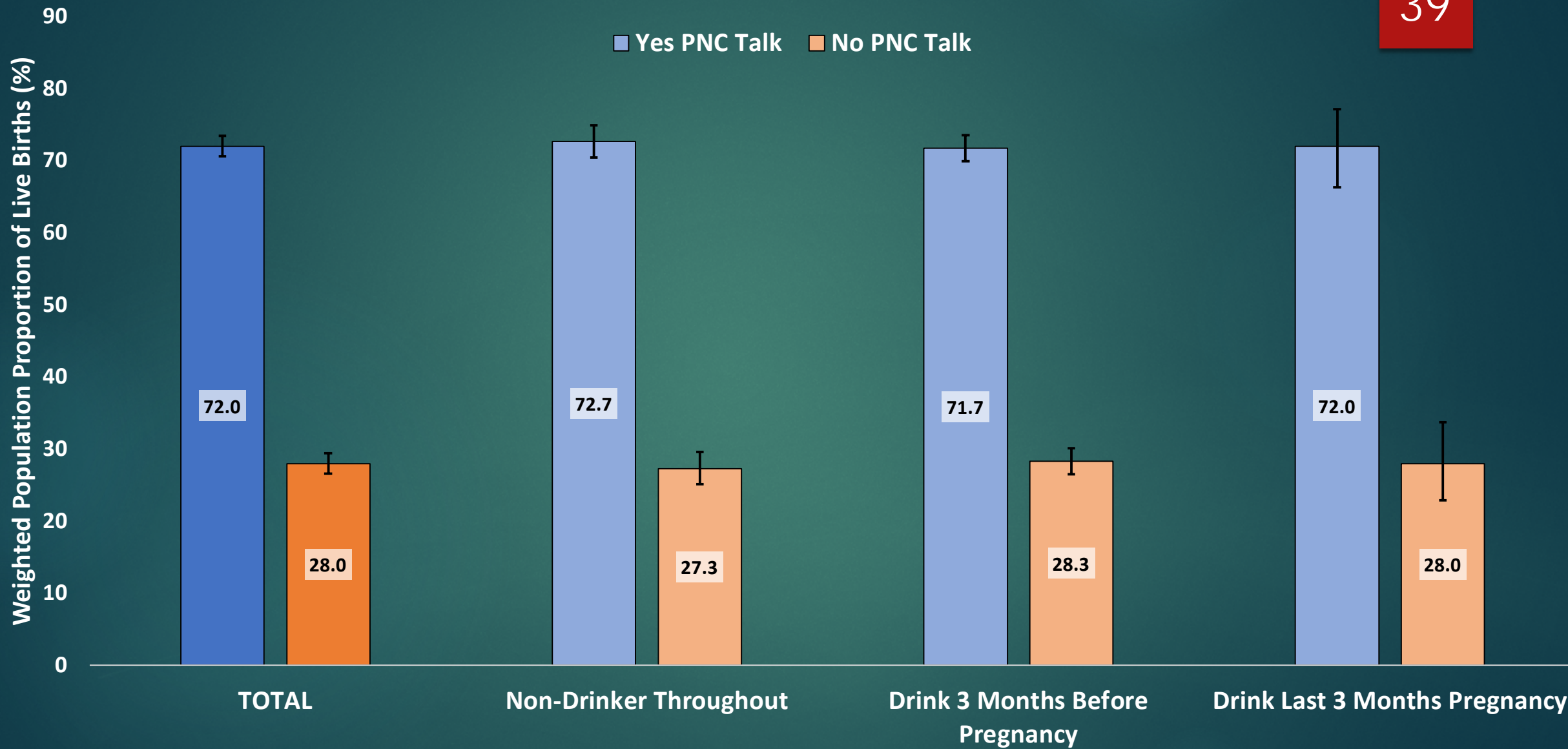




Prenatal Care Discussions about Alcohol Use by Drinking Status

MI PRAMS, 2012-2015

39



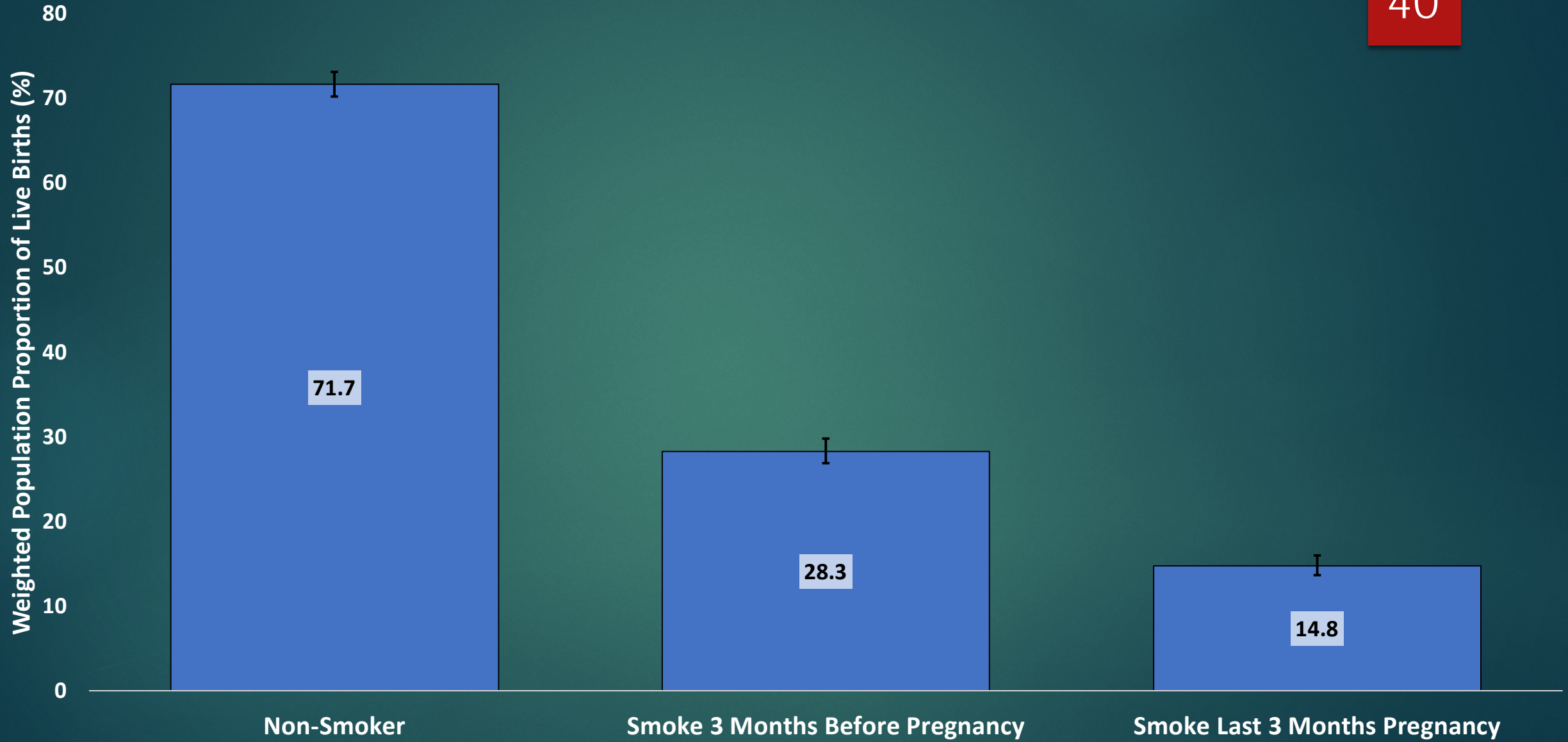
Mothers who reported alcohol use before and during pregnancy were no more likely to discuss this topic than non-drinkers



Smoking Status Around Pregnancy

MI PRAMS, 2012-2015

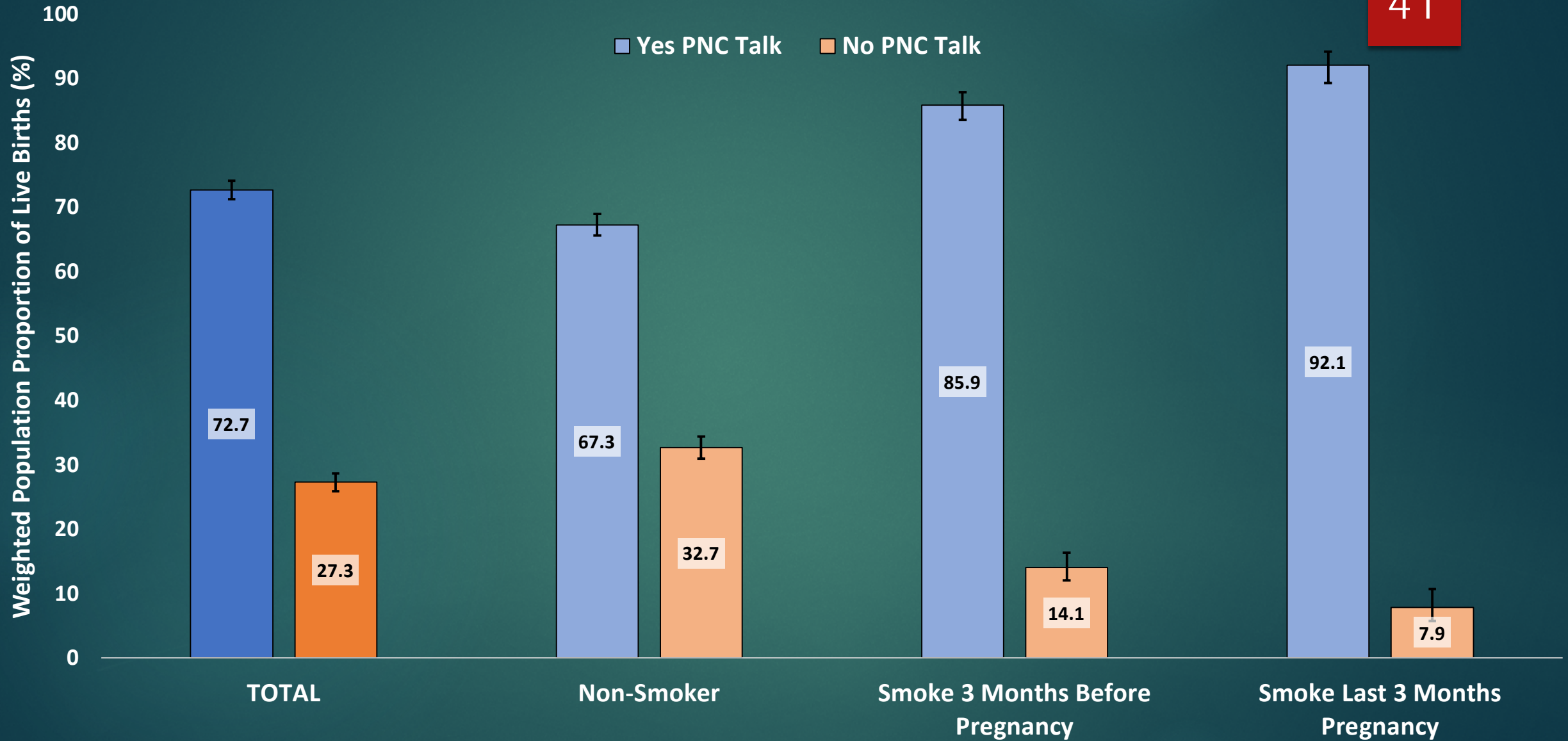
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Prenatal Care Discussions about Smoking by Smoking Status

MI PRAMS, 2012-2015



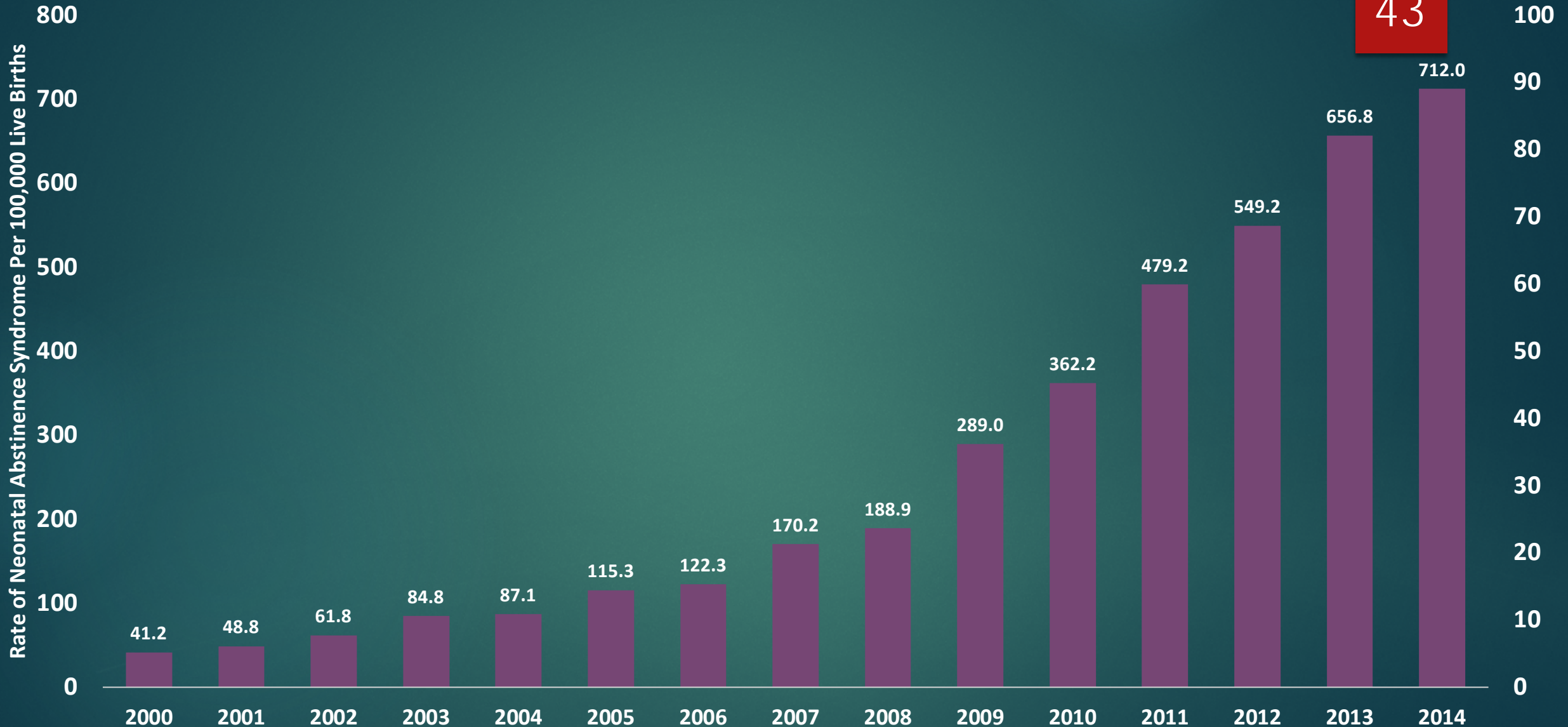
41

Mothers who reported smoking before and during pregnancy were more likely to discuss this topic than non-smokers

Neonatal Abstinence Syndrome in Michigan: Methods

- ▶ Data Source: Michigan Resident Inpatient Files, created using data from the Michigan Inpatient Database obtained with permission from the Michigan Health & Hospital Association Service Corporation.
- ▶ This file was linked to the Michigan Resident Live Birth File by the Division for Vital Records and Health Statistics, MDHHS.
- ▶ Case Definition based on ICD-9 779.5- Neonatal Abstinence Syndrome-pharmacologically treated
 - ▶ Definition can be broadened to include NAS non-pharmacologically treated

Rate of Neonatal Abstinence Syndrome by Year Among Michigan Infants, 2000 - 2014

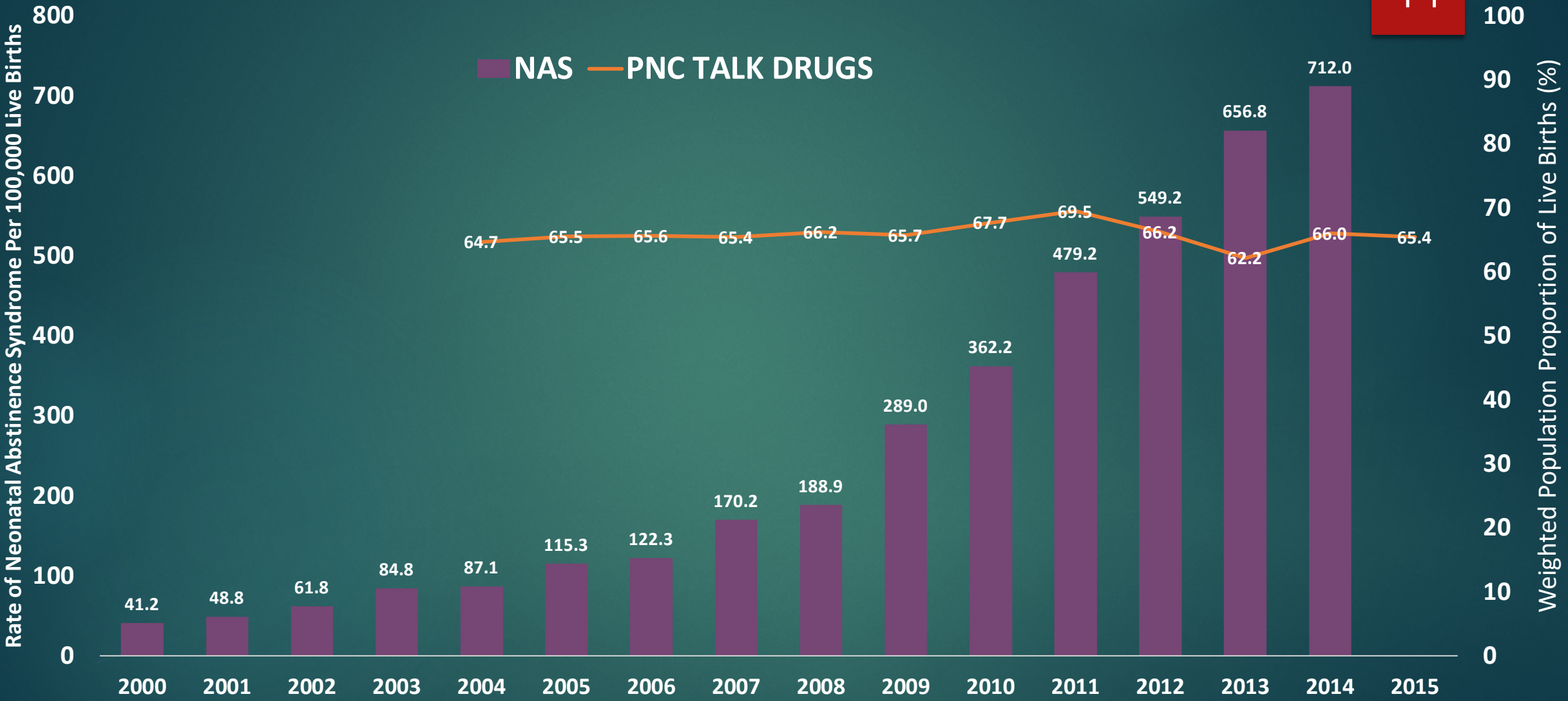


NAS Data Source: Michigan Inpatient Database
NAS defined by ICD-9-CM diagnosis code 779.5

Rate of Neonatal Abstinence Syndrome by Year Among Michigan Infants, 2000 - 2014

Prenatal Care Discussions About Illegal Drug Use, 2004 - 2015

44



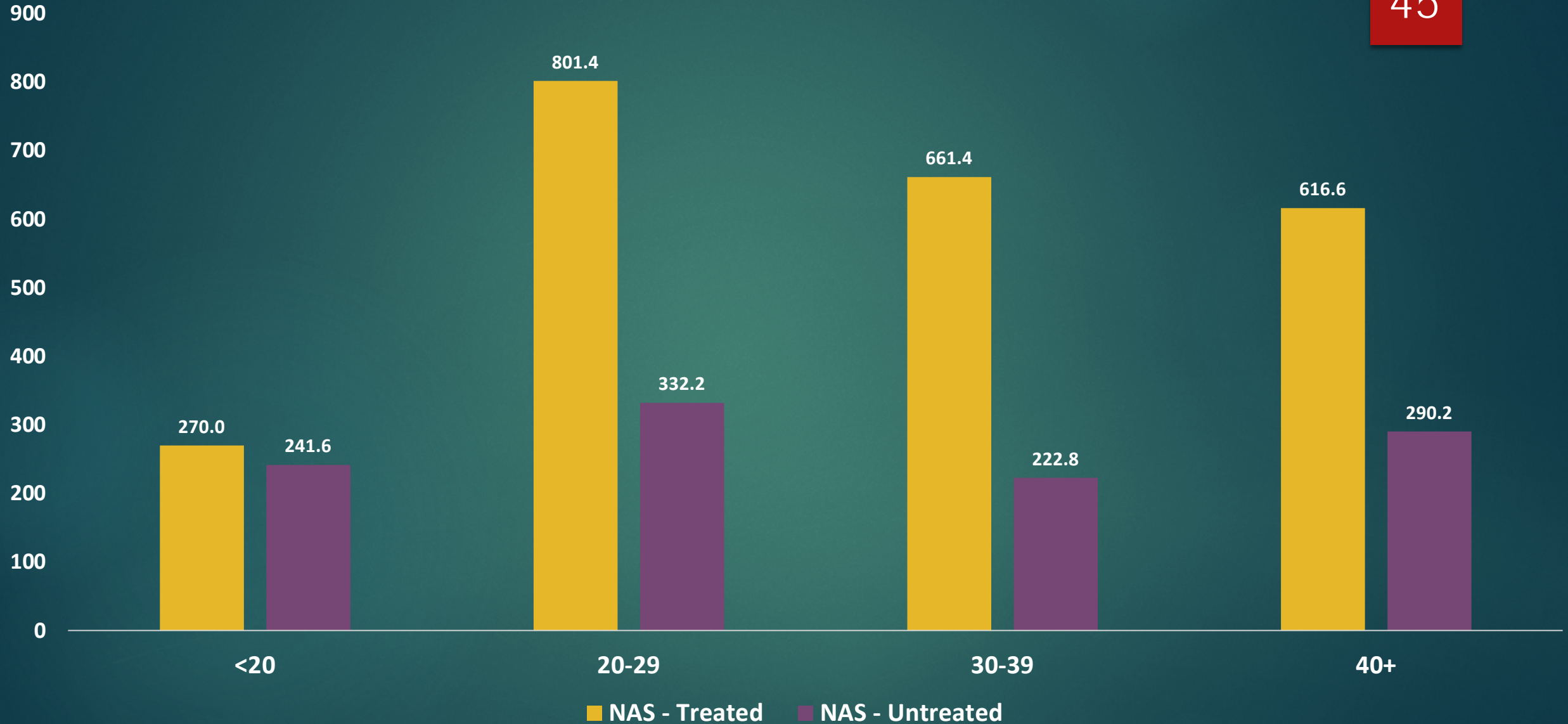
NAS Data Source: Michigan Inpatient Database
 NAS defined by ICD-9-CM diagnosis code 779.5

Prenatal Conversation Data Source: Michigan PRAMS



Treated and Untreated Neonatal Abstinence Syndrome Rates by Maternal Age Groups, 2014

45

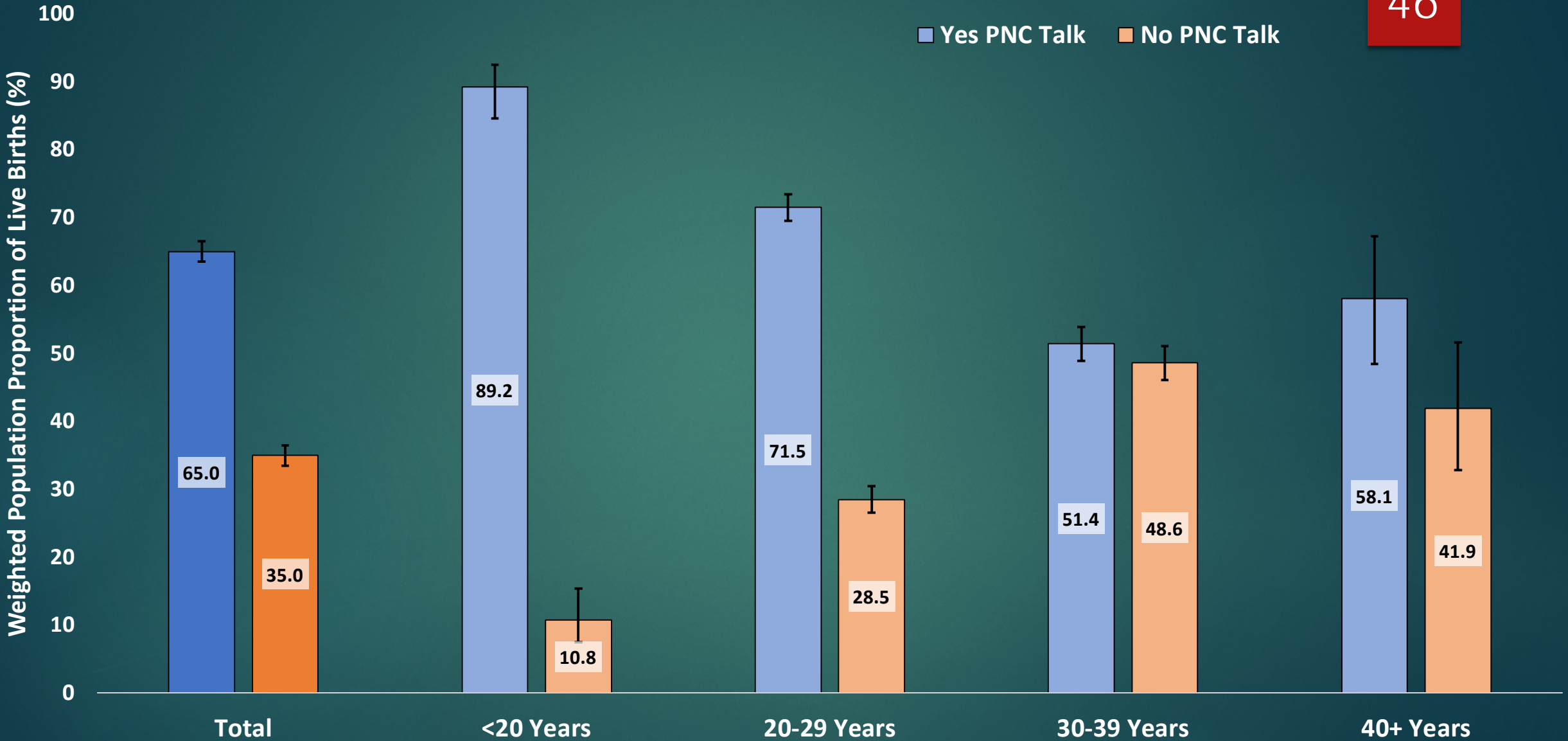


Source: Michigan Resident Inpatient Files, created using data from the Michigan Inpatient Database obtained with permission from the Michigan Health & Hospital Association Service Corporation.

Prenatal Care Discussions about Illegal Drug Use by Maternal Age

MI PRAMS, 2012-2015

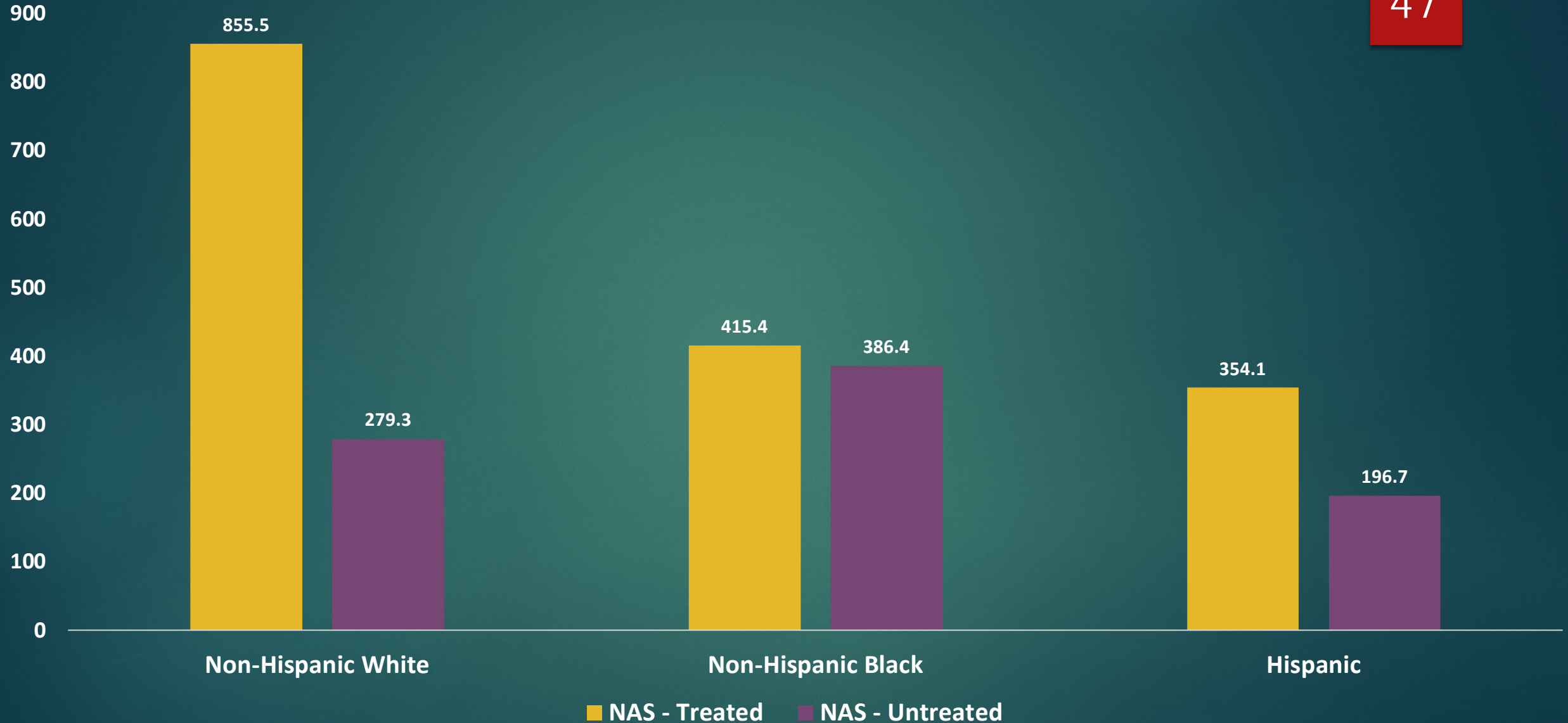
46



Conversations about illegal drug use during pregnancy do not follow the risk groups for NAS

Treated and Untreated Neonatal Abstinence Syndrome Rates by Maternal Race / Ethnicity, 2014

47

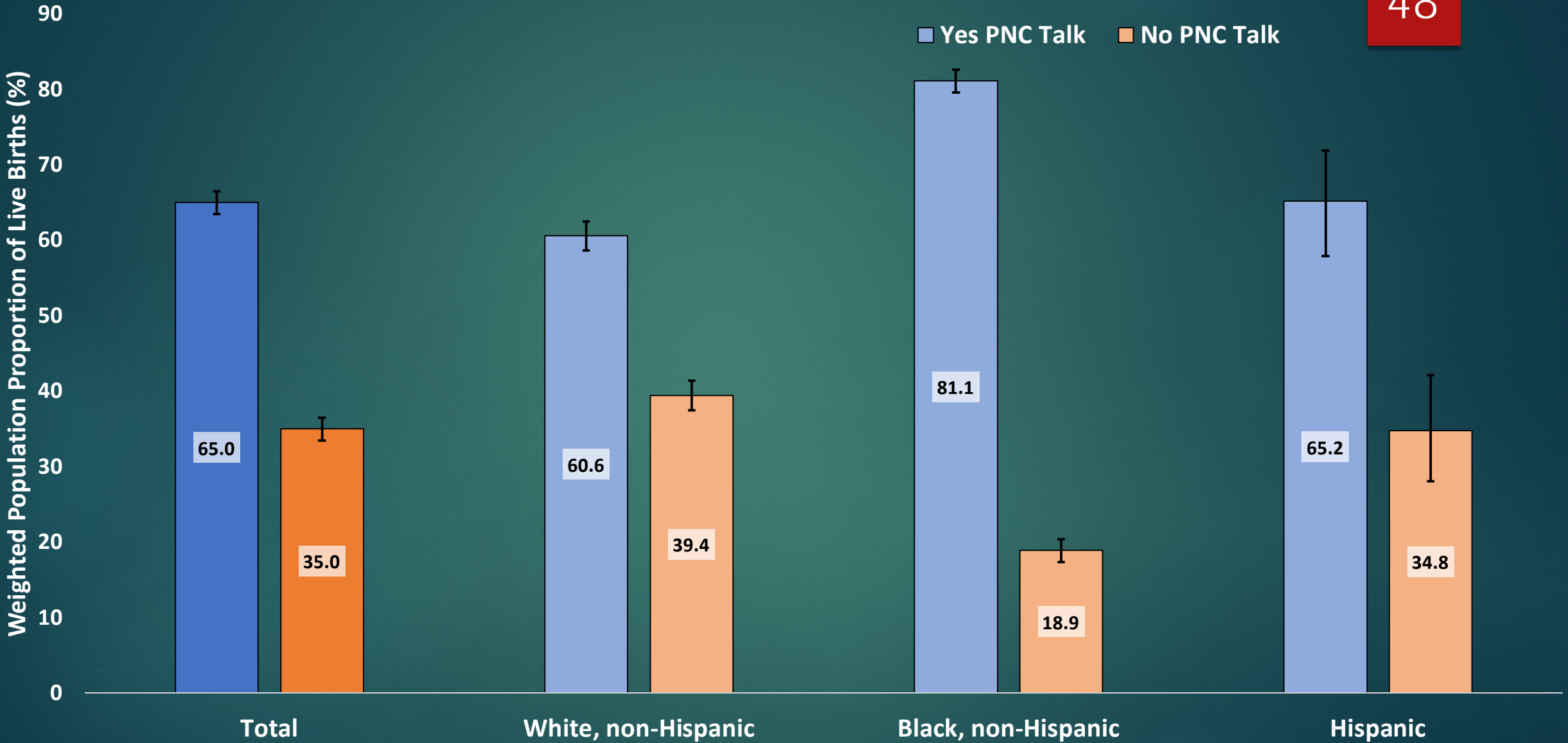


Source: Michigan Resident Inpatient Files, created using data from the Michigan Inpatient Database obtained with permission from the Michigan Health & Hospital Association Service Corporation.

Prenatal Care Discussions about Illegal Drug Use by Maternal Race / Ethnicity

MI PRAMS, 2012-2015

48



Conversations about illegal drug use during pregnancy do not follow the risk groups for NAS

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Summary 2: How Well Are Prenatal Care Conversations Reaching Their Targets?

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- ▶ Above average:
 - ▶ Smoking
- ▶ Average:
 - ▶ Physical abuse
 - ▶ Depression
 - ▶ Weight gain
 - ▶ Alcohol
- ▶ Below average:
 - ▶ Preterm labor
 - ▶ Illegal drug use



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PRAMS - Phone Calls Made [QUIZ]

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- ▶ How many phone calls did MI PRAMS make to collect this data [2012-2015]?
- ▶ A: 20,000
- ▶ B: 50,000
- ▶ C: 80,000
- ▶ **D: 110,000**

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Do Conversations / Recommendations Make a Difference?

27. During the 12 months *before the delivery* of your new baby, did a doctor, nurse, or other health care worker *offer* you a flu shot or *tell* you to get one?

- No
- Yes

28. During the 12 months *before the delivery* of your new baby, did you *get* a flu shot?

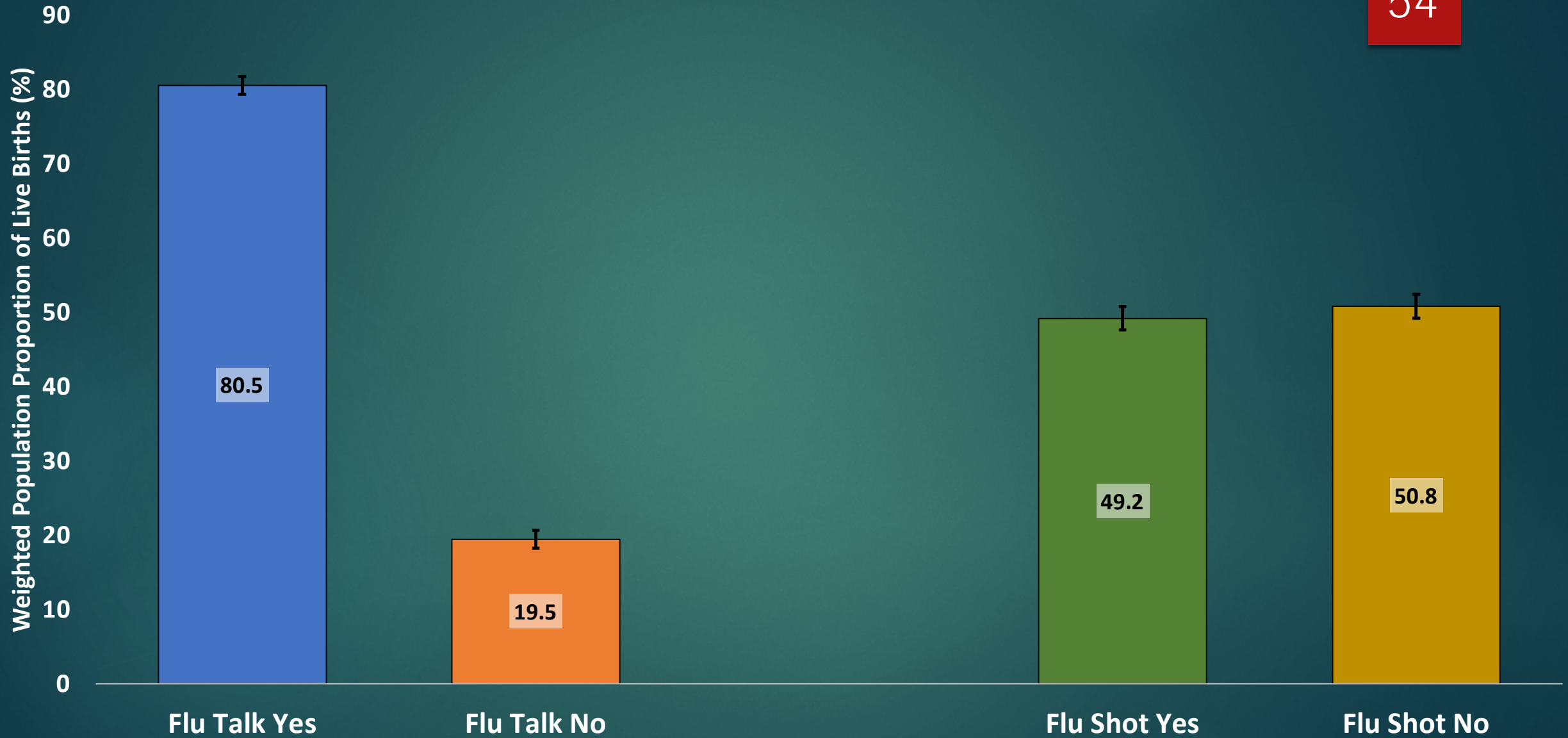
Check ONE answer

- No → **Go to Question 30**
 - Yes, before my pregnancy
 - Yes, during my pregnancy
- ↓



Care Provider Offered Flu Shot in 12 Months Before Delivery / Flu Shot Coverage MI PRAMS 2012-2015

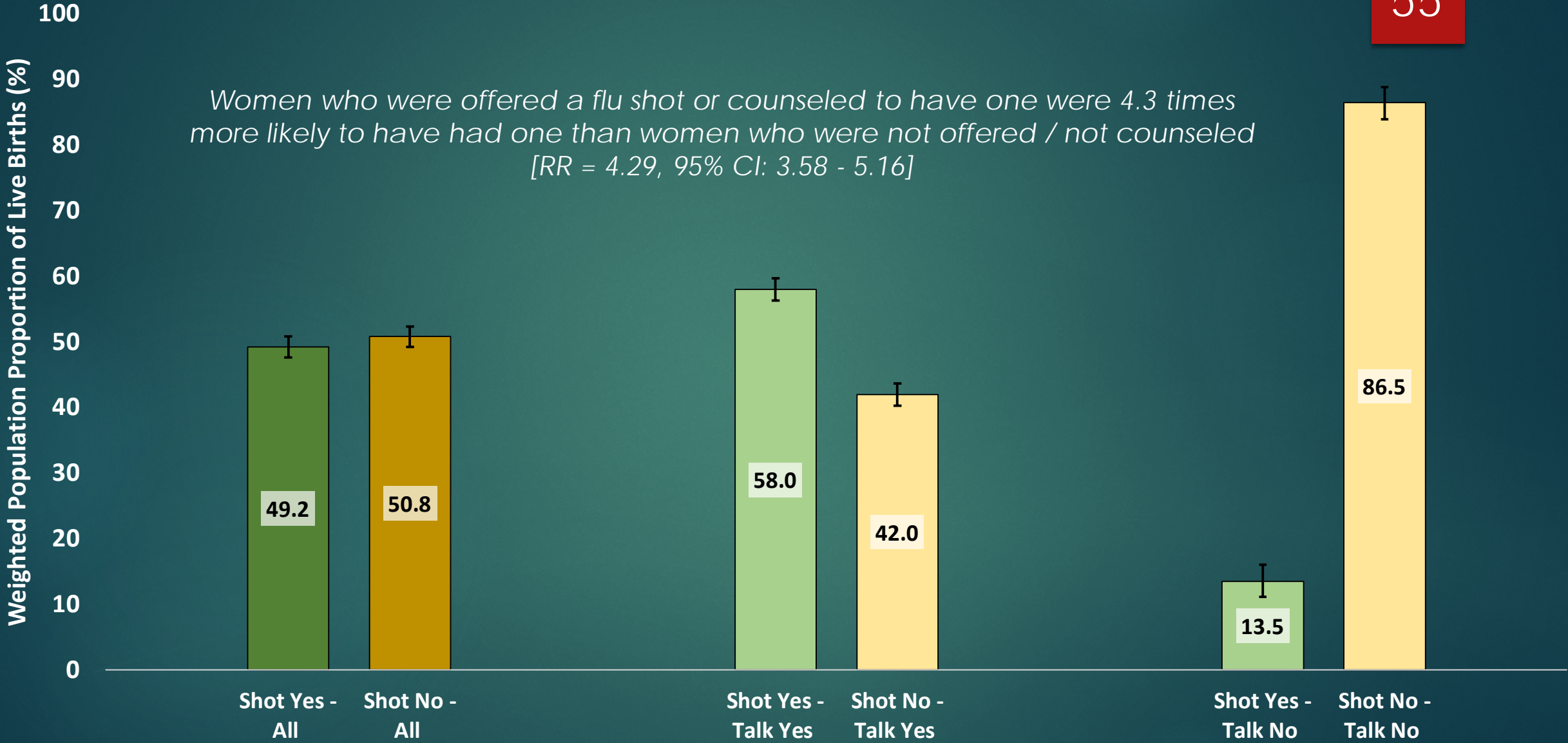
54





Flu Shot Coverage by Mother Offered / Counselor on Flu Shot MI PRAMS 2012-2015

55



Summary

- ▶ Women come to prenatal care from many different places
 - ▶ Intention / unintended
 - ▶ Varying number of health risks
 - ▶ Little prepregnancy counseling
- ▶ Most women are satisfied with
 - ▶ Time of PNC entry
 - ▶ Wait time, time with doctor / nurses, quality of advice, respect
- ▶ Some topics are discussed broadly, others sparsely
 - ▶ Targeting discussions to specific audiences is not effective
- ▶ Adequacy of prenatal care can be measured by topics discussed
- ▶ Health care worker advice / counseling can make a difference!

MI PRAMS Resources

- ▶ haakp@michigan.gov
- ▶ www.michigan.gov/PRAMS
 - ▶ Past annual reports
 - ▶ Fact sheets and newsletters
 - ▶ [TOPIC MAP!!](#)
- ▶ www.cdc.gov/PRAMS/PRAMStat



MI PRAMS People

58

▶ MDHHS

- ▶ Patricia McKane, DVM MPH
- ▶ Chris Fussman, MS
- ▶ Jill Hardy
- ▶ Hannah Sauter
- ▶ Jacob Paciorek
- ▶ Anna Raykov
- ▶ Mei You, MS
- ▶ Carol Davis
- ▶ Virginia Ganzevoort

▶ CDC

- ▶ Nan Ruffo MPA
- ▶ 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*

Additional Figures:
Composite variables for prenatal
care conversation topic coverage



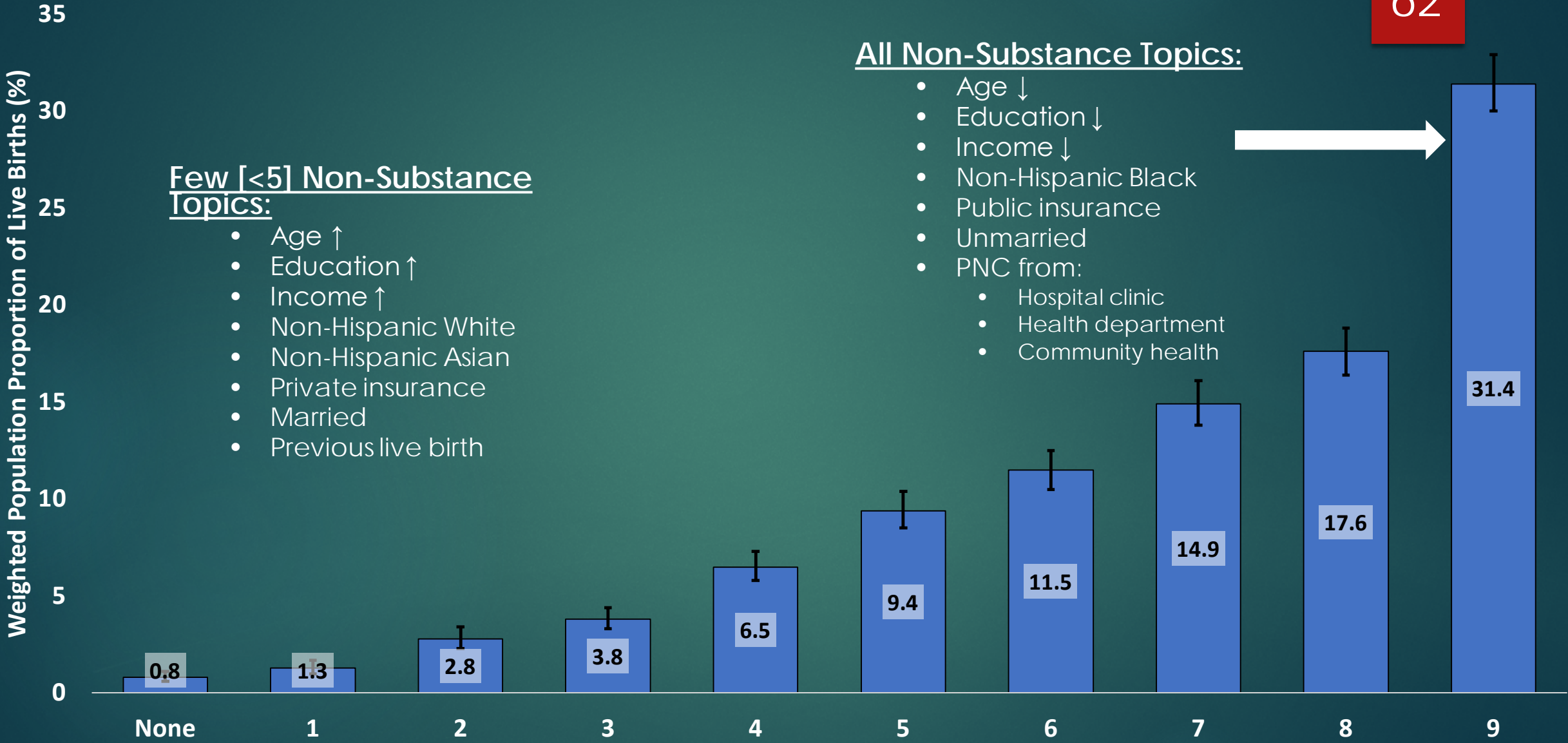
Substance Use Topics [SMK, DRK, DRUG] Covered During Any Prenatal Care Visit MI PRAMS 2012-2015

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Number of Topics Covered During All Prenatal Care Visits, Excluding Substance Use MI PRAMS 2012-2015

62



Few [<5] Non-Substance Topics:

- Age \uparrow
- Education \uparrow
- Income \uparrow
- Non-Hispanic White
- Non-Hispanic Asian
- Private insurance
- Married
- Previous live birth

All Non-Substance Topics:

- Age \downarrow
- Education \downarrow
- Income \downarrow
- Non-Hispanic Black
- Public insurance
- Unmarried
- PNC from:
 - Hospital clinic
 - Health department
 - Community health

