

# The Contraceptive CHOICE Project: Importance of Long-Acting Reversible Contraception in Reducing Health Disparities

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# Financial Disclosures

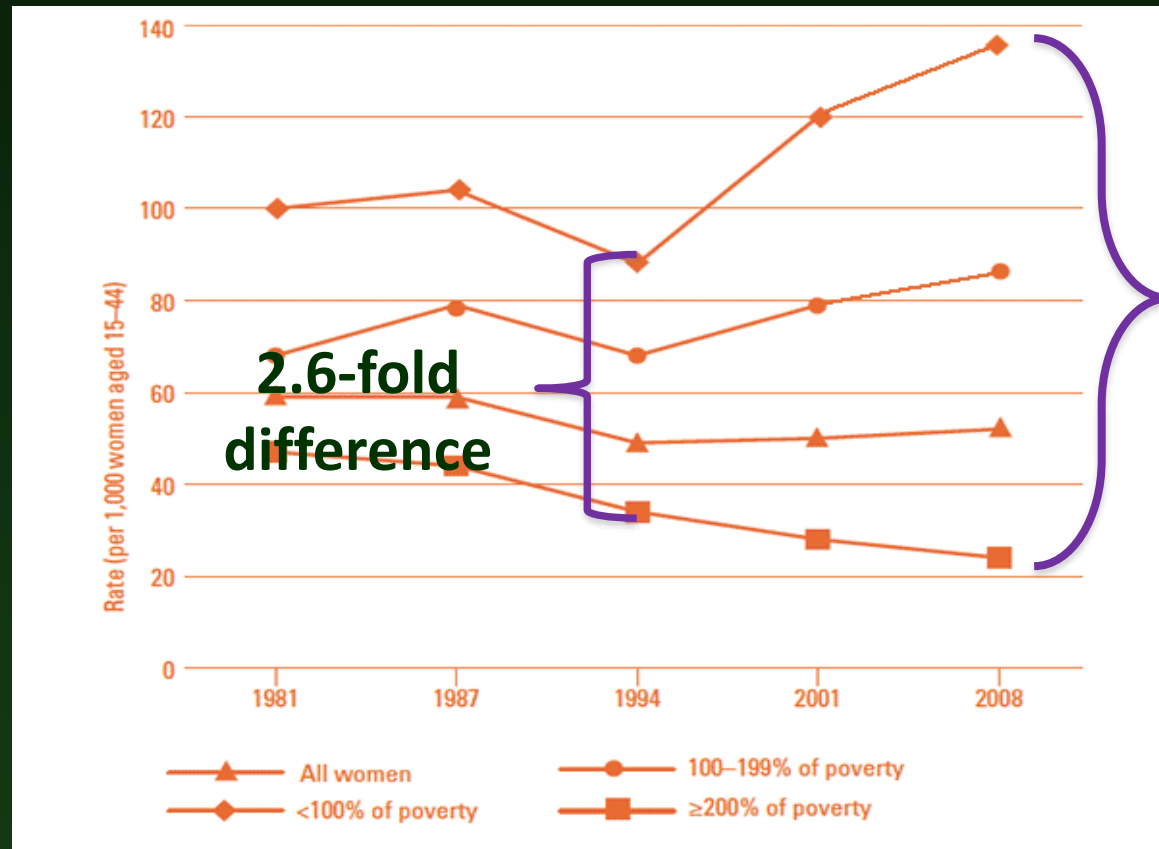
- Research Grant Support & Advisory Boards
  - Bayer
  - Merck
  - Teva
  - Watson/Activis
  - MicroChips

# OBJECTIVES

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- Contraceptive CHOICE Project
  - Background
  - Methodology/Study design
  - Key results:
    - Effectiveness
    - Continuation/Satisfaction
    - Population outcomes by age/race
    - [www.choiceproject.wustl.edu](http://www.choiceproject.wustl.edu)
- Take Home Messages
  - LARC (first line options) can reduce health disparities

# Unintended Pregnancy Rate, U.S. women age 15-44, 1996-2008

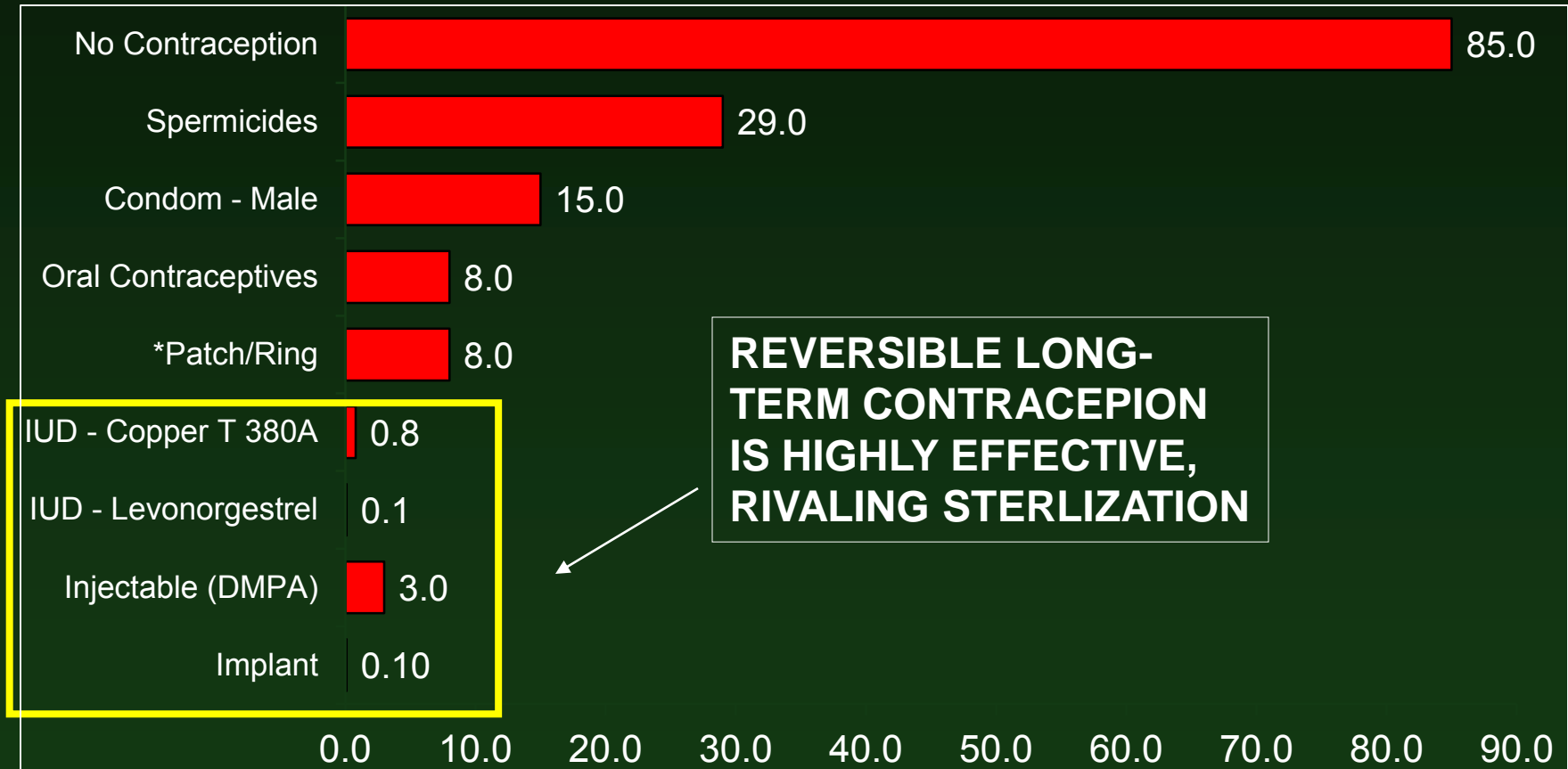


Finer and Zolna. AJPH 2014;104:S43-48.

# Common Contraceptive Methods in the United States

Contraceptive Method	Use *
OCPs	28%
Female sterilization	27%
Condoms	16%
Vasectomy	10%
IUDs	8%
Withdrawal	5%
DMPA	3%
Subdermal implants	<1%

# Typical Use - First Year Failure Rates

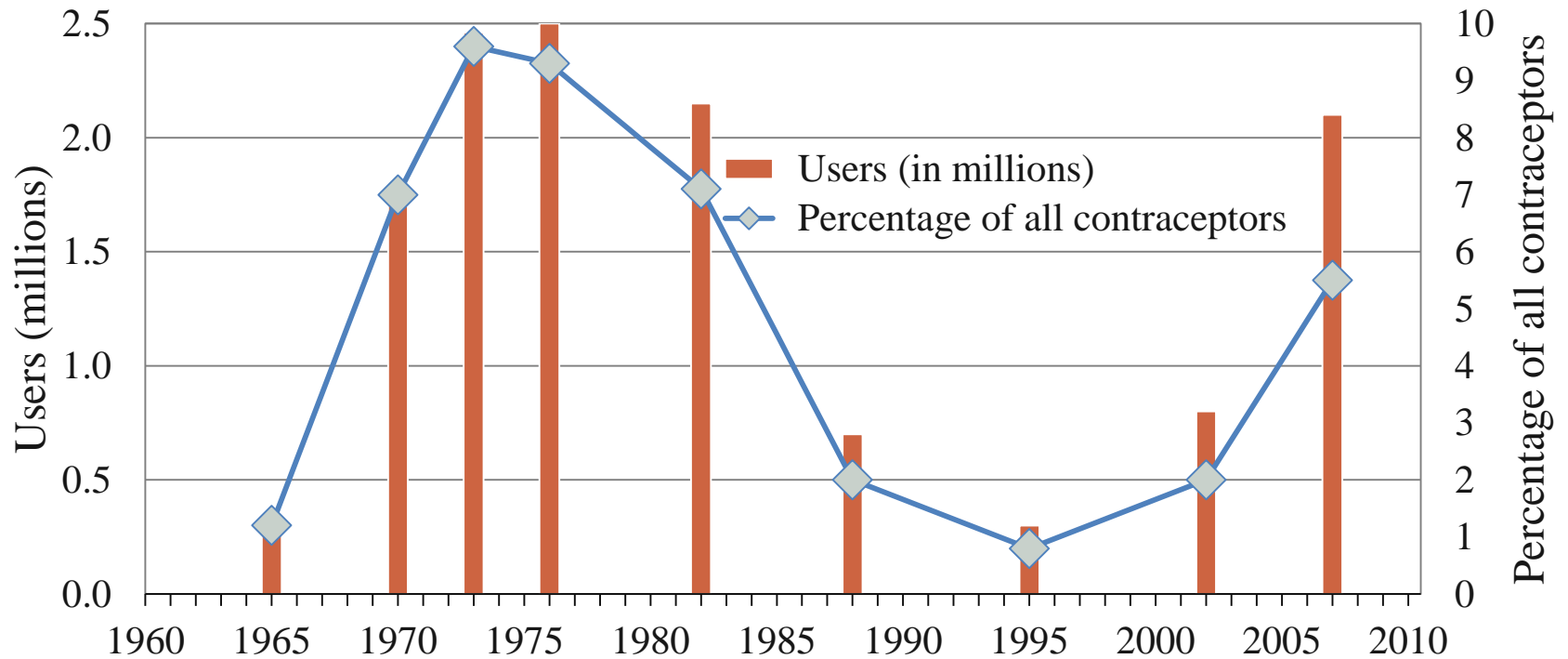


\*Estimates in lieu of actual data

Trussell J. Contraception 2004;70:89-96.

\*\*Funk S et al. Contraception 2005;71:319-326.

# IUD Use in the US: 1965–2008



THE  
CONTRACEPTIVE  
CHOICE  
PROJECT





# Call from Anonymous Foundation

- Remove financial barriers to most effective long-term reversible methods
  - Promote LARC use
- Provide no-cost contraception & make a population impact:
  - Teen pregnancy
  - Repeat abortion procedures

# MYTHS Regarding IUCs Survey of St. Louis Women (N=1,665)

- 50% of women surveyed believe IUC is SAFE
  - Common safety concerns:
    - Pelvic Pain 36%
    - Infertility 30%
    - Cancer 14%
    - STDs 11%
- 61% underestimate the effectiveness

# CHOICE: Hypotheses

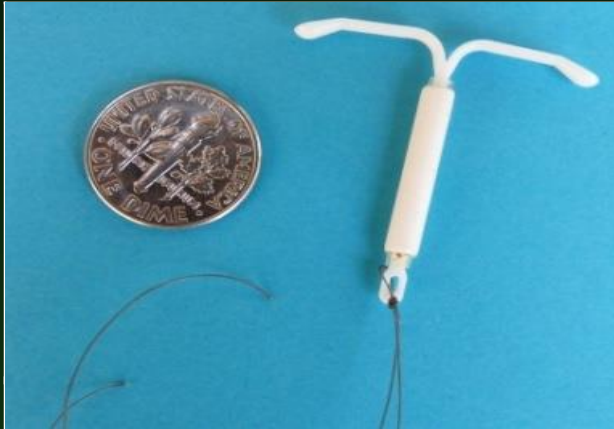
- Continuation rates at 12-months will be greater for IUD and implant vs. other forms of contraception
- Population-Based Outcomes:
  - By end of study
    - Teen pregnancy rates in STL region will decline by 10%
    - Repeat abortion procedures will decline by 10%

# Contraceptive Cohort Study

- Recruit 10,000 participants over 4 years
  - Remove cost barriers to long-term methods
    - Copper IUD (ParaGard):
      - 10 years duration
    - LNG IUD (Mirena):
      - 5 years duration
    - Implant (Implanon):
      - 3 years duration
  - Participant choice
    - 2-3 years follow-up

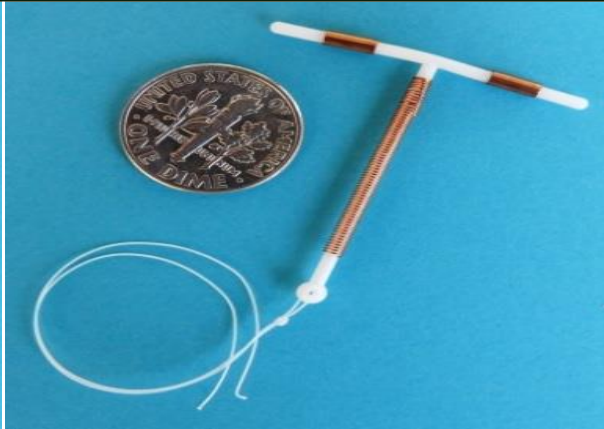


# Long-Acting Reversible Contraception



## LNG-IUS

- 99% effective
- 20 mcg levonorgestrel/day
- Up to 5 years



## Copper T IUD

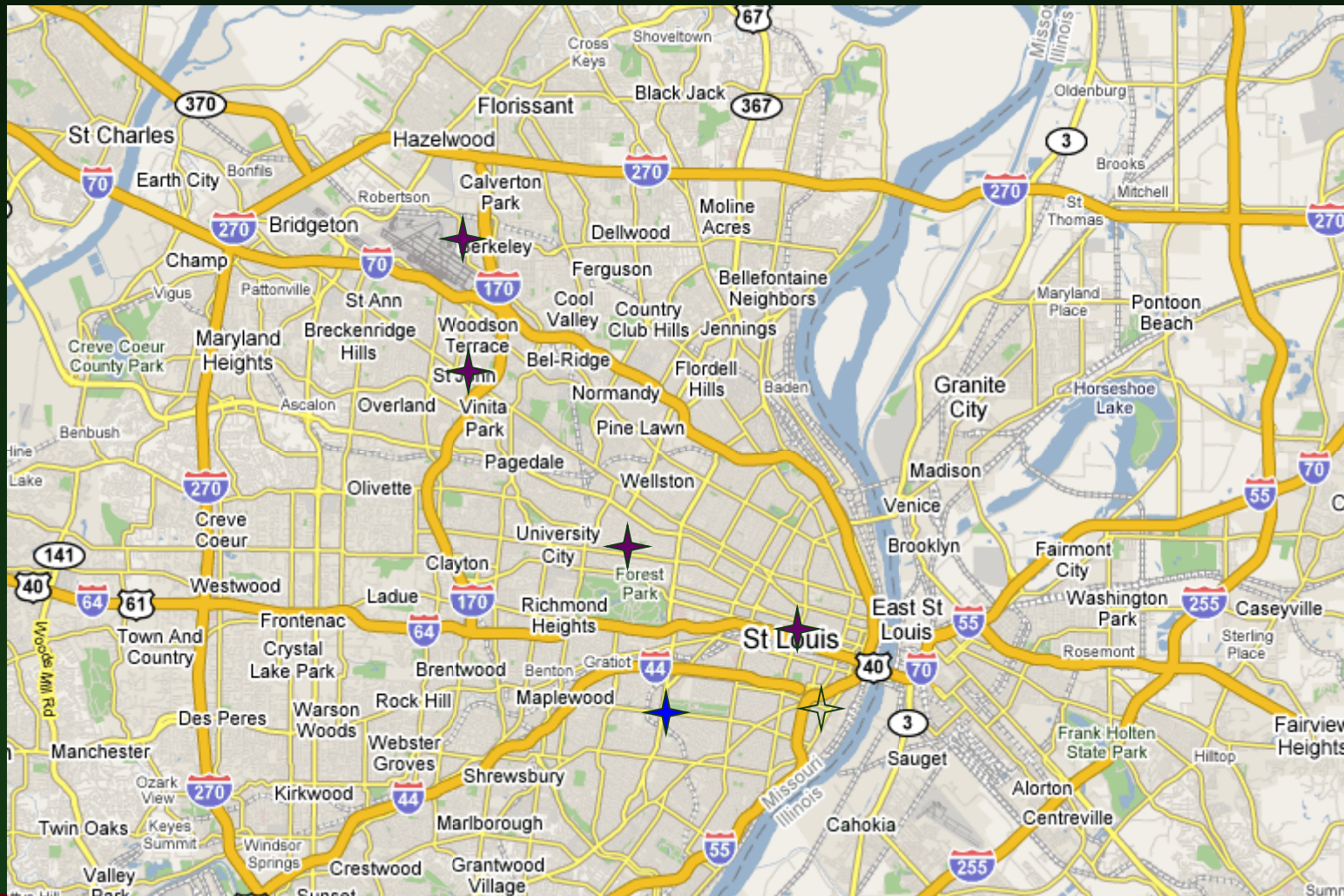
- 99% effective
- Copper ions
- Up to 10 years



## Subdermal Implant

- 99% effective
- 60 mcg etonogestrel/day
- Up to 3 years

## CHOICE: Recruitment Sites

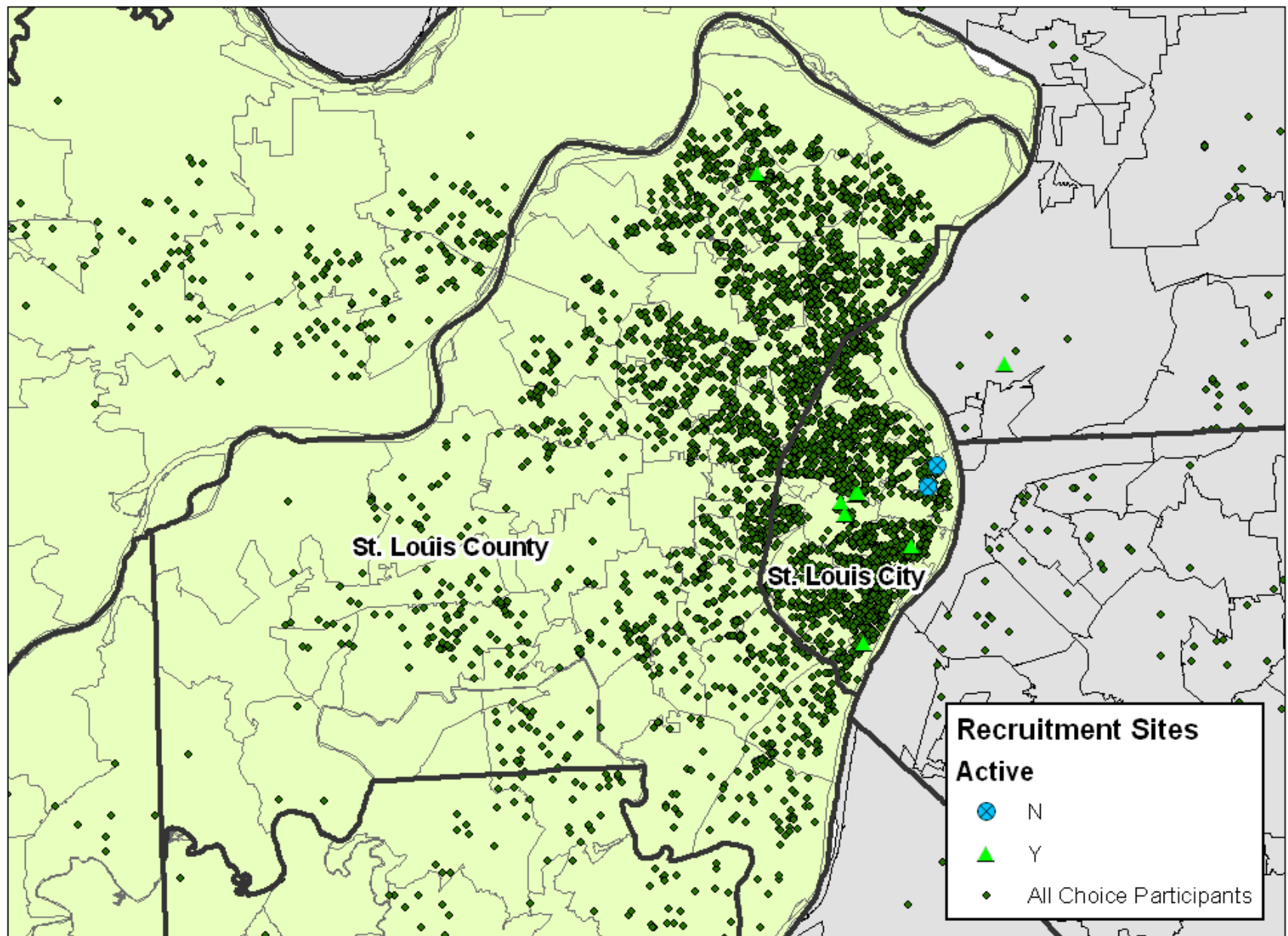




# CHOICE: Inclusion Criteria

- 14-45 years
- Primary residency in STL City or Country
- Sexually active with male partner  
(or soon to be)
- Does not desire pregnancy during next 12 months
  - Desires reversible contraception
- Willing to try a new contraceptive method

# Choice Participants in St. Louis City and County





# Study Recruitment

Location	9,256
2 Abortion clinics	17%
8 Community clinics	14%
University-based research clinic	69%
<ul style="list-style-type: none"><li>• Word-of-mouth</li><li>• Provider referrals</li></ul>	

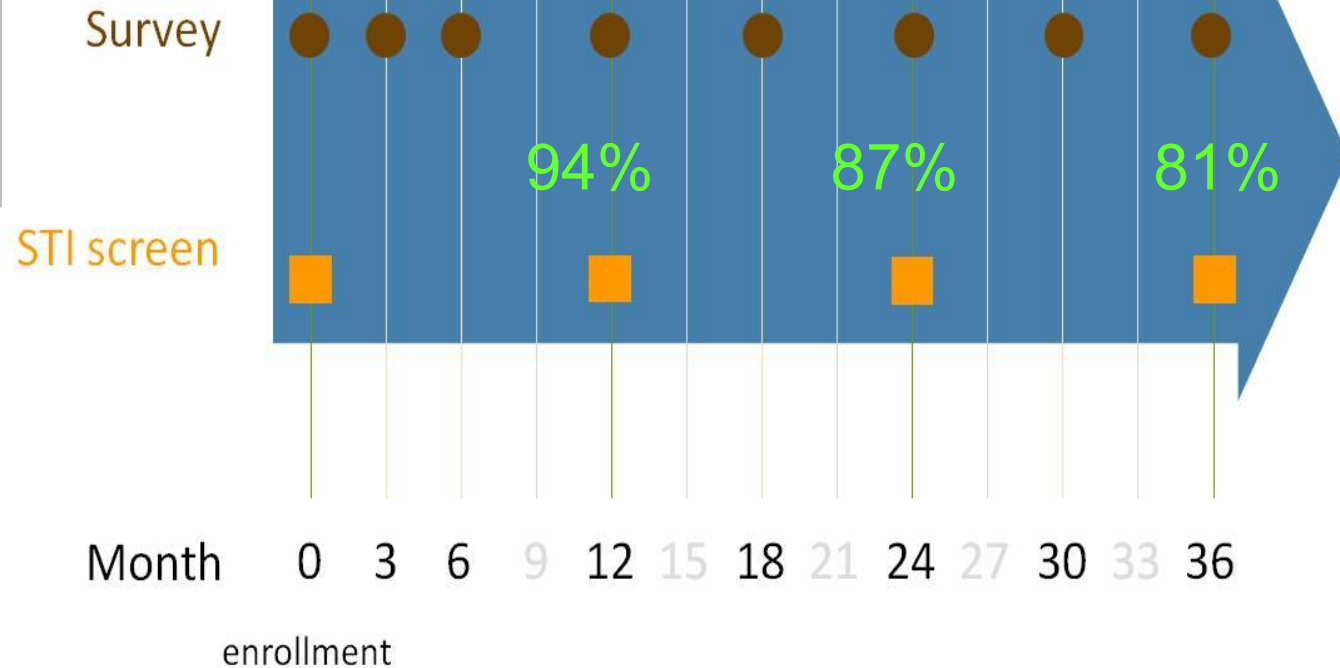


# Contraceptive CHOICE Project: Study Details

ELIGIBLE

Tiered  
Contraceptive  
Counseling

LNG-IUS  
Cu-IUD  
Implant  
DMPA  
Pills  
Patch



# CHOICE: Recruiting Women at Highest Risk for Unintended Pregnancies and STIs

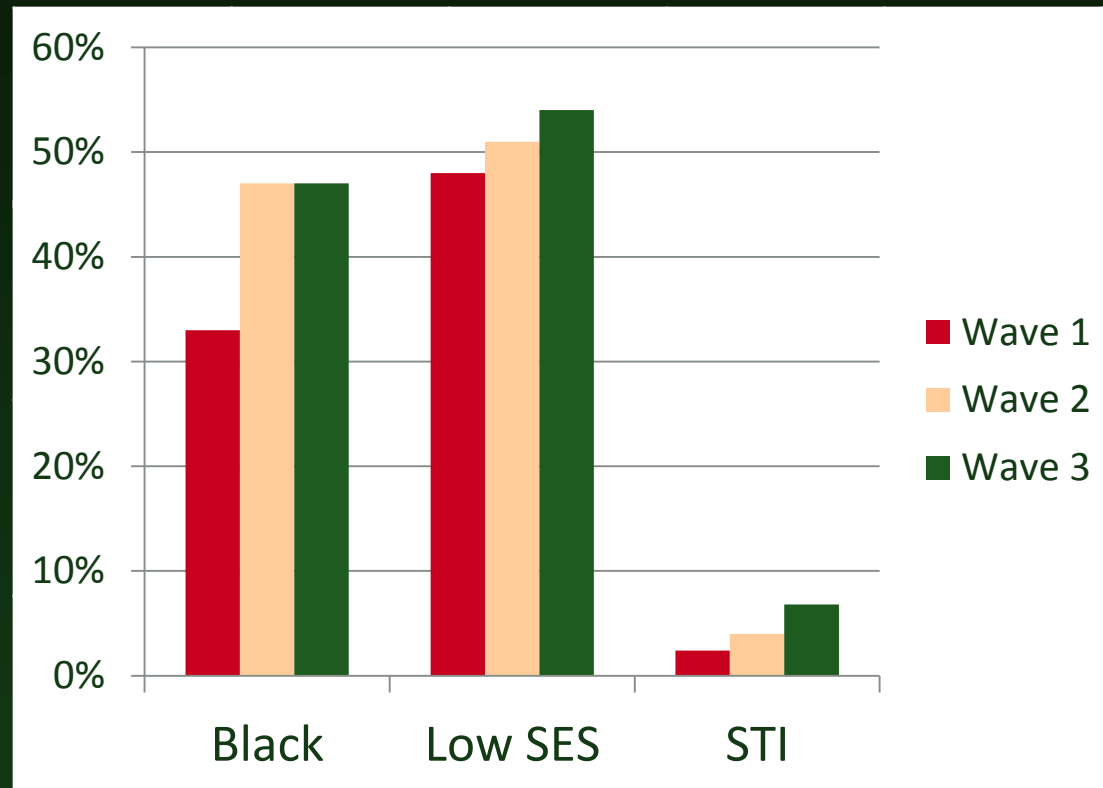
First 2500

Participants:

Wave 1: 0-500

Wave 2: 501-1500

Wave 3: 1501-2500



# Baseline Characteristics

Age (years)	N		%
14-17	485	} 2,033	5.2
18-20	1548		16.7
21-25	3559		38.5
26-35	3029		32.7
36-45	635		6.9
Race			
Black	4660		50.6
White	3861		41.9
Other	693		7.5

# Baseline Characteristics (N=9,256)

SES	n	%
Public assistance	3442	37.2
Trouble meeting basic needs	3639	39.3

Insurance	n	%
None	3782	41.1
Private	3957	43.1
Public	1455	15.8

# Baseline Characteristics

Parity	N	%
0	4375	47.3
1-2	3885	50.0
3+	996	10.7
Unintended pregnancy	5857	63.2
History of STI	3746	40.5

# LARC Acceptance

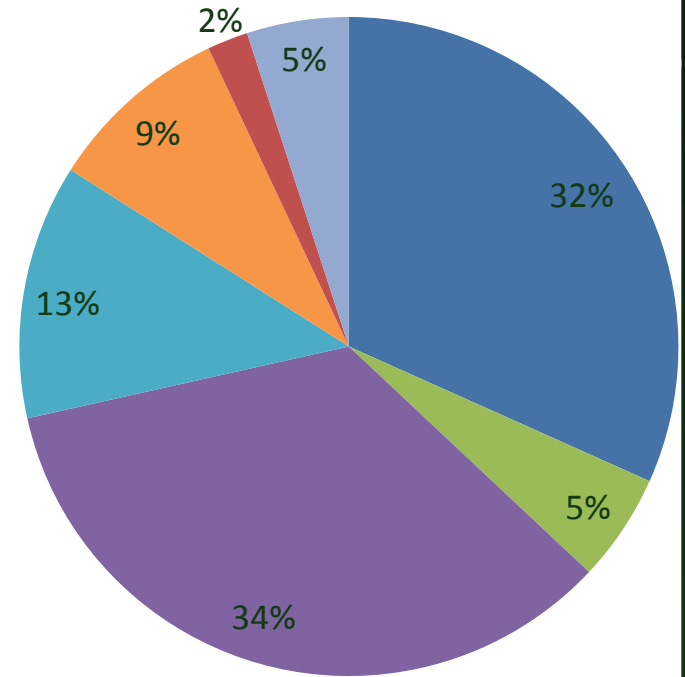
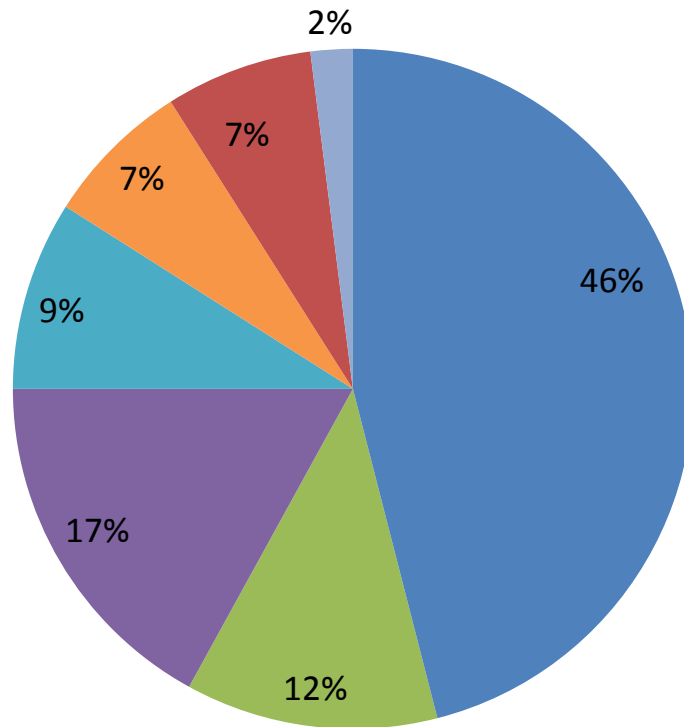
	%	
LNG-IUS	46.0	} <b>75%</b>
CuT380A	11.9	
Implant	16.9	
DMPA	6.9	
Pills	9.4	
Ring	7.0	
Patch	1.8	
Other	<1.0	

# Contraceptive Method Chosen

Overall Cohort

Teens ONLY

- LNG-IUS
- Copper IUD
- Implant
- OCP
- DMPA
- Ring
- Other



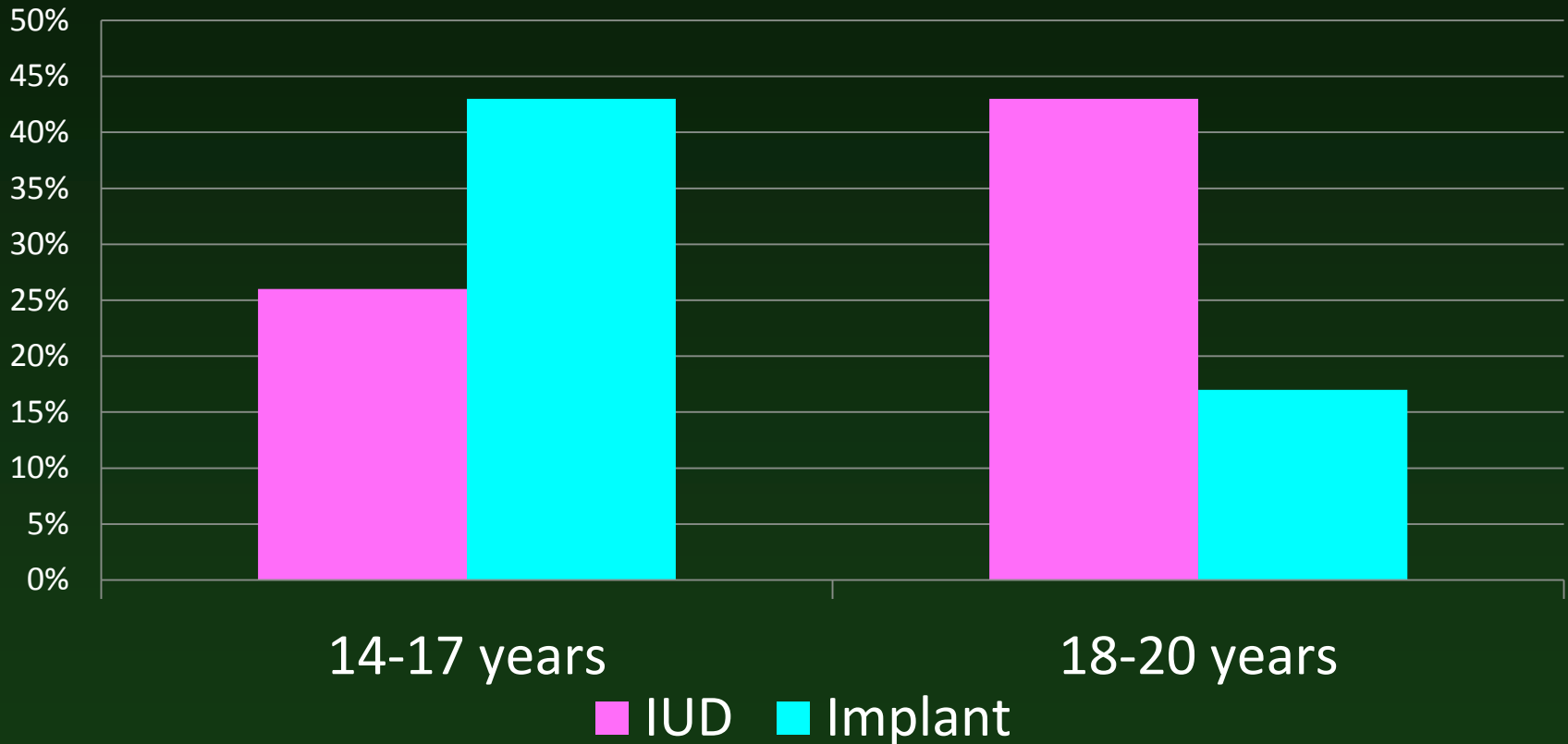
**LARC Uptake**

**75%**

**72%**



# Choice of LARC Methods in Adolescents



# Evaluation of CHOICE

- Outcomes
  - Short term:
    - Effectiveness
    - Continuation & satisfaction
  - Long-term
    - Population-based outcomes
      - Unplanned pregnancies:
        - » Repeat abortions
        - » Teen births

# NEJM CHOICE Publication

*The* NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

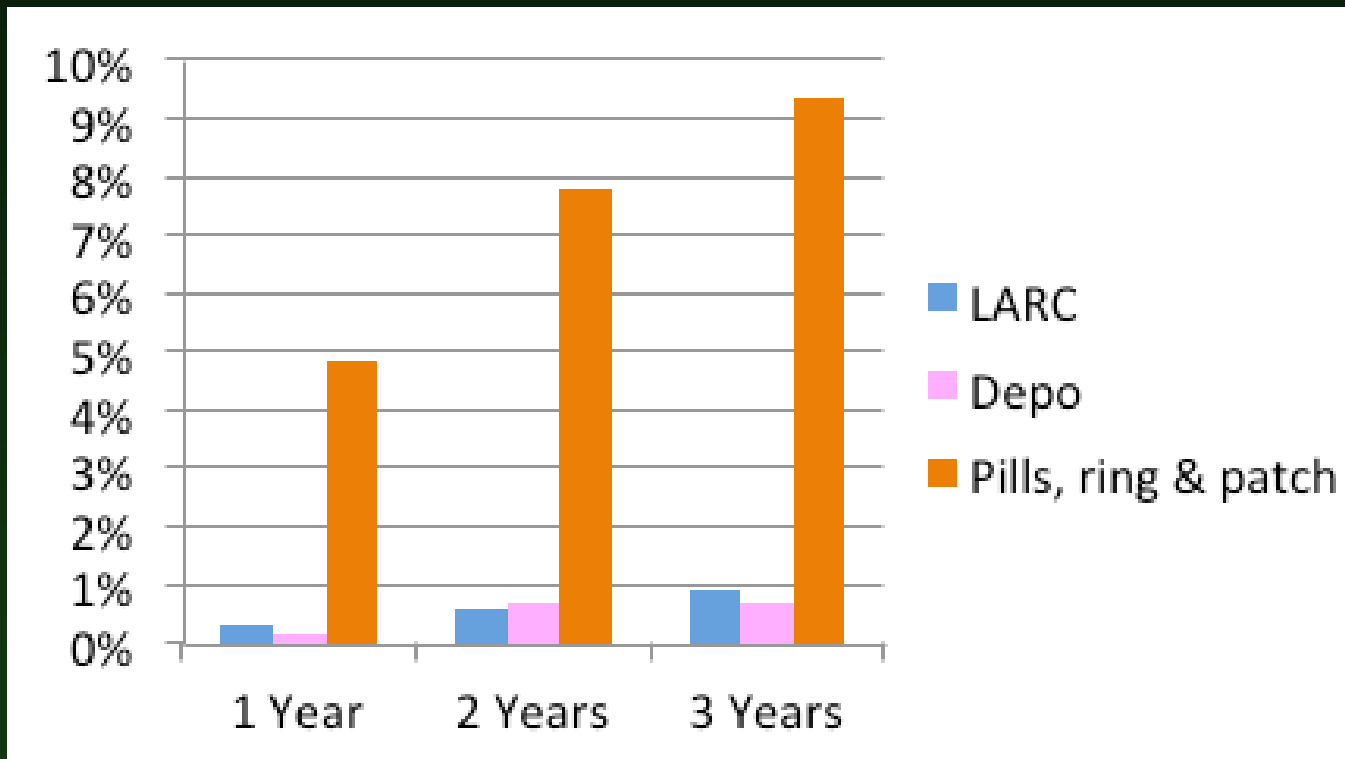
## Effectiveness of Long-Acting Reversible Contraception

Brooke Winner, M.D., Jeffrey F. Peipert, M.D., Ph.D., Qiuhong Zhao, M.S.,  
Christina Buckel, M.S.W., Tessa Madden, M.D., M.P.H., Jenifer E. Allsworth, Ph.D.,  
and Gina M. Secura, Ph.D., M.P.H.

# Unintended Pregnancy Rates in CHOICE Cohort

- August 2007 through July 2011
  - 615 reported pregnancies
    - 459 (75%) unintended
    - 334 contraceptive failures

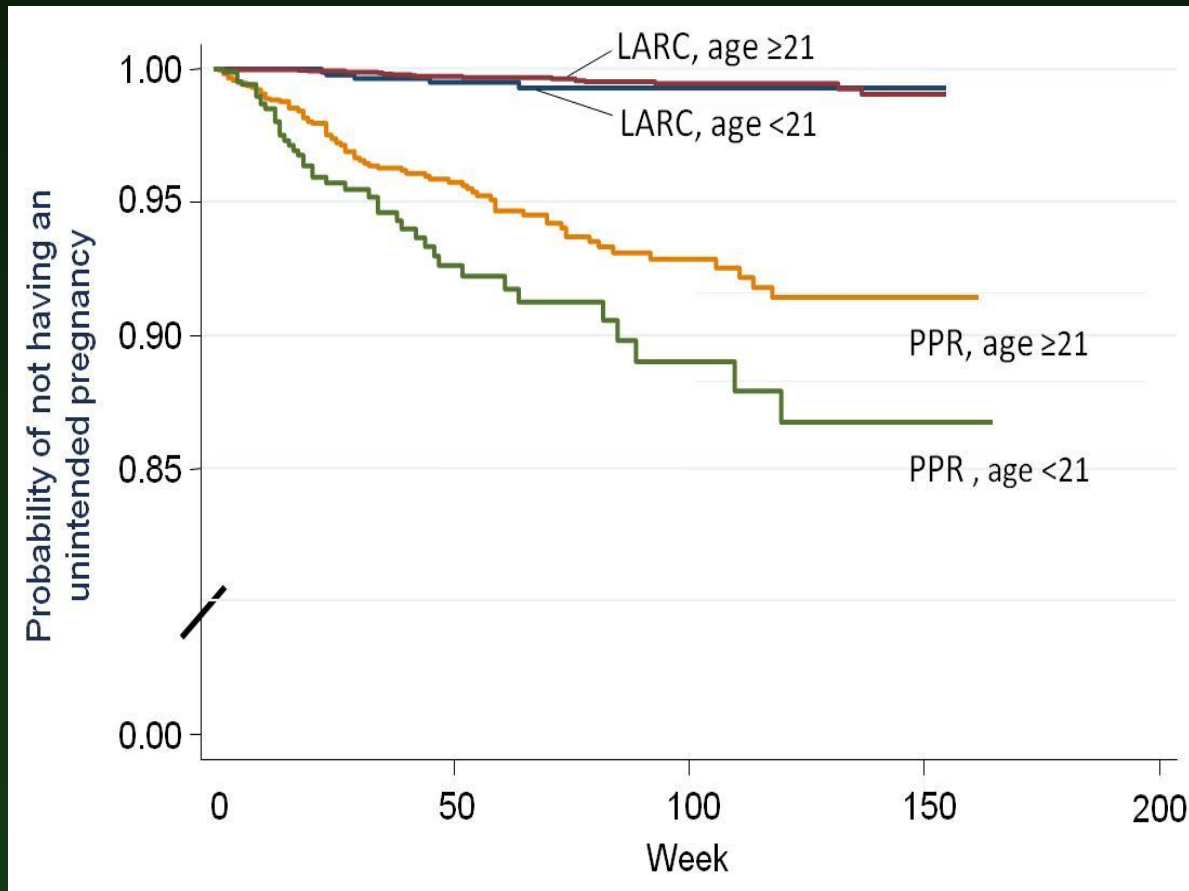
# Unintended Pregnancy by Contraceptive Method



$HR_{adj} = 22.3, 95\% \text{ CI } 14.0, 35.4$

Winner, et al. NEJM 2012.

# Method Failure by Age



$HR_{adj} = 1.9;$   
95% CI 1.2, 2.8

# CHOICE Data:

## Nexplanon, BMI, and Failures

- 1,188 ENG implant users
  - 28% overweight
  - 35% obese
- 3-year cumulative failure rate:
  - Did not vary by BMI status
  - ONE failure in an obese patient in 1<sup>st</sup> month
    - Transition from OCPs to implant

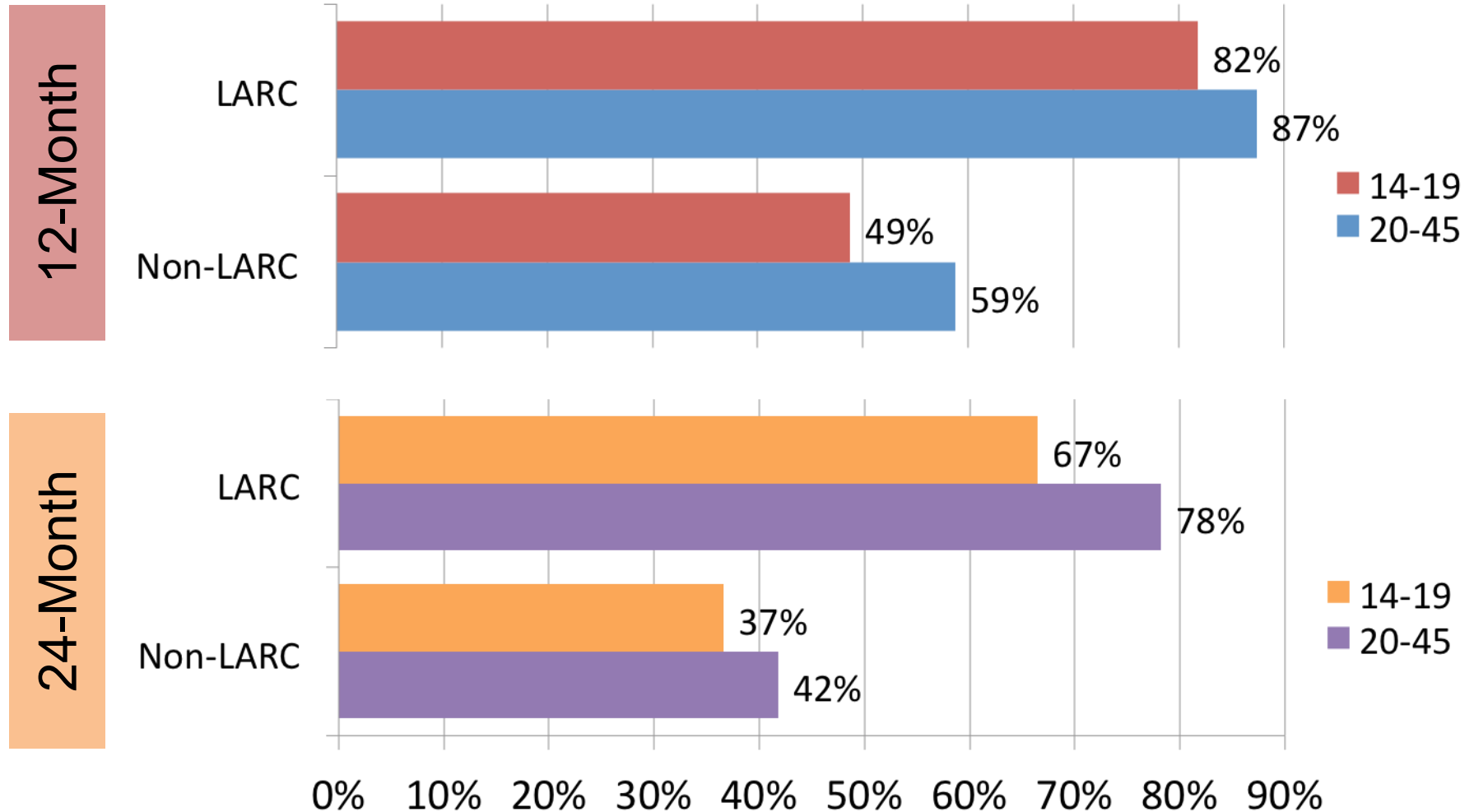
# 12- & 24-Month Continuation: Overall Cohort



Method	12-Month (%)	24-Month (%)
LNG-IUS	87.5	78.9
Copper IUD	84.1	77.3
Implant	83.3	68.5
<b>Any LARC</b>	<b>86.2</b>	<b>76.6</b>
DMPA	56.2	38.0
OCPs	55.0	43.5
Ring	54.2	41.1
Patch	49.5	39.9
<b>Non-LARC</b>	<b>54.7</b>	<b>40.9</b>



# 12- & 24-Month Continuation: By Age



# 12-Month Satisfaction\*: Overall Cohort & By Age

Method	Overall (%)	14-19 (%)	20-45 (%)
LNG- IUS	83.1	77%	84%
Copper IUD	80.2	72%	81%
Implant	77.0	74%	78%
<b>Any LARC</b>	<b>81.2</b>	<b>75%</b>	<b>82%</b>
DMPA	50.1	43%	52%
Pills	49.3	46%	50%
Ring	49.7	31%	52%
Patch	37.2	35%	38%
<b>Non-LARC</b>	<b>48.8</b>	<b>42%</b>	<b>50%</b>

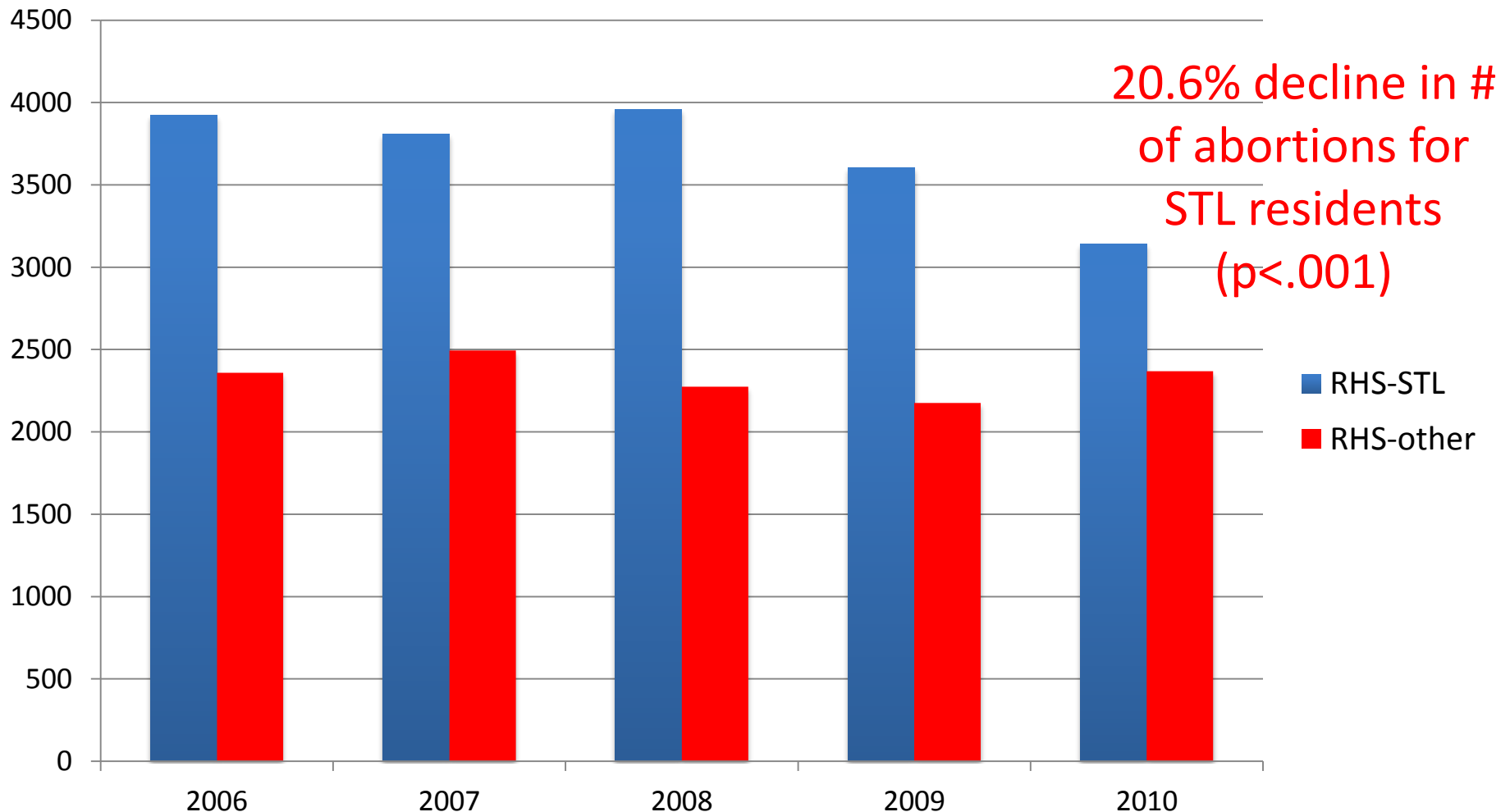
\*Very or somewhat satisfied combined

# Contraceptive CHOICE Project

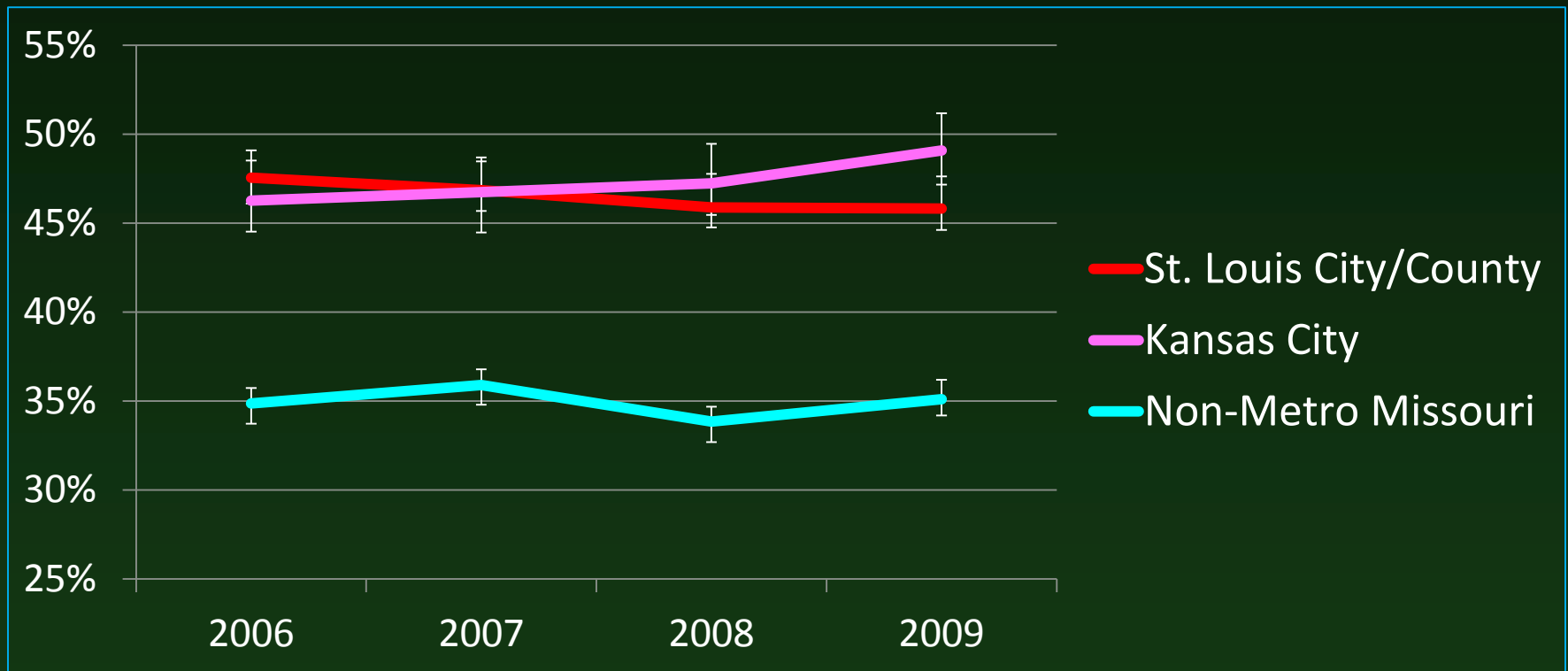
## Population Outcomes

# Abortion Data: RHS of PPSLR

Grouped by Zip code



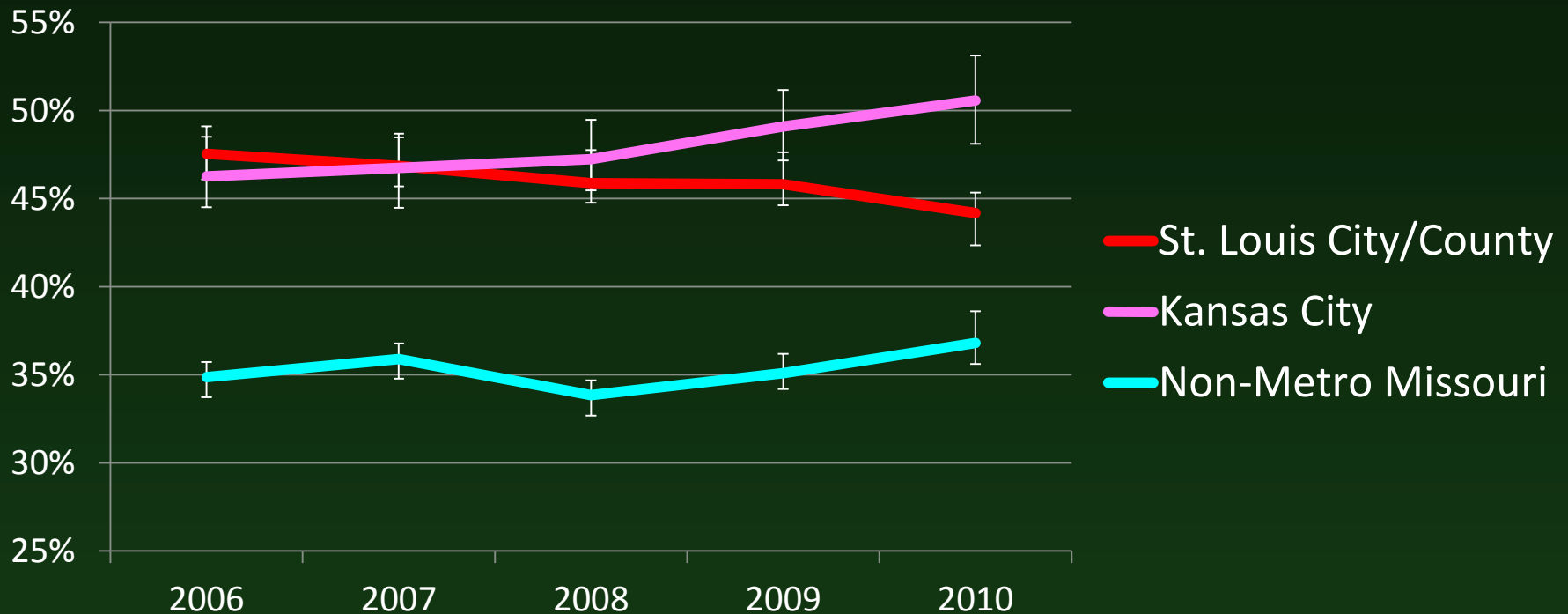
# Repeat Abortion 2006 - 2009



P-value

KC:STL	2006	2007	2008	2009
P-value	0.32	0.93	0.31	0.02

# Percentage of Abortions that are Repeat Abortions



P-value

KC:STL	2006	2007	2008	2009	2010
P-value	0.32	0.93	0.31	0.02	<0.001

# Pregnancy Outcomes: CHOICE Compared to U.S.

	<b>CHOICE Annual Rate</b>	<b>U.S. Rate</b>	<b>Reduction</b>
Pregnancy	39.4	108*	63%
Unintended pregnancy	29.6	52*	43%
Abortion	10.4	19.6^	47%

All rates per 1,000 women 15-44 years

\* 2006 data

^ 2008 data

# Teen Outcomes: CHOICE Compared to U.S.

	<b>CHOICE Annual Rate*</b>	<b>2008 U.S. Rate*</b>	<b>Reduction</b>
Pregnancy among sexually active teens	29.6	158.5	81%
Abortion	9.1	17.8	49%
Birth	13.6	40.2	59%
*All rates per 1,000 teens 15-19 years			

CHOICE Data: Unpublished; U.S. Data: Kost 2012



# The Secret: 3 Key Ingredients

- Education regarding all methods, especially LARC
  - Reframe the conversation to start with the most effective methods
- Access to providers who will offer & provide LARC
  - Dispel myths and increase the practice of evidence-based medicine
- Affordable contraception
  - Institute of Medicine recommendation, Affordable Care Act, Medicaid Expansion, local funders

# Take-Home Messages

- LARC Methods are THE most effective contraceptive options
  - Increased use of LARC will
    - Decrease abortions and unintended pregnancies
    - Decrease racial/SES disparities
- CHOICE Project: A Model
  - LARC methods are FIRST LINE
  - NO COST contraceptive methods

# Future Directions

- Dissemination:
  - PCORI Grant
  - Opportunity Nation/Upstream
    - UCSF & CHOICE collaboration
    - Disseminate and train providers
  - CMS Grant Pending
  - LARC FIRST Website
    - [www.larcfirst.com](http://www.larcfirst.com)

# Thank You!

