

Adolescents' attitudes about long-acting reversible contraception: Exploring a youth-centered counseling approach

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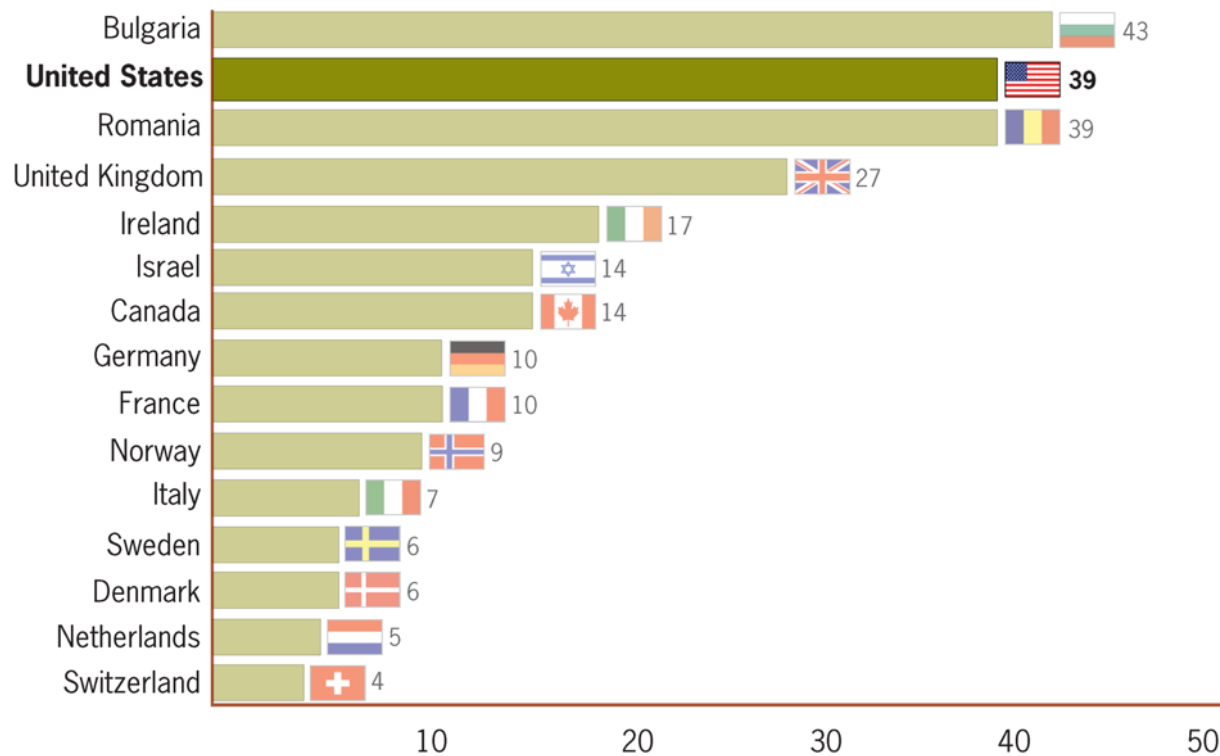
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Teen birth rates globally

Teen birth rates internationally, per 1,000 girls aged 15-19 years, 2008 and 2009

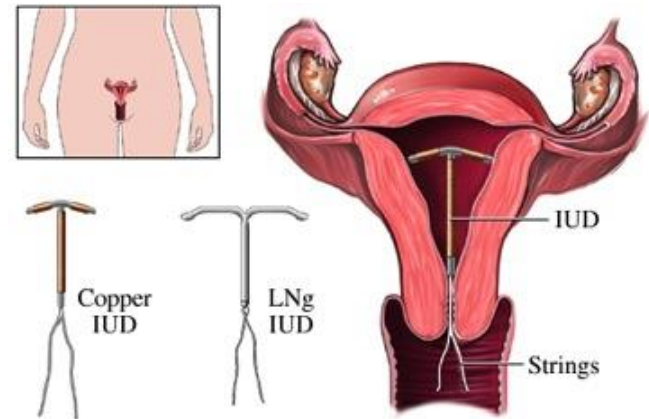
Teen birth rates in the US are higher than in some other developed countries.



SOURCE: UN Demographic Yearbook (all data for 2008, except US 2009 preliminary data).

Long-Acting Reversible Contraception (LARC)

- **Intrauterine devices**
 - Levonorgestrel (LNG) intrauterine system
 - Copper T380A intrauterine device
- **Subdermal contraceptive implant**



LARC and Adolescents

- Safe and effective for adolescent women
- First-line contraceptive option
- Contraceptive CHOICE study



Mestad Contraception 2011, Winner NEJM 2012.

LARC in School-Based Health Centers

- Seattle school-based health centers (SBHCs) began offering LARC in 2011
- Disparities in uptake of LARC
- Study Objective: To understand what factors shape adolescent knowledge and attitudes about LARC devices



Specific Aims

1

- To explore adolescent knowledge and attitudes about LARC devices with a goal to inform the development of LARC counseling tool for adolescent women

2

- To evaluate the effect of a health educator program on knowledge and acceptability of LARC devices and acceptability of LARC device placement in the SBHC setting

3

- To identify female patient characteristics associated with knowledge and acceptability of LARC devices and acceptability of LARC device placement in the SBHC setting

- To explore adolescent knowledge and attitudes about LARC devices with a goal to inform the development of LARC counseling tool for adolescent women

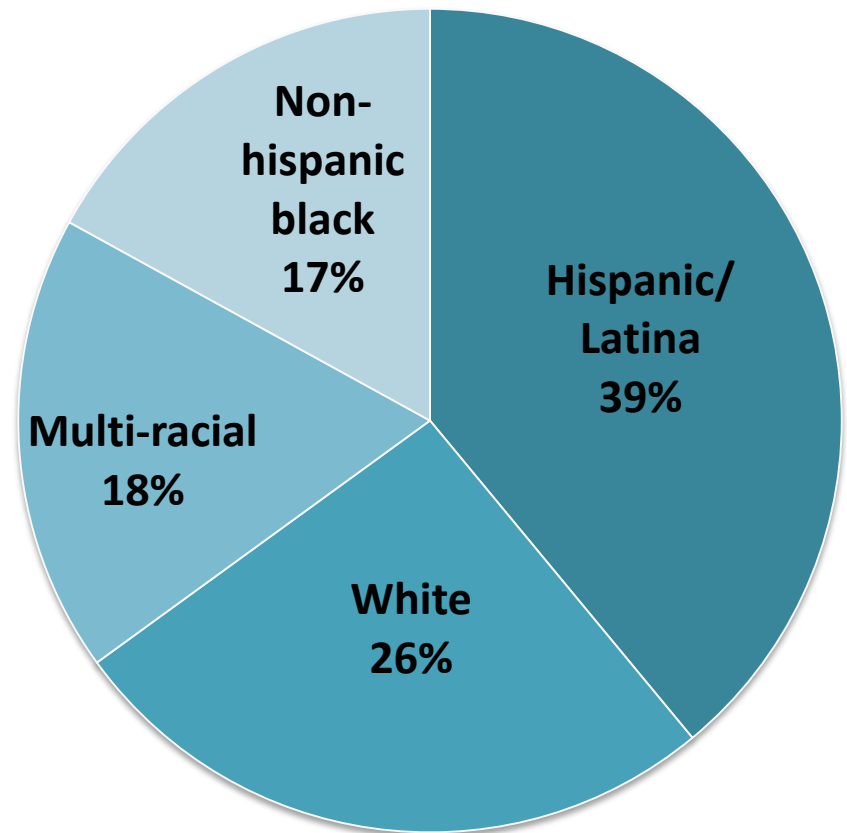
- **Semi-structured interviews with 30 SBHC patients**
 - Inclusion criteria: female, age 13 to 19, full parental consent to use SBHC, English-speaking
 - Exclusion criteria: developmental delay
- **Topic areas:**
 - Family/peers/school
 - Reproductive life plan
 - Experiences with contraception including LARC
 - Experiences receiving care in SBHC
- **Thematic analysis**

A collage of various contraceptive methods and their effectiveness, arranged in a grid-like fashion with a red background. The methods include:
 - **Hey Girl, it's December**: 74% Effective in Preg Prevention, 80% Effective in STD Prevention.
 - **The Shot (Depo Provera)**: An injection (shot) of hormone given in upper arm to prevent pregnancy. Given every 12 weeks (3 months).
 - **Implant (Nexplanon)**: Good for 3 years of pregnancy prevention!
 - **Abstinence**: Always.
 - **June Withdrawal**: Every single ejaculation.
 - **May The Pill**: Every day method.
 - **April IUD (ParaGard)**: Good for 10 years of pregnancy prevention!
 - **January The Ring (NuvaRing)**: Once a month method.
 - **February IUD (Mirena)**: Good for 5 years of pregnancy prevention!
 - **March The Patch**: Once a week method.
 Each method is accompanied by a small image or diagram illustrating the method and its effectiveness.

Results

- **30 participants interviewed**
 - Mean age 16.2 years (Range 14 to 18)
 - 70% qualified for school lunch subsidy
 - 17% current or prior LARC device

Racial distribution of participants



Main Themes

Method Preferences

Social References

Information Needs

Motivating Circumstances to Initiate LARC

Environmental Constraints and Supports

Method Preferences

- **Side effects and non-contraceptive benefits**

“I needed something that fit me, that wouldn’t make me gain weight, and I could remember. The 3-year [implant] worked best. – 17 year old”

“[The IUD] kind of messes with [your period], and then you don’t get it at all. I kind of like having it as a friendly reminder like “Hey, you’re not pregnant, by the way.” – 17 year old

Method Preferences

- Side effects and non-contraceptive benefits
- Duration of use

“My friend had the [implant] taken out...because her boyfriend lives far away, so for her to have that in her arm doesn’t really do her any good.” – 18 year old

Method Preferences

- Side effects and non-contraceptive benefits
- Duration of use
- User versus provider- controlled method

“I’d probably use the pill because I would be the one responsible for it.” – 15 year old

“It’s kind of scary because it’s something that’s in you, rather than something you can just take off” - 18 year old

Social References

- **Negative anecdote from peer or family**

“My friend who has [an IUD]...said that it hurt a lot when they put it in, and that felt like she had been lied to.” -15 year old

Social References

- **Negative anecdote from peer or family**
- **Previous counselling from a health provider**

“I just heard [from provider] that it stops periods. It’s way more effective than the regular stuff. It’s better because it lasts longer and you don’t even know that it’s there.” – 14 year old

Information Needs

- **Abstract nature of LARC devices**

“I just felt like it was sketchy. I can't physically see it, so sometimes I'd forget it's in my arm....I need the physical reminder to reassure myself”.

-18 year old

Information Needs

- **Abstract nature of LARC devices**
- **Knowledge about mechanism, placement, and removal of LARC**

Motivating Circumstances to Initiate LARC

- **Personal pregnancy experiences or “scares”**
- **Relocation experiences or plans**

Motivating Circumstances to Initiate LARC

- **Personal pregnancy experiences or scares**
- **Relocation experiences or plans**
- **Desire to delay childbearing for discrete time period**

“ I wanted something that I would have for a while and not have to worry. Because I don't want to end up accidentally getting pregnant, during my college years.” -17 year old

Environmental Constraints and Supports

- **Parent openness about sexuality and contraception**

“[My mom] would just say that she trusts my decision and that she thinks it's a good one to be protected.” -15 year old

Environmental Constraints and Supports

- **Parent openness about sexuality and contraception**
- **Social norm that contraceptive use implies sexual activity**

“The word birth control is very subtle, but behind the word it's like, ‘You're having sex.’ That's most parents' go-to answer.” -18 year old

Environmental Constraints and Supports

- **Parent openness about sexuality and contraception**
- **Social norm that contraceptive use implies sexual activity**
- **Supportive school-based health care environment**

Main Themes

Method Preferences

Social References

Information Needs

Motivating Circumstances to Initiate LARC

Environmental Constraints and Supports

Main Themes

P

Method Preferences

R

Social Rferences

I

Information Needs

M

Motivating Circumstances to Initiate LARC

E

Environmental Constraints and Supports

Applying PRIME

P

IUDs and implants are a kind of medical treatment, and all medical treatments have side effects. What side effects are most important for you to avoid? How important is it for you to have (regular periods? A method that no one else can see? The ability to see or feel your method?)

R

Does anyone in your life have experience with an IUD or implant? What have you heard about their experiences?

I

IUDs and implants can be in place for several years, but they can be removed by a provider at any time and do not affect your ability to get pregnant after being removed. What do you know about the procedure to have an IUD or subdermal implant placed?

M

Do you know anyone who experienced an unplanned pregnancy? What was that like for them?" OR "It sounds like you have some exciting career plans. How long is the training to enter that profession?

E

Many teens may choose to begin a contraceptive method before they have sex for the first time. Where do you get most of your sexual and reproductive health care? Do you talk about your reproductive health with any adults in your life?

Limitations and Strengths

- **Qualitative and exploratory approach**
 - Nonrandom sample
 - One geographic region
- **Diverse sample of participants**

Conclusions

- **Unique factors influence adolescent decision-making about contraception**
 - Including (and especially) LARC
- **PRIME may allow providers to rapidly introduce LARC to adolescent patients and explore knowledge, acceptability, and readiness**
- **Further study to evaluate PRIME for provider comfort with LARC counseling and validity in assessing LARC readiness among adolescents**

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SBHC providers

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Get a \$5 gift card for filling out the survey or a \$20 gift card for an interview.

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References

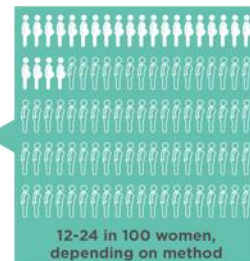
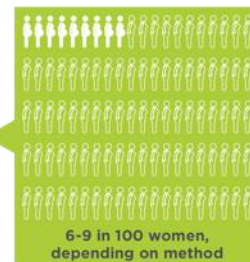
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Thank you!

HOW WELL DOES BIRTH CONTROL WORK?



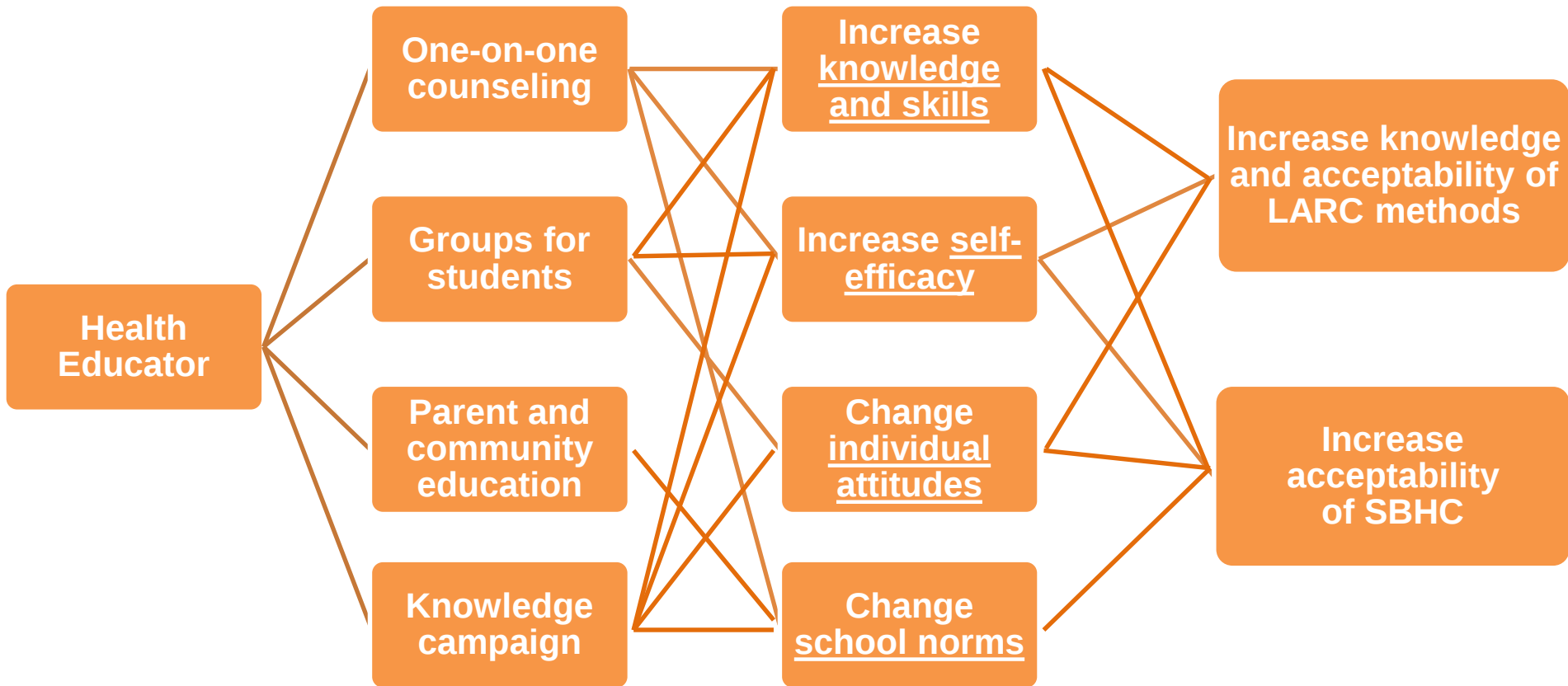
What is your chance of getting pregnant?



FYI, without birth control, over 90 in 100 young women get pregnant in a year.

Back Up Slides

Conceptual framework



2

- To evaluate the effect of a health educator program on knowledge and acceptability of LARC devices and acceptability of LARC device placement in the SBHC setting

3

- To identify female patient characteristics associated with knowledge and acceptability of LARC devices and acceptability of LARC device placement in the SBHC setting

- **Electronic survey at baseline and 1-year follow-up of 150 SBHC patients**

- Same inclusion/exclusion criteria

- Content:

- Demographics
 - Contraception and sexual health history
 - Experiences related to LARCs
 - Knowledge about LARCs (11-item)
 - Experiences with health educator and SBHC

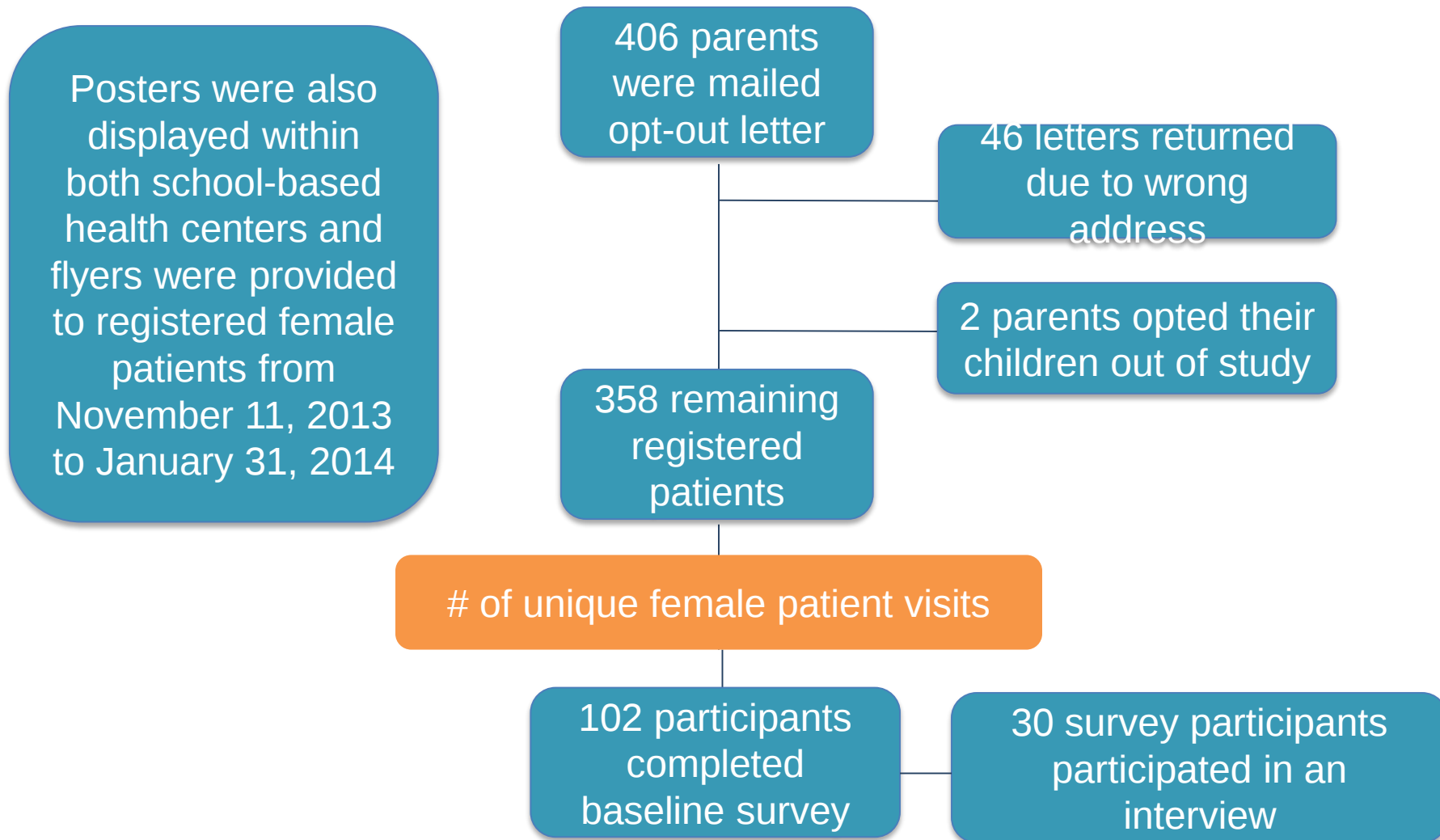
- To identify patient characteristics associated with knowledge and acceptability of LARC devices and acceptability of LARC device placement in the SBHC setting

- Chi-square and multiple regression
- Exposures:
 - Age
 - Sexual experience
 - SES
 - Race/ethnicity
 - Prior contraceptive use
- Outcomes:
 - Knowledge of LARCs
 - Acceptability of LARCs
 - Acceptability of SBHC

H_o	H_A
	Younger
	Less sex
	Low SES
	Racial/ethnic minority
	No prior contraceptive use
⊘	↓
⊘	↓
⊘	↓

Results

Study Participants



Age (years [mean +/- SD])	16.7 (1.2)
Race/ethnicity	n (%)
Asian	4 (4.0)
Native Hawaiian or Pacific Islander	2 (2.0)
Black	19 (18.8)
White	29 (28.7)
Hispanic	29 (28.7)
Other	5 (5.0)
More than one (non-Hispanic)	13 (12.9)
Free/reduced lunch	60 (62.5)
IEP	15 (14.7)
Medical problem	26 (25.5)
Mental health problem	28 (27.5)
Mom had first baby <18	21 (21.2)
Ever had vaginal intercourse	53 (52.5)
Ever pregnant	5 (5.0)
Ever LARC	16 (16.2)

Exposure to Health educator

Health educator		N (%)
Do you know health educator?		
	Yes	52 (48.6)
	No	37 (34.6)
	Don't know/skip	18 (16.8)
What activities? (check all)		
	Classroom presentation	14 (13.1)
	Individual visit	25 (23.4)
	Other ((Student health council, girls group, sports team, TA)	13 (12.1)
	I haven't met her	60 (56.1)



True or False Question

You have to remember to take an IUD or Nexplanon implant everyday

IUDs and Nexplanon implants are two of the most effective forms of reversible birth control available for women

Having an IUD or Nexplanon implant placed involves a simple procedure in a health clinic

IUDs and Nexplanon implants have to be removed by a health care provider

You can have an IUD or Nexplanon implant if you've never had a baby

IUDs and Nexplanon implants hurt your ability to get pregnant in the future

IUDs and Nexplanon implants protect against STDs including HIV

A Nexplanon implant can be in place for 3 years before you have to replace it

A Mirena IUD can be in place for 5 to 7 years

IUDs and Nexplanon implants are birth control methods that you need to remember to insert before each sex act

True or False Question	Total correct N(%)	History of vaginal sex	No history of vaginal sex	Chi2 p value
You have to remember to take an IUD or Nexplanon implant everyday	70 (69.3)	44 (83.0)	26 (54.2)	0.002
IUDs and Nexplanon implants are two of the most effective forms of reversible birth control available for women	55 (55.6)	34 (64.2)	21 (45.7)	0.065
Having an IUD or Nexplanon implant placed involves a simple procedure in a health clinic	61 (61.6)	41 (78.9)	20 (42.6)	<0.001
IUDs and Nexplanon implants have to be removed by a health care provider	64 (64.7)	44 (86.3)	20 (41.7)	<0.001
You can have an IUD or Nexplanon implant if you’ve never had a baby	54 (54.6)	35 (67.3)	19 (40.4)	0.007
IUDs and Nexplanon implants hurt your ability to get pregnant in the future	53 (54.6)	35 (68.6)	18 (39.1)	0.004
IUDs and Nexplanon implants protect against STDs including HIV	72 (72)	48 (90.6)	24 (51.1)	<0.001
A Nexplanon implant can be in place for 3 years before you have to replace it	55 (54.5)	42 (79.3)	13 (27.1)	<0.001
A Mirena IUD can be in place for 5 to 7 years	46 (46.9)	36 (67.9)	10 (22.2)	<0.001
IUDs and Nexplanon implants are birth control methods that you need to remember to insert before each sex act	62 (62)	41 (77.4)	21 (44.7)	0.001

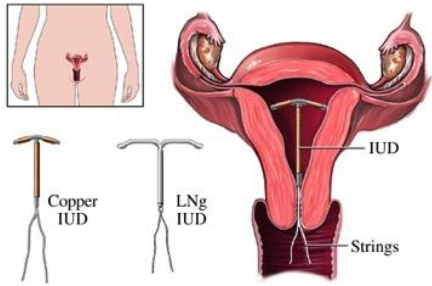
Multivariate regression of LARC knowledge score

Characteristic	Coefficient	95% CI	p-value
Age (years)	-0.005	-0.5 to 0.5	0.986
White Race	2.658	1.2 to 4.3	0.001
Free or Reduced Lunch	0.305	-1.2 to 1.7	0.690
Self-report of lifetime mental health diagnosis	0.284	-1.239 to 1.808	0.711
History of sexual experience	3.287	2.0 to 4.7	<0.001
History of LARC experience	2.370	0.4 to 4.3	0.019
Exposure to health educator counseling session	-0.258	-1.9 to 1.3	0.749



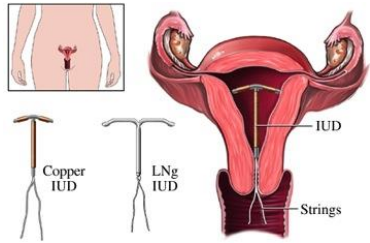
Multivariate regression of implant acceptability

Characteristic	Odds Ratio	95% CI	p-value
Age (years)	1.004	0.584 to 1.726	0.988
White Race	0.527	0.111 to 2.511	0.422
Free Lunch	2.998	0.638 to 14.097	0.165
Self-report of lifetime mental health diagnosis	0.662	0.139 to 3.144	0.604
History of vaginal intercourse	6.360	1.667 to 24.269	0.007
Exposure to health educator counseling session	1.629	0.403 to 6.575	0.493



Multivariate regression of IUD acceptability

Characteristic	Odds Ratio	95% CI	p-value
Age (years)	0.535	0.305 to 0.939	0.029
White Race	2.71	0.677 to 10.883	0.159
Free Lunch	0.950	0.252 to 3.581	0.939
Self-report of lifetime mental health diagnosis	0.926	0.232 to 3.691	0.232
History of vaginal intercourse	3.232	0.815 to 12.808	0.095
Exposure to health educator counseling session	1.304	0.284 to 5.989	0.733



Multivariate regression of LARC acceptability



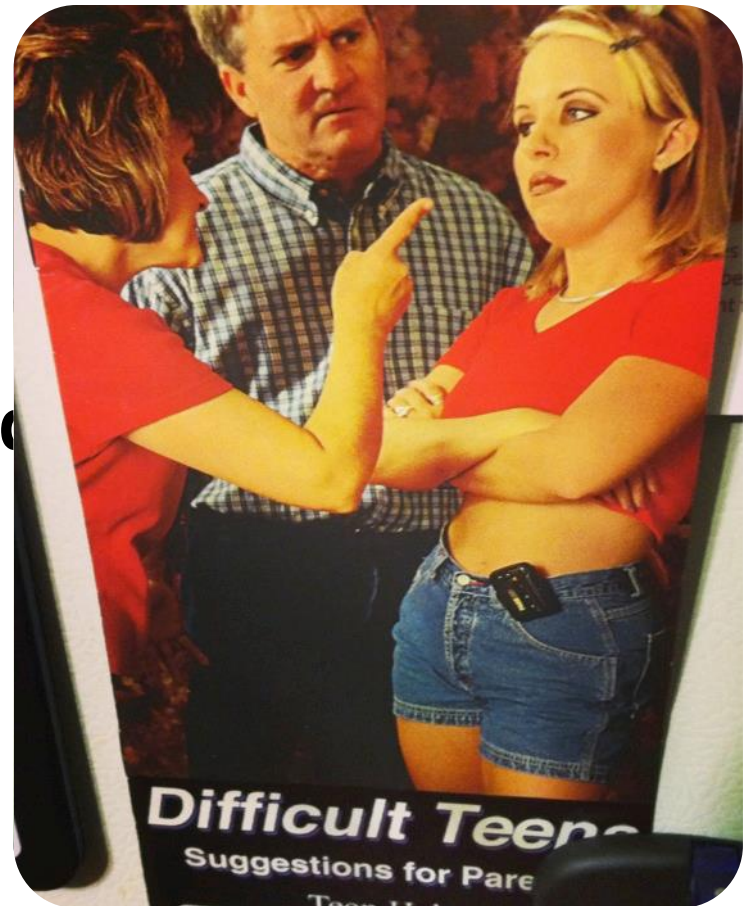
Characteristic	Odds Ratio	95% CI	p-value
Age (years)	0.690	0.438 to 1.088	0.111
White Race	1.359	0.412 to 4.481	0.614
Free Lunch	1.251	0.396 to 3.944	0.703
Self-report of lifetime mental health diagnosis	0.899	0.275 to 2.933	0.860
History of vaginal intercourse	4.263	1.402 to 12.970	0.011
Exposure to health educator counseling session	1.566	0.488 to 5.027	0.451

Conclusions

- **Variable knowledge about LARC**
 - **White respondents, those with history of vaginal intercourse more likely demonstrate greater LARC knowledge**
- **History of vaginal intercourse sole predictor of general LARC acceptability**
- **Valuable insight from general pediatric population sample**

Strengths and Limitations

- **Exploratory**
 - Innovative setting
- **Small sample size**
 - Recruitment of registered minors
- **Non validated survey instrument**
- **Fluidity of health educator curriculum**



Future directions

- **Validation of survey instrument**
 - Cognitive interviews to determine best way to phrase questions
- **Expand survey to larger, more representative population of teens**
- **Apply results to design and pilot a LARC counseling tool**
 - Consider sexual inexperienced youth

Sample Interview Questions

- **When do you feel is the right time to have a first pregnancy?**
- **How do you decide what contraceptive method to use?**
- **Where do you get the majority of information about contraceptive methods?**
- **Would do you like or dislike about potential LARC methods?**
- **Have you heard from others about their experiences with LARC?**
- **What do your parents or other family members think about LARC?**
- **What services at the school-based health center do you use?**
- **Describe your interactions with the health educator?**
- **What services would you like the health educator or the school-based health center to provide?**

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Use the QR code below or fill one out
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<http://J.MP/16JljqS>.

You can also borrow a tablet at the
school-based health center to fill out a
survey **during** your free time before or
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RedCap Survey

The screenshot shows a web browser window with the URL <https://redcap.iths.org/surveys/?s=fy62TD8qIT>. The browser's address bar and tabs are visible at the top. The survey content is displayed in a white box with a light gray border. It begins with a title 'School-Based Health Center Survey' and a 'Please complete the survey below.' instruction. A 'Thank you!' message is also present. The main body of the survey starts with a 'Hello!' greeting, followed by a paragraph explaining the research study at Chief Sealth International High School and West Seattle High Schools. It then describes the survey's focus on sexual and reproductive health services and education. A section titled 'Here are some example survey questions:' follows, containing two questions with multiple-choice options. The first question asks if the respondent has ever thought about becoming pregnant, with options 'Yes', 'No', and 'I don't know or skip this one'. The second question asks if the respondent currently has any of the following contraceptive devices: 'Mirena intrauterine device (IUD)', 'Paragard Copper intrauterine device (IUD)', 'Nexplanon or Implanon contraceptive implant', 'I used to have an IUD or contraceptive implant, but I don't currently have one', 'No, I've never had an IUD or contraceptive implant', and 'I don't know or skip this one'. A paragraph of text explains that participation is voluntary and that the study aims to improve school-based health centers. The survey concludes with a statement about de-identification of responses.

School-Based Health Center Survey

Please complete the survey below.

Thank you!

Hello!

We are doing a research study at the school-based health centers at Chief Sealth International High School and West Seattle High Schools. The purpose of our study is to improve the sexual and reproductive health services and education provided by school-based health centers. The study has been reviewed and approved by the research review board at the University of Washington.

As part of this study, we are giving this internet-based survey to 150 female patients. The survey will focus on the ways female students use the school-based health center to access sexual and reproductive health information and services. The survey includes general questions about yourself and questions about your physical and mental health history. The survey also asks about your experiences with the school-based health center, your preferences about reproductive and sexual health service delivery, and your opinions about various contraceptive methods offered at the school-based health center.

Here are some example survey questions:

Have you ever thought that you might be pregnant?

- ☐ Yes
- ☐ No
- ☐ I don't know or skip this one

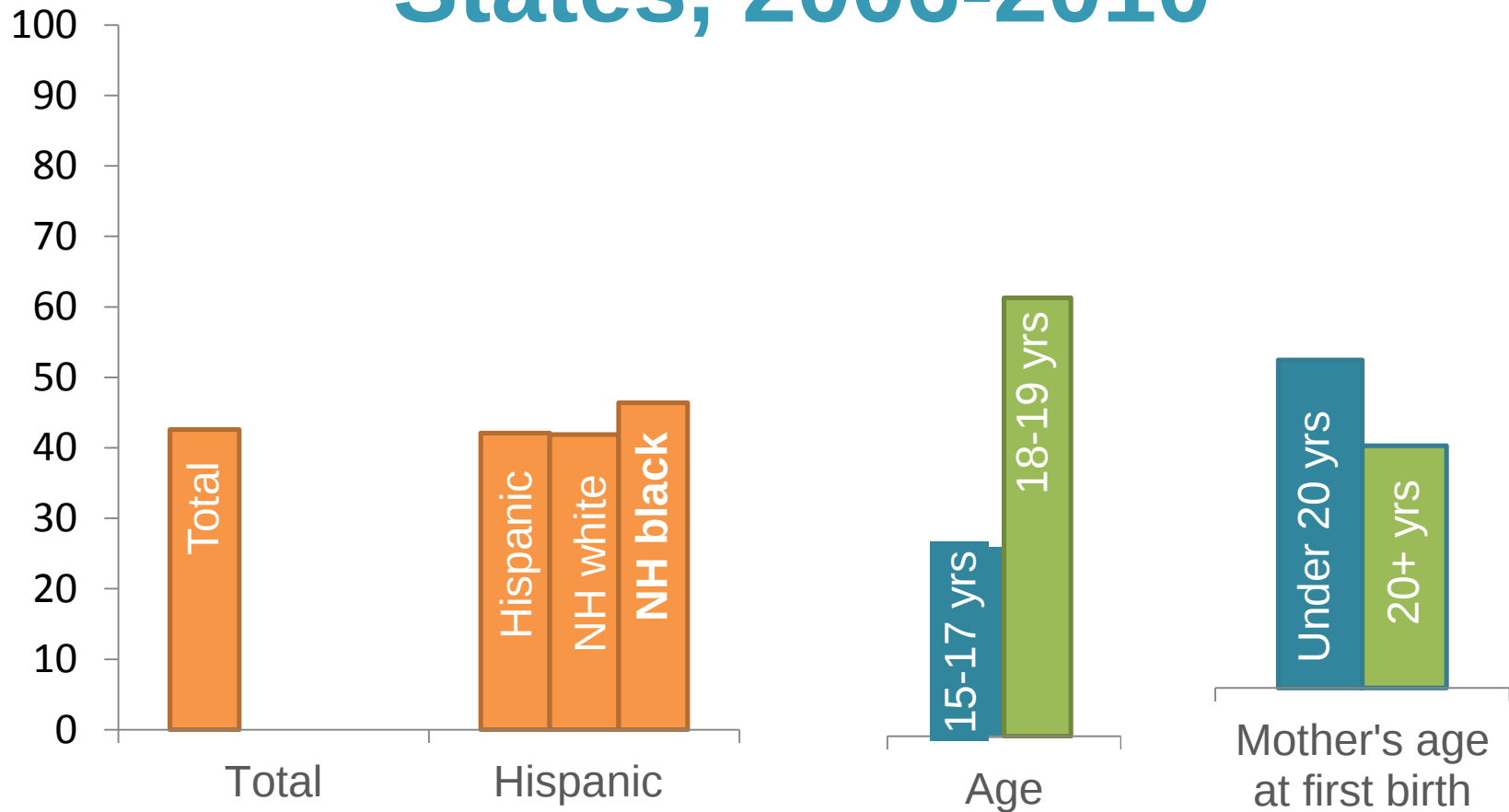
Do you currently have any of the following contraceptive devices?

- ☐ Mirena intrauterine device (IUD)
- ☐ Paragard Copper intrauterine device (IUD)
- ☐ Nexplanon or Implanon contraceptive implant
- ☐ I used to have an IUD or contraceptive implant, but I don't currently have one
- ☐ No, I've never had an IUD or contraceptive implant
- ☐ I don't know or skip this one

Participation in the study is entirely voluntary. If you choose not to participate or stop before you've completed the survey, your care at the school-based health center will not be affected in any way. The potential risks of participation in the study are small. You may feel uncomfortable or upset while answering some of the personal questions. You may skip any survey question, and you may stop the interview or survey at any time. There are no direct benefits to you as a study participant, however the information that we learn might help us improve school-based health centers and develop programs in the future that could help other high school students stay healthy.

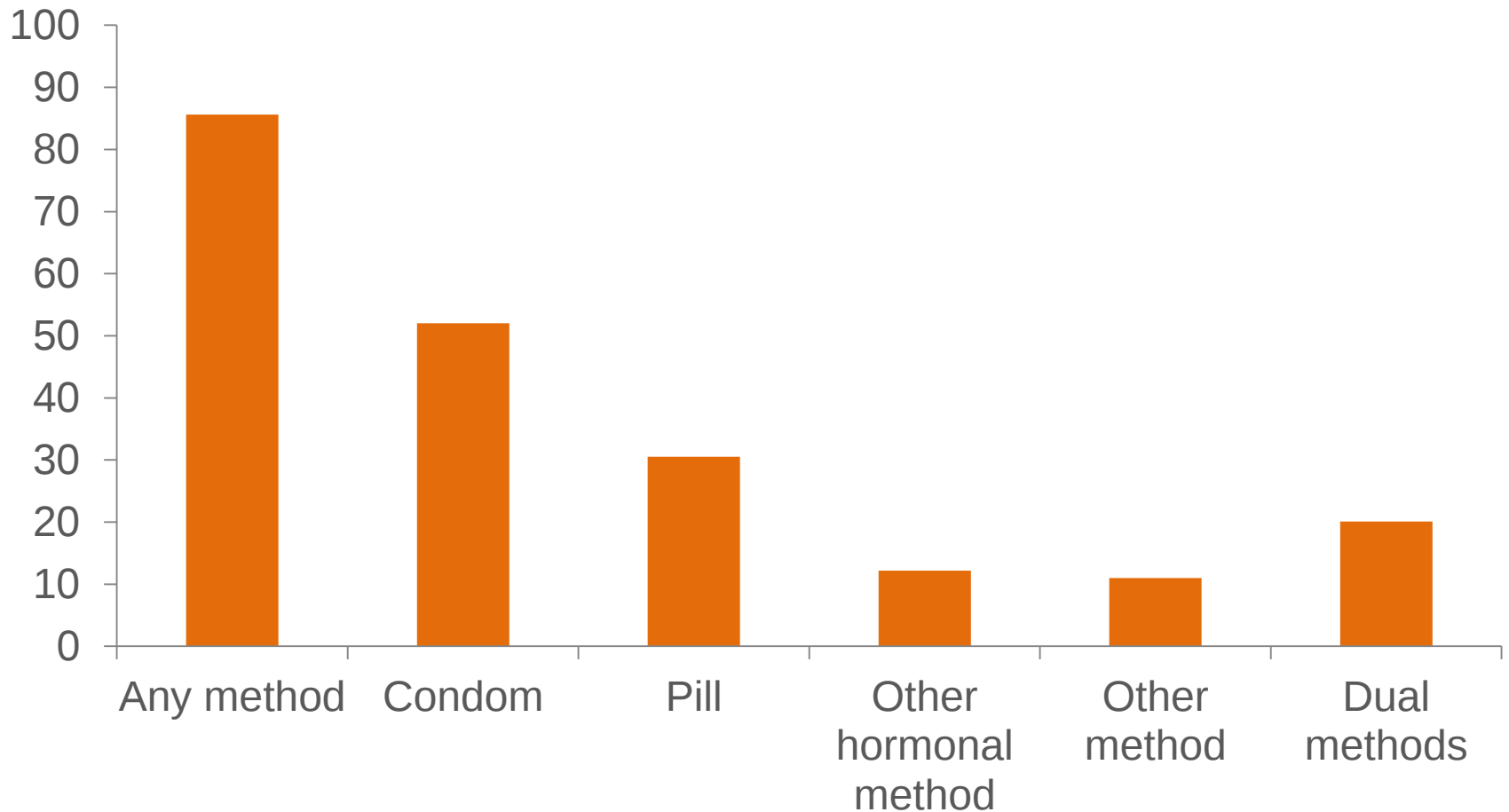
Your responses to this survey will be de-identified, which means that no one will be able to identify you from your survey responses or from any future presentations of this information. If you decide to take the survey, you do not have to answer any questions you don't feel comfortable answering. You can stop taking the survey at any time.

Never-married females age 15-19 who have ever had sex, United States, 2006-2010



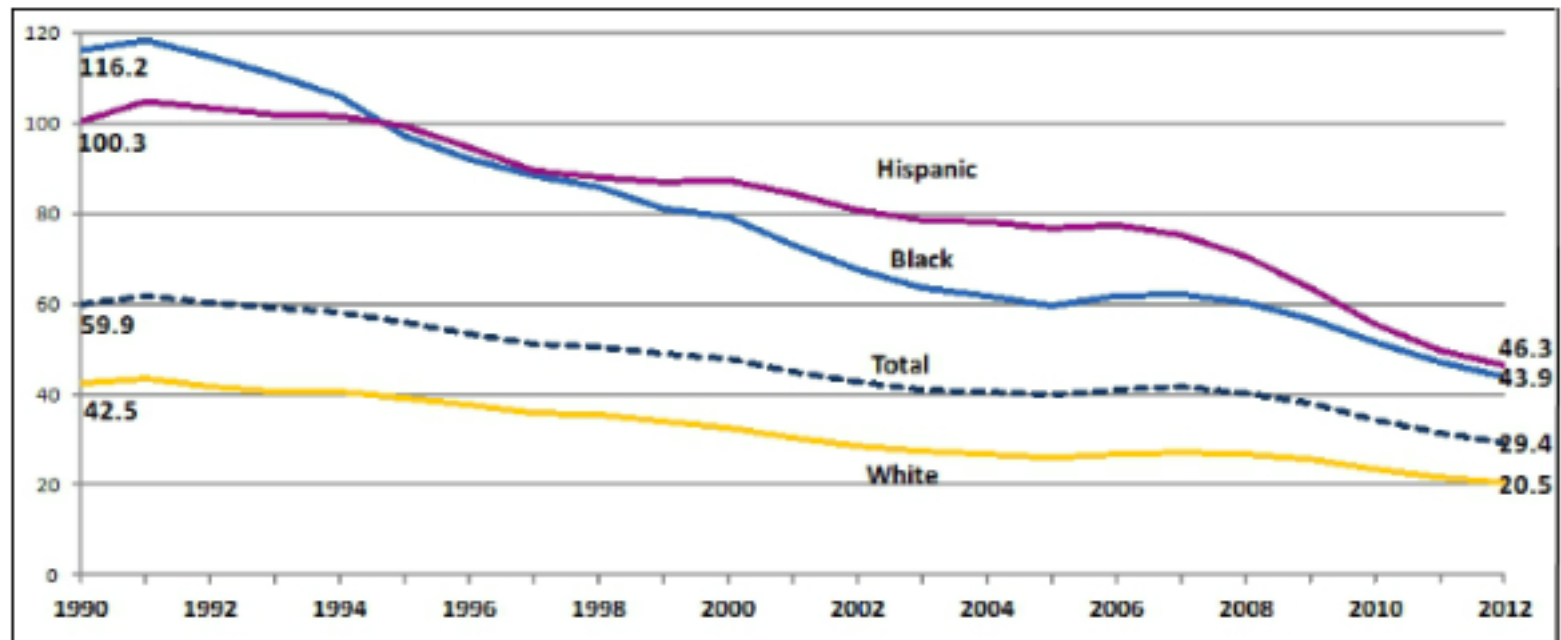
Use of contraception at last sex in the prior 3 months

among never-married females age 15-19,
by method used, United States, 2006-2010



Adolescent pregnancy in the US

Figure 1: Birth rates per 1,000 females ages 15-19, by race/ethnicity, 1990-2012



Source: Hamilton, B. E., Martin, J. A., & Ventura, S. J. (2013). *Births: Preliminary data for 2012*. Hyattsville, MD: National Center for Health Statistics.

Timeline

Development of health educator curriculum and data collection tools

Administer baseline survey prior to exposure to health educator

Conduct qualitative interviews

Administer follow-up survey at end of academic year

Perform qualitative and quantitative analyses

Summer 2013

Fall 2013

Winter 2013-14

Spring 2014

Summer 2014