
a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA
Family Planning
Population Health Intervention
Research
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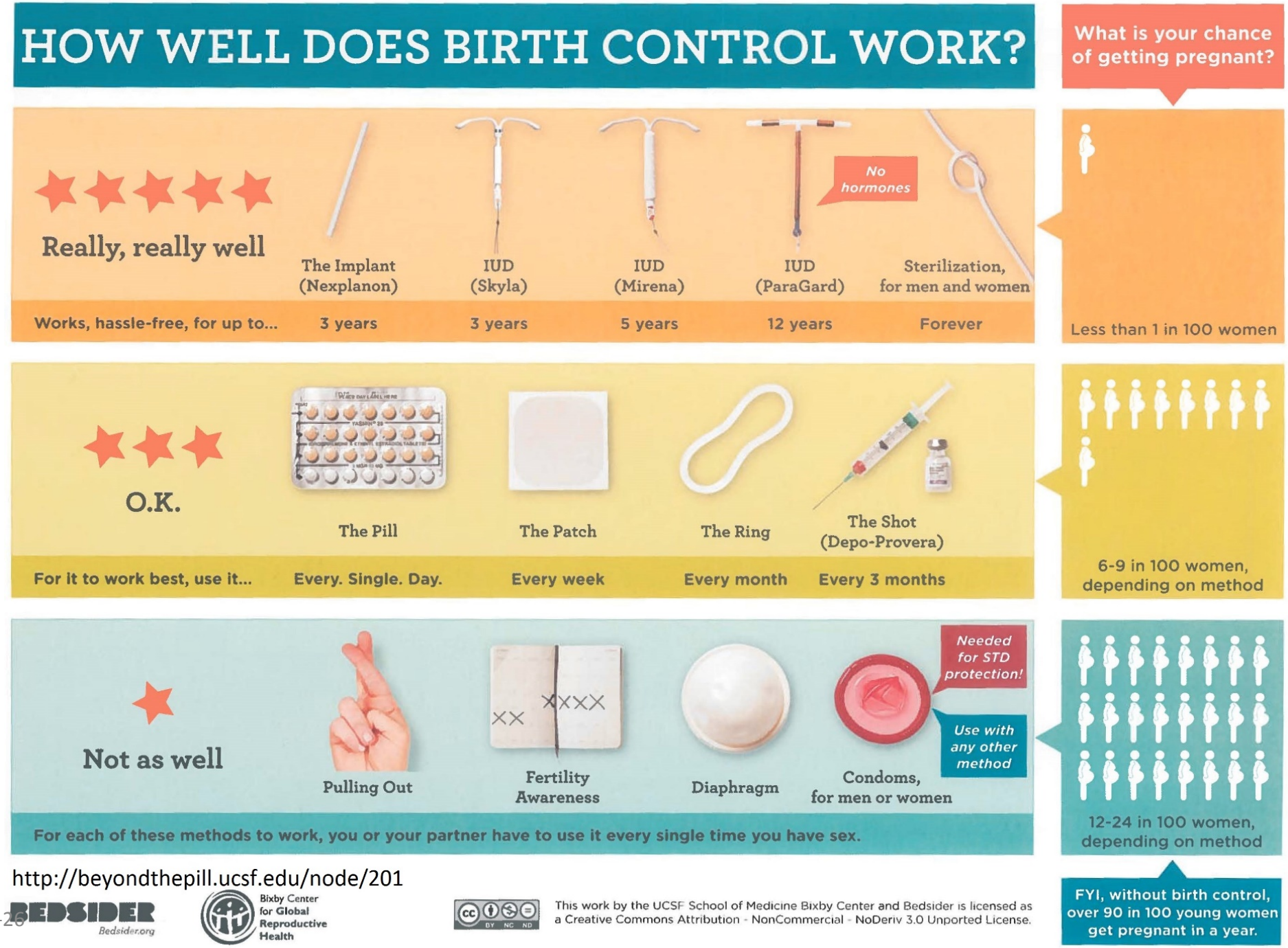
The SMART Program
(Safe Methods at the Right Time)

Is free post-abortion contraception
more cost-effective than managing subsequent
unintended pregnancies?

Declaration of Interest

- Bayer Canada Inc donated contraceptive devices to my investigator initiated RCT. Bayer has no influence on the study design, conduct, analysis nor decision to publish.



http://beyondthepill.ucsf.edu/node/201

Prior post-abortion contraception studies:

- limited success with clinical follow-up.

BCC Better Contraceptive Choices

Post-abortion Contraception studies

Combining

- RCT enrollment

with comprehensive outcome assessment through

- Clinical records, *and*
- Provincial Health Admin Data

populationdata BC

All inferences, opinions, and conclusions drawn in this analysis and program recommendations are those of the authors, and do not reflect the opinions or policies of the Data Steward(s)

Norman *et al. Trials* 2011, **12**:149
http://www.trialsjournal.com/content/12/1/149

TRIALS

STUDY PROTOCOL Open Access

Immediate vs. delayed insertion of intrauterine contraception after second trimester abortion: study protocol for a randomized controlled trial

Wendy V Norman[1,2*], Janusz Kaczorowski[1,2,4], Judith A Soon[1,3,4], Rollin Brant[1,5], Stirling Bryan[1,4,6], Konia J Trouton[1,2,7] and Lyda Dicus[1,8]

Norman *et al. Trials* 2012, **13**:147
http://www.trialsjournal.com/content/13/1/147

TRIALS

STUDY PROTOCOL Open Access

Comparing the effectiveness of copper intrauterine devices available in Canada. Is FlexiT non-inferior to NovaT when inserted immediately after first-trimester abortion? Study protocol for a randomized controlled trial

Wendy V Norman[1,2,3*], Jessica L Chiles[1,2], Caroline A Turner[1,2], Rollin Brant[1,4], Andra Aslan[1,2] and Janusz Kaczorowski[1,5]

What Proportion of Canadian Women Will Accept an Intrauterine Contraceptive at the Time of Second Trimester Abortion? Baseline Data From a Randomized Controlled Trial

Wendy V. Norman, MD, MHSc,[1,2] Melissa Brooks, MD,[1,3] Rollin Brant, PhD,[1,4] Judith A. Soon, PhD,[1,5] Ali Majdzadeh,[6] Janusz Kaczorowski, PhD[1,7]

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Enrollment Consort

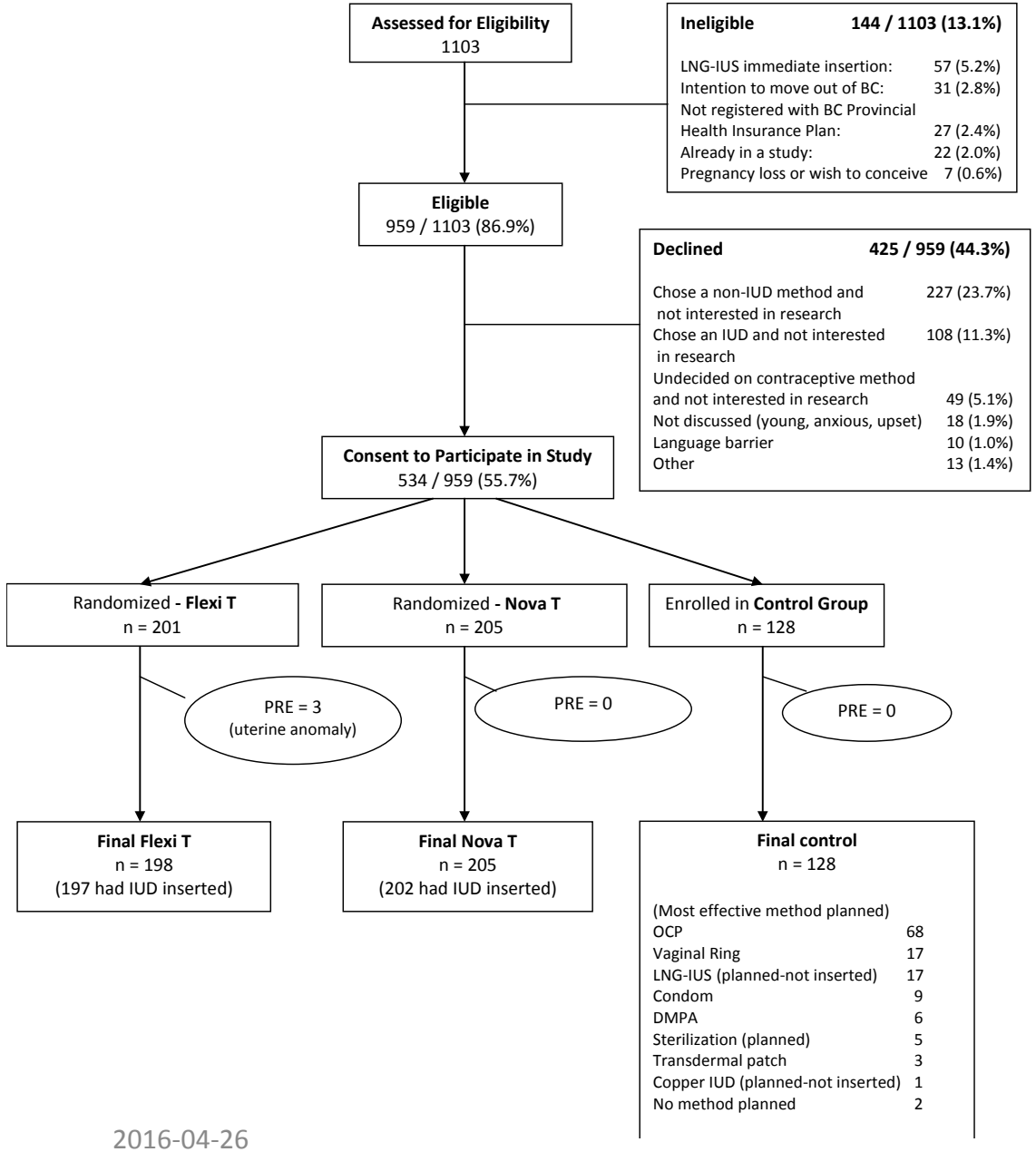
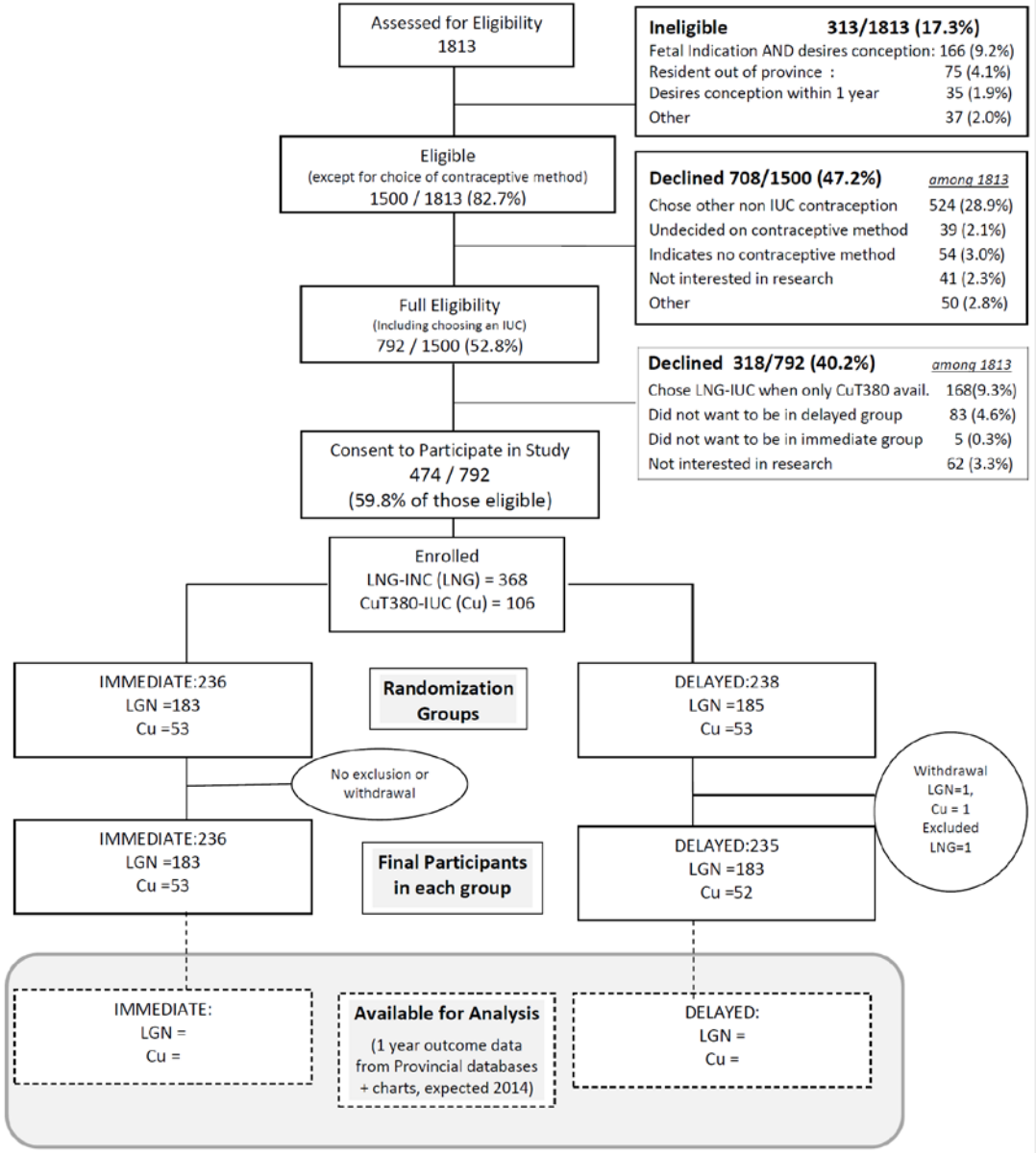


Figure 1.



Secondary Cohort Analysis

- Intention to treat analysis
- Enrolled women = 1031
- Cohort definitions:
  - LNG-IUC inserted within 8 weeks (n= 250, 24.2%)
  - Cu-IUC inserted within 8 weeks (n= 473, 45.9%)
  - Pill/Patch/Ring/DMPA (1 unit) (n= 141, 14.7%)
  - All other enrolled women (n= 167, 16.2%)

Cohort Analysis

Outcome

- Pregnancy event within two years

Outcome Costs

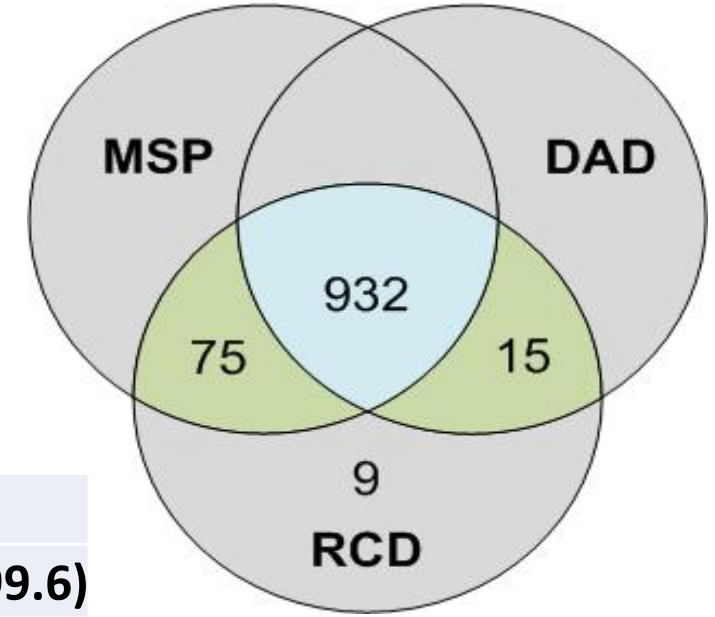
- including all pregnancy related care from conception to six weeks post-outcome

Measurement of Outcomes

- Vital Statistics- Births, Stillbirths
- Physician billing data
- Hospital discharge data
- Therapeutic Abortion Database
- Clinic records from all abortion clinics in the province

Validation of the data capture of abortion events in BC health administrative data

MSP:
Physician billing



DAD: Hospital
Discharge Abstract Data

RCD: Researcher Collected Data (Charts)

Source	Sensitivity (95% CI)
MSP or DAD	**99.1 (98.3-99.6)**
MSP	97.7 (96.6-98.5)
DAD	91.9 (90.0-93.4)

MSP = Medical Service Plan Payment Database,
DAD = Discharge Abstracts Database.

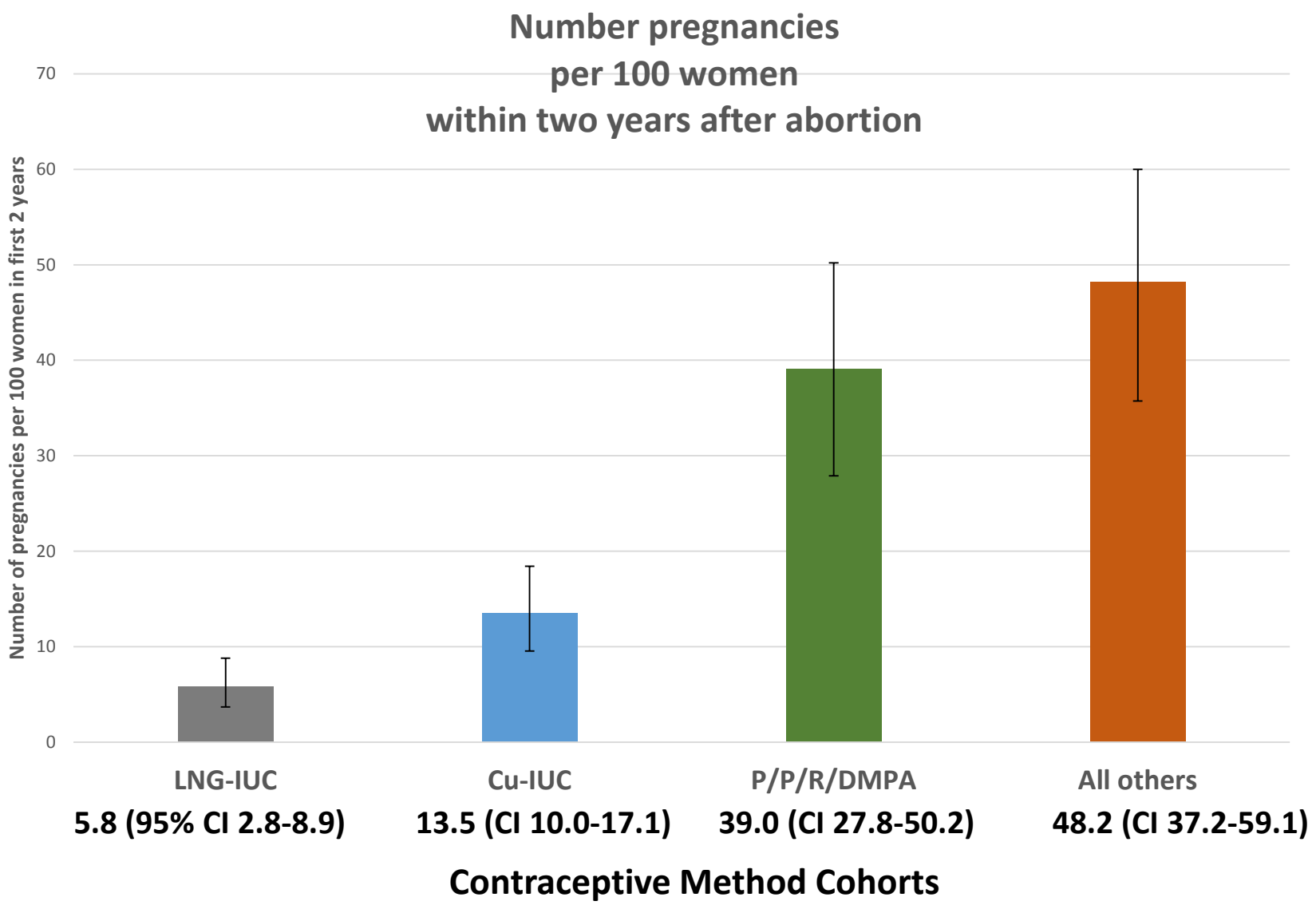
Results

Demographics
At time of index abortion

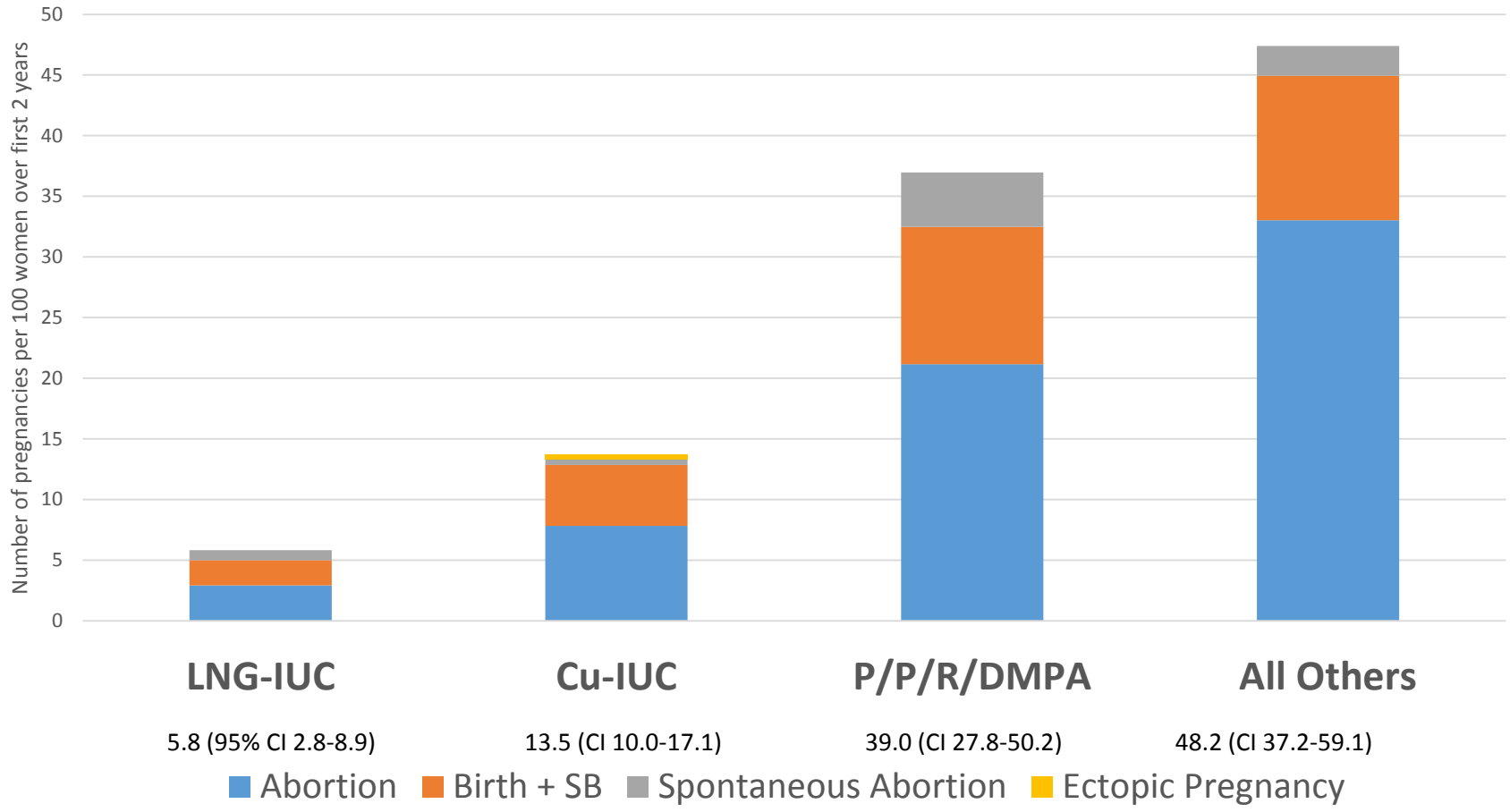
Average Age (SD)	25.8 (6.7) years
	%
Any Prior Birth	34.4
Any Prior Abortion	33.3
Education	
<High School	25.1
High School	36.1
>High School	38.8
Income	
0-14,999	53.5
15,000-24,999	20.2
25,000-54,999	20.1
>55,000	5.5
Not reported	2.7

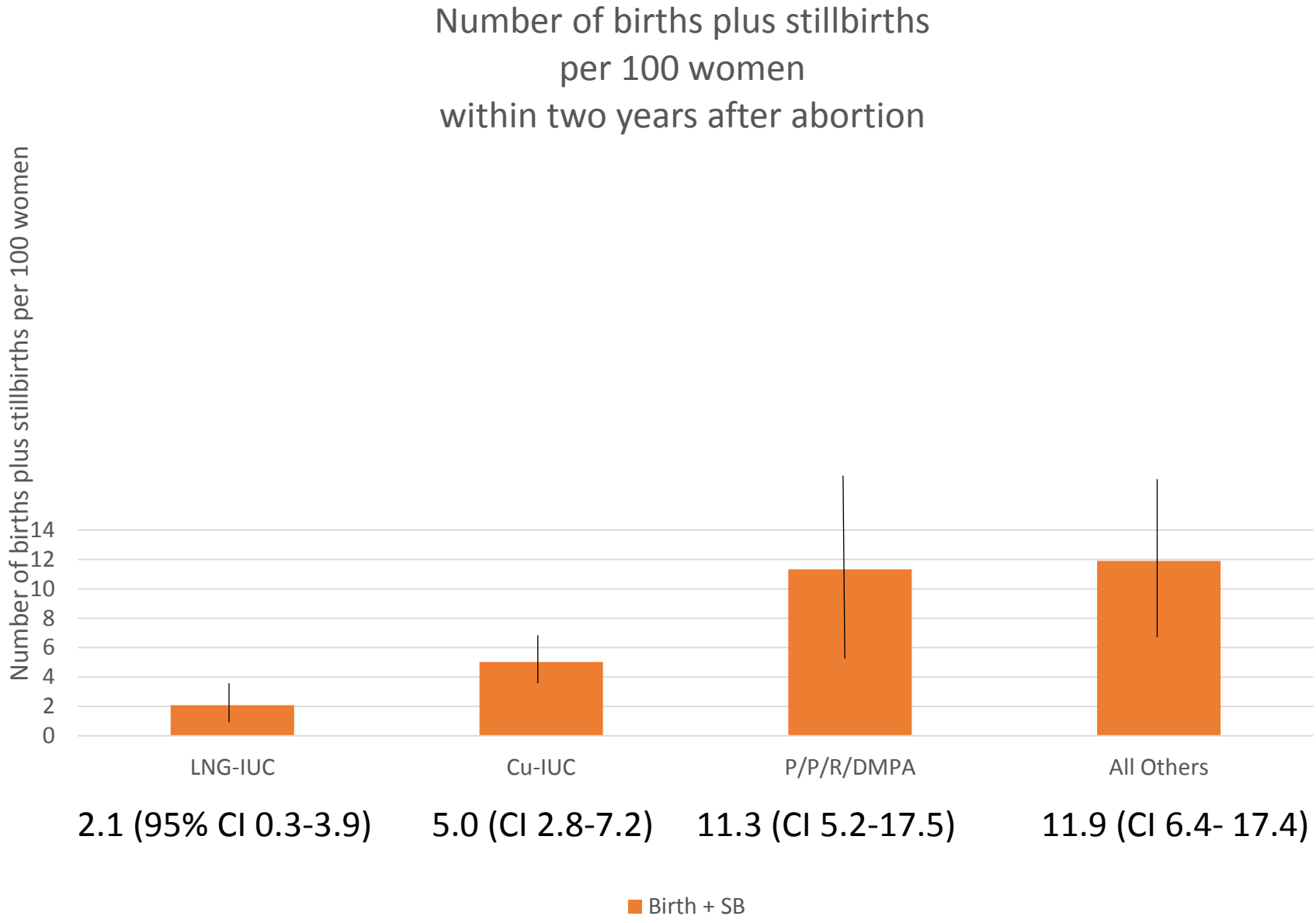
Contraceptive Method used at the time of conception of current unintended pregnancy

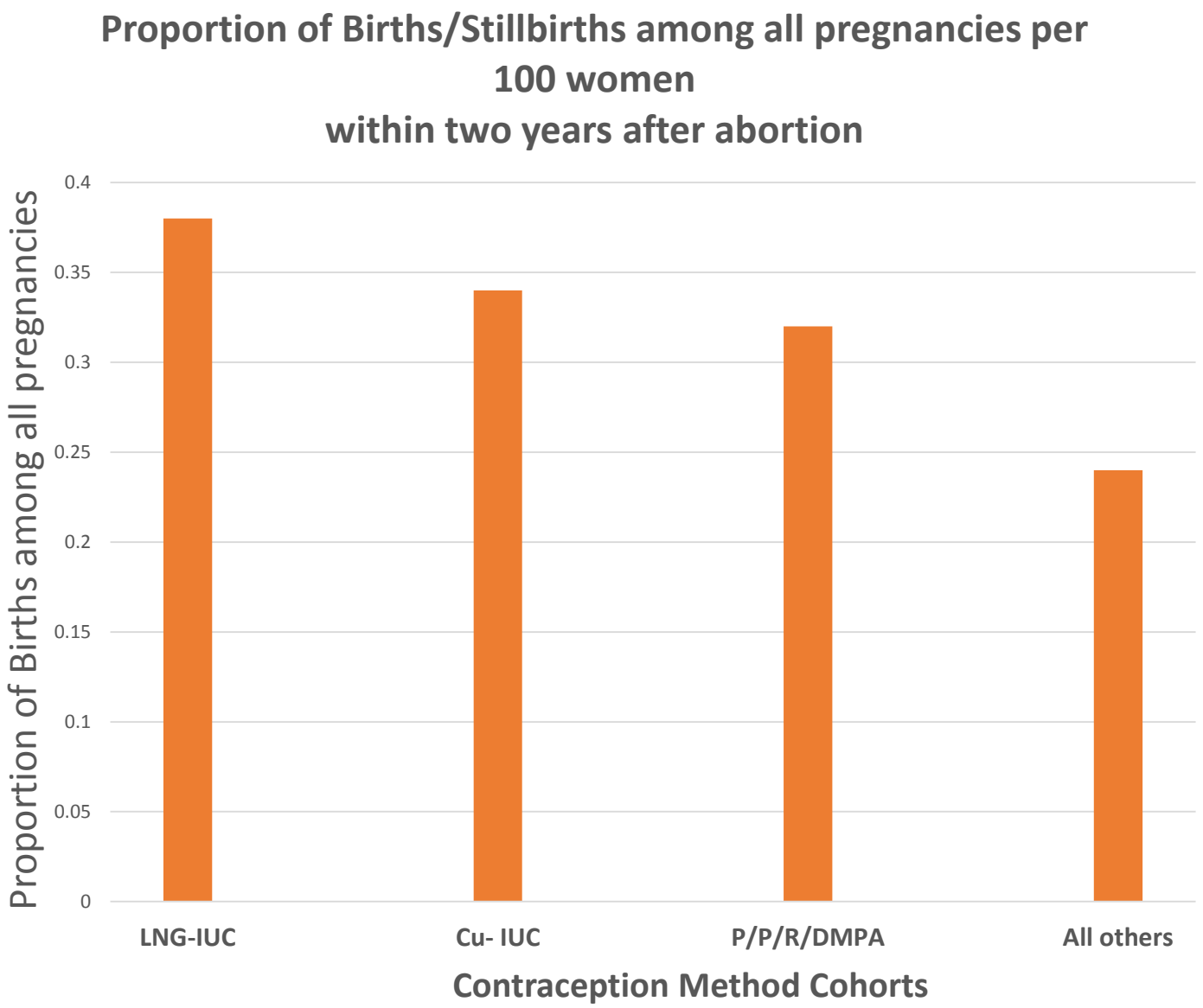
	Method	Most effective method %
Tier1	LARC (IUD, IUS), Sterilization	1.7
Tier 2	Hormonal contraception (P/P/R/DMPA)	41.6
Tier 3	Barrier methods FAM Emergency contraception	20.3
Not reported		4.8
None		33.1


Number pregnancies
per 100 women
within two years after abortion
Number of pregnancies per 100 women in first 2 years
70
60
50
40
30
20
10
0
LNG-IUC
Cu-IUC
P/P/R/DMPA
All others
5.8 (95% CI 2.8-8.9)
13.5 (CI 10.0-17.1)
39.0 (CI 27.8-50.2)
48.2 (CI 37.2-59.1)
Contraceptive Method Cohorts

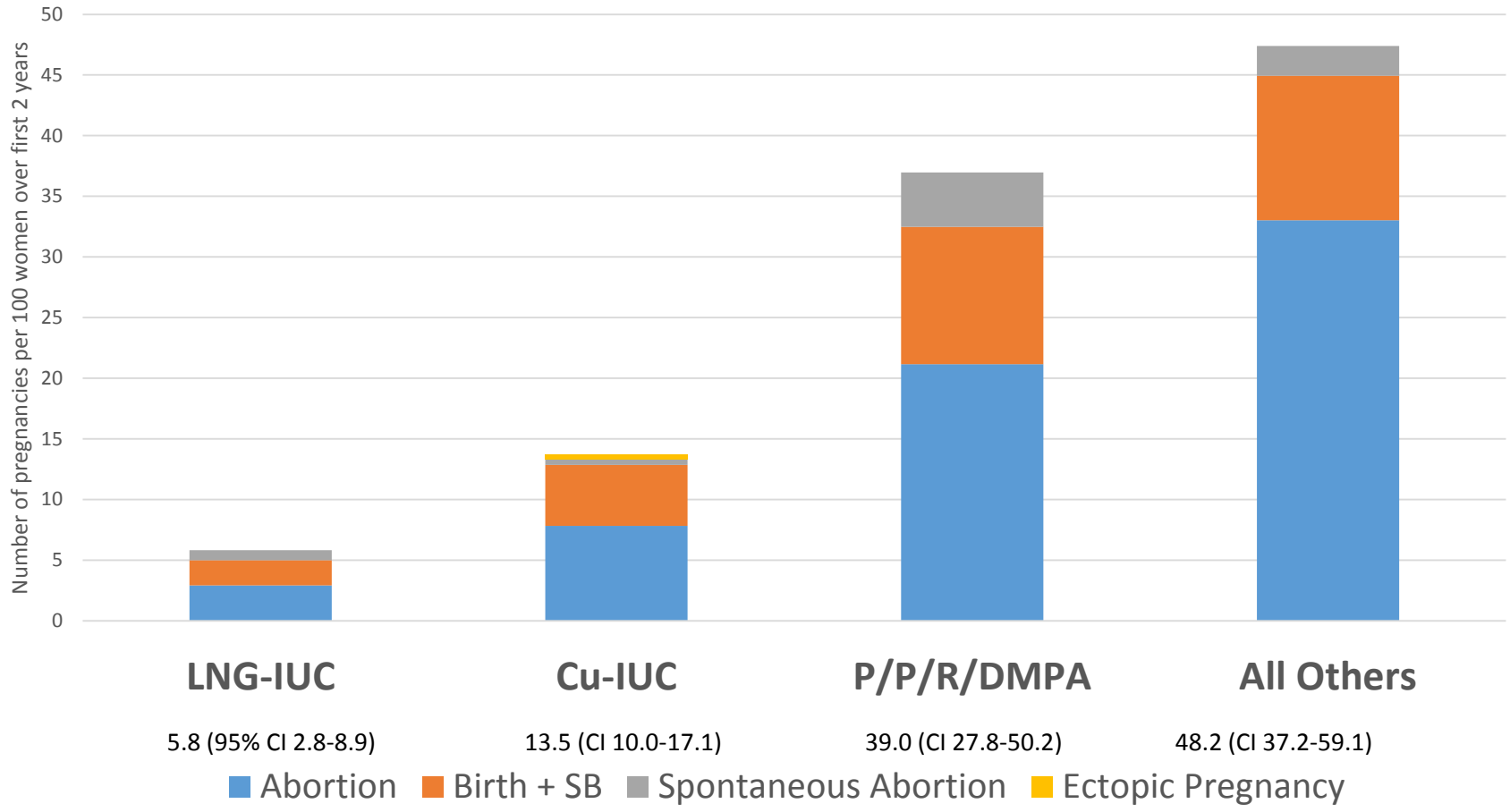
Number pregnancies, by outcome per 100 women within two years after abortion




Number of births plus stillbirths
per 100 women
within two years after abortion
Number of births plus stillbirths per 100 women
14
12
10
8
6
4
2
0
LNG-IUC
Cu-IUC
P/P/R/DMPA
All Others
2.1 (95% CI 0.3-3.9)
5.0 (CI 2.8-7.2)
11.3 (CI 5.2-17.5)
11.9 (CI 6.4- 17.4)
Birth + SB


Proportion of Births/Stillbirths among all pregnancies per 100 women within two years after abortion
Proportion of Births among all pregnancies
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
LNG-IUC
Cu- IUC
P/P/R/DMPA
All others
Contraception Method Cohorts

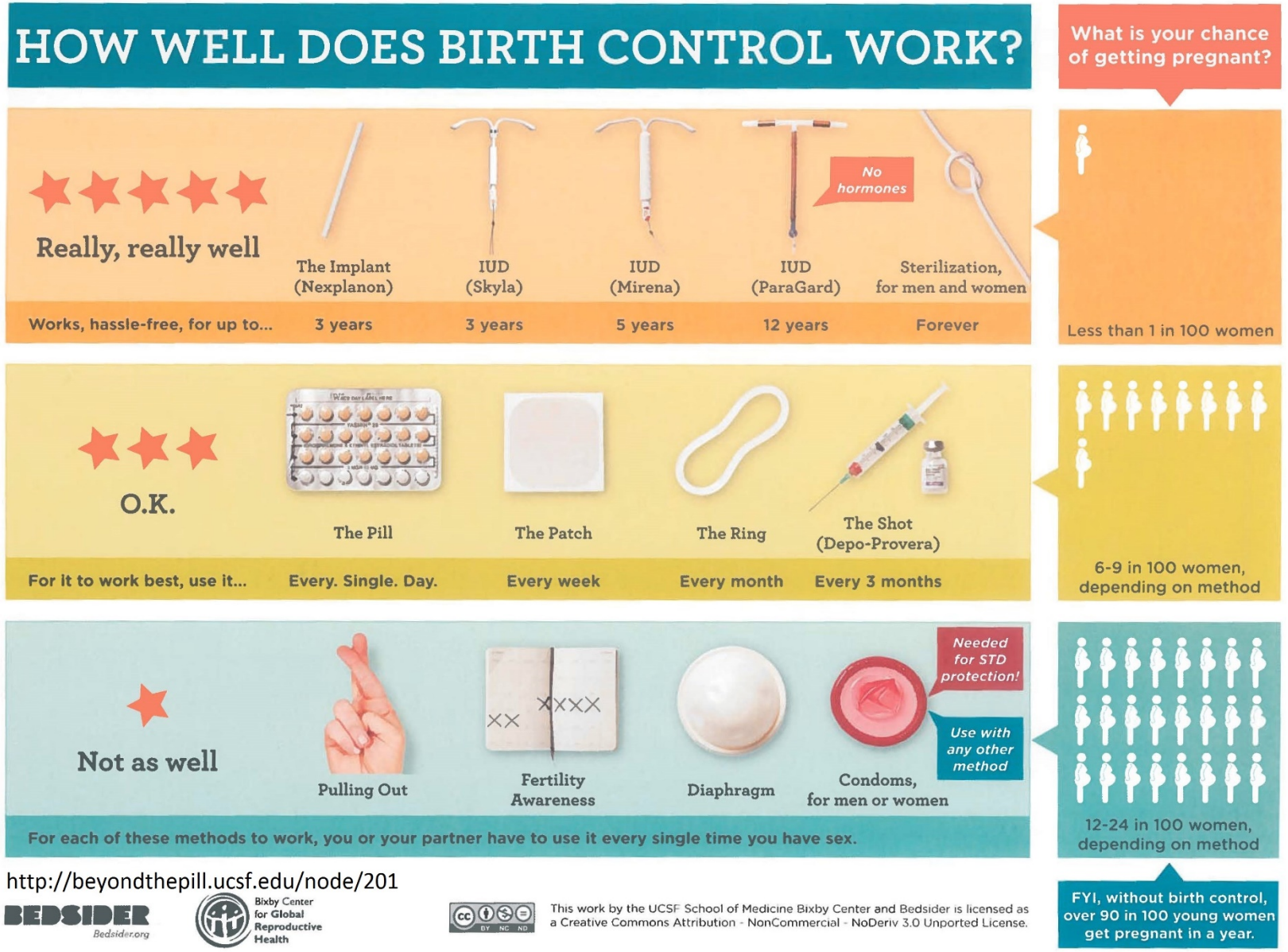
Number pregnancies, by outcome per 100 women within two years after abortion



SAFE METHODS AT THE RIGHT TIME

THE SMART PROGRAM

REDUCING RECURRENT UNINTENDED PREGNANCY THROUGH PROVISION OF HIGHLY EFFECTIVE CONTRACEPTION AT THE TIME OF ABORTION



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BEDSIDER Bedsider.org

Bixby Center for Global Reproductive Health

Contraception subsidy Policy Options:

A. **IUD or LNG IUS or Pill\Patch\Ring\DMPA** (1 unit)
B. **IUD or LNG IUS**
C. **Copper IUD**
D. **Current Policy- No Subsidy**

Contraception Uptake by Policy Option considering *most effective* method selected	A Tier 1 or Tier 2	B Tier 1 (IUS/IUD)	C Copper IUD only	D No Subsidy
Tier 1	**63%**	**63%**	**50%**	**14%**
LNG-IUS	60%	60%	7%	7%
Copper IUD	3%	3%	43%	7%
Tier 2	**27%**	**22%**	**30%**	**44%**
OCP	20%	16%	20%	33%
Ring	5%	4%	8%	8%
Patch	1%	1%	1%	2%
DMPA (“Depo-Provera®”)	1%	1%	1%	1%
Tier 3	**10%**	**15%**	**20%**	**42%**
Planned Sterilization	3%	3%	3%	3%
Condoms	3%	7%	10%	26%
Other	1%	1%	2%	2%
None/Abstinence	1%	2%	3%	9%
Not interested/undecided/not discussed	2%	2%	2%	2%
Total	**100%**	**100%**	**100%**	**100%**

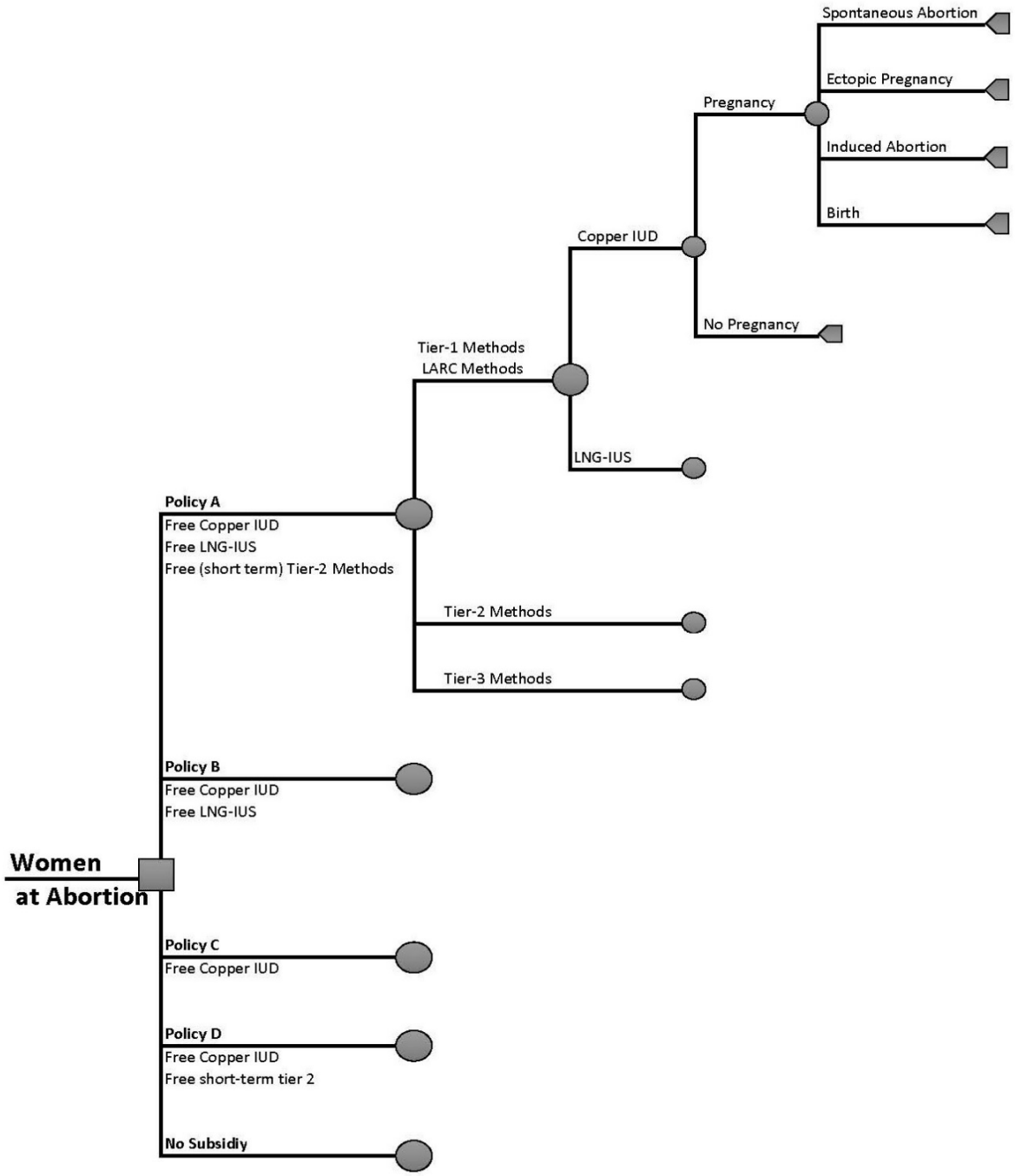
Cost of contraception methods in BC:

Contraception	Product cost	Sales Tax	Physician fee for Insertion	shipping	Cost per unit	# of units	Intervention Cost
Copper IUD	$63.72	$5.00	$20.55	$1.06	$90.33	1	$90.33
LNG-IUS	$364.78	$28.64	$20.55	$1.06	$415.03	1	$415.03
OCP	$16.55	$1.30		$0.33	$18.18	3	$54.54
Patch	$18.07	$1.42		$0.33	$19.81	3	$59.44
Ring	$16.59	$1.30		$0.33	$18.22	3	$54.65
DMPA	$30.19	$2.37		$0.33	$32.89	1	$32.89

Cost to manage pregnancy outcomes:

Pregnancy-related outcome	Cost per case
Spontaneous Abortion	$626.00
Ectopic Pregnancy	$2,619.00
Induced Abortion	$609.00
Birth (care of mother for pregnancy and post-partum + infant to six weeks)	$8,147.76

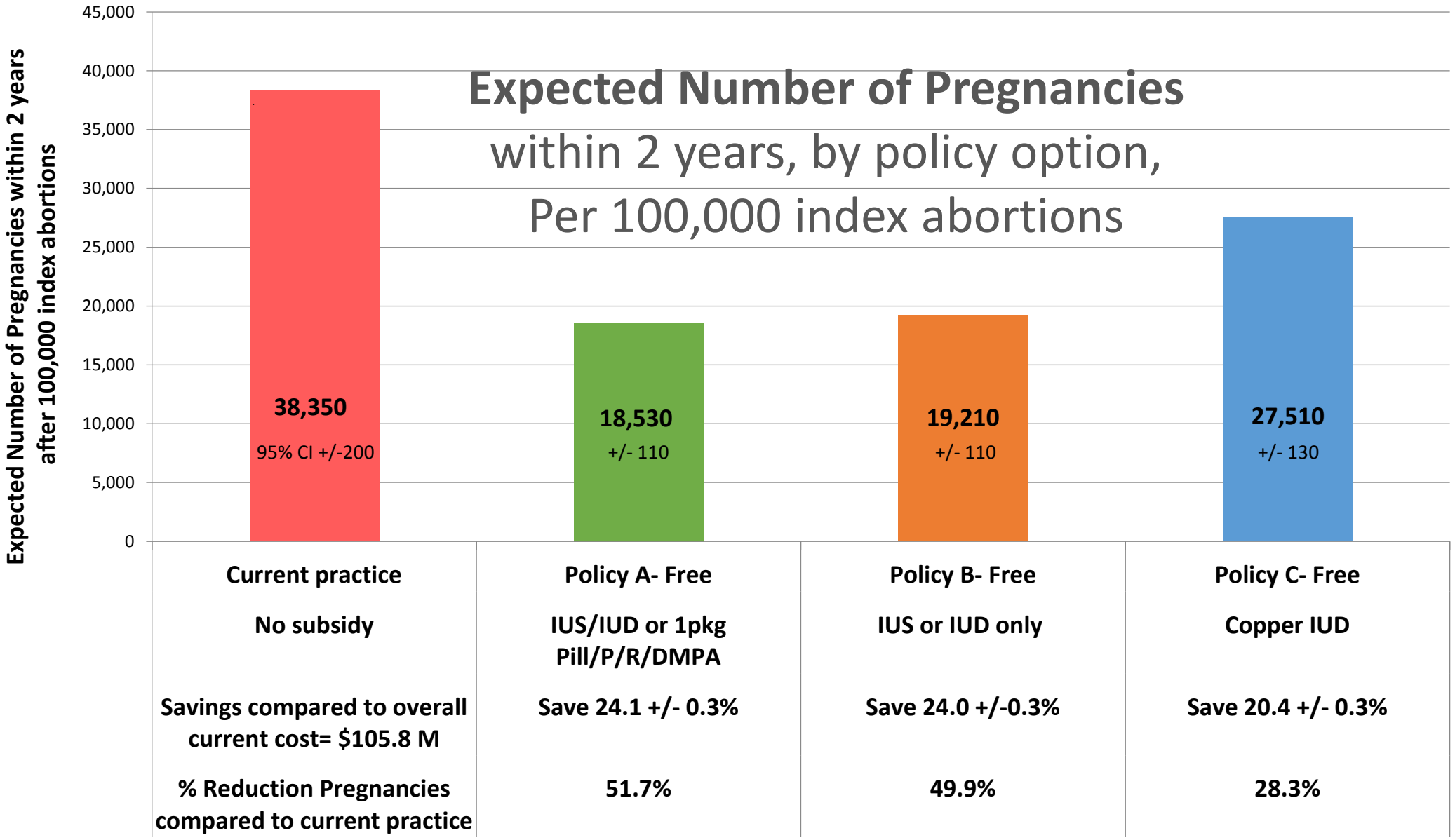
Decision Tree:



Components of health system costs and savings among BC residents accessing abortion care per year (estimated for 15,000 women)

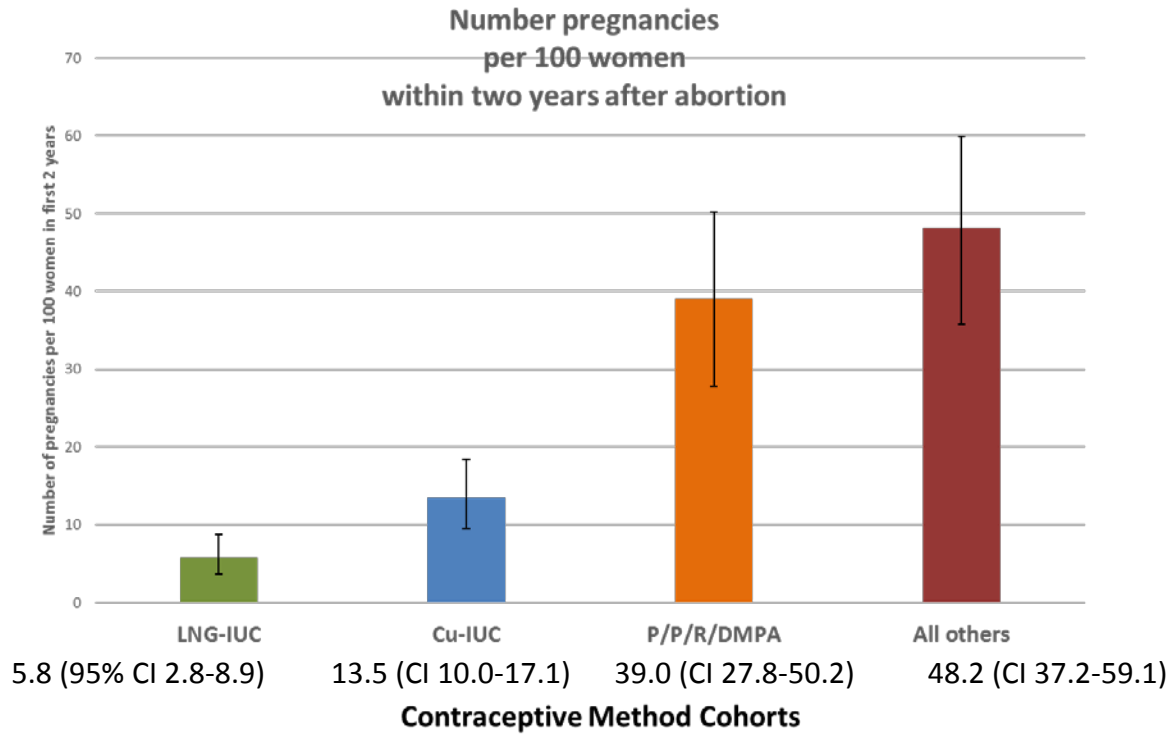
Policy Alternative	Cost of Contraception		Cost to provide pregnancy care			Total health system cost	Total Cost Saving	Reduction in total health system costs (%)	Reduction in pregnancy events (%)
	Pharm. Pharmaceutical Cost	MSP Fee	Pharm. Costs	MSP Fee	Health Authority Cost				
	To end of 2nd year	To end of 2nd Yr	To end of 2nd Yr	To end of 2nd Yr	To end of 2nd Yr	To end of 2nd Yr	At the end of 2nd Yr	At the end of 2nd Yr	By the end of 2nd Yr

Model of Outcomes & Costs


Expected Number of Pregnancies
within 2 years, by policy option,
Per 100,000 index abortions
Expected Number of Pregnancies within 2 years after 100,000 index abortions
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
38,350
95% CI +/-200
18,530
+/- 110
19,210
+/- 110
27,510
+/- 130
Current practice
No subsidy
Savings compared to overall current cost= $105.8 M
% Reduction Pregnancies compared to current practice
Policy A- Free
IUS/IUD or 1pkg Pill/P/R/DMPA
Save 24.1 +/- 0.3%
51.7%
Policy B- Free
IUS or IUD only
Save 24.0 +/-0.3%
49.9%
Policy C- Free
Copper IUD
Save 20.4 +/- 0.3%
28.3%
Policy Options

Discussion

- More women choose highly effective methods when free
- Recurrent pregnancy post abortion is least likely with IUC
- Trend toward intended pregnancies among women using IUC



Limitations

- The RCTs from which this secondary analysis was derived were not designed to answer this question

- For privacy reasons, only one pkg hormonal contraception (Pill/Patch/Ring/DMPA) was given

Discussion

Provision of free highly effective contraception at the time of abortion could:

- reduce recurrent pregnancy within the first two years by half, while
- reducing overall health system costs by 24%

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Discussion

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