POST ABORTAL IUCD INSERTION

INTERNATIONAL CONFERENCE ON FAMILY PLANNING
30 NOVEMBER 2011
DAKAR, SENEGAL
MARK NICHOLS, MD
Disclosures

No conflicts of interest
Off label discussions of FDA approved devices
World Population
7,000,000,000
projected on October 31, 2011
Projected World Population
3 different fertility rates
## Failure rates of birth control methods (typical use)

### User dependent Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Failure rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condoms</td>
<td>12</td>
</tr>
<tr>
<td>Spermicides</td>
<td>21</td>
</tr>
<tr>
<td>Natural Family Planning</td>
<td>20</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>18</td>
</tr>
</tbody>
</table>

### Newer Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Failure rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral contraceptives</td>
<td>3</td>
</tr>
<tr>
<td>DMPA</td>
<td>0.3</td>
</tr>
<tr>
<td>Implants</td>
<td>0.2</td>
</tr>
<tr>
<td>IUCD</td>
<td>0.2</td>
</tr>
</tbody>
</table>
Immediate Post Abortion IUCD insertion compared to delayed insertion

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient not pregnant</td>
<td>Increased risk of infection?</td>
</tr>
<tr>
<td>Cervix already dilated</td>
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</tr>
<tr>
<td>Effective before next ovulation</td>
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</tr>
<tr>
<td>Assures effective contraception</td>
<td>Prolonged bleeding?</td>
</tr>
<tr>
<td>Reduce repeat abortion rate?</td>
<td></td>
</tr>
</tbody>
</table>
Intention to have IUCD insertion after abortion

- Retrospective chart review
- 1st trimester surgical abortion
- 500 charts reviewed
- 53 identified as requesting IUCD insertion
- At 6 weeks 10/53 (19%) had IUCD insertion
- At 6 months 17/53 (32%) had IUCD insertion

Stanek Contraception 2009:79;216-220
### Barriers to intended IUCD insertions

Prospective survey: reported barriers of women who intended IUD use postabortion ($n=27$)

<table>
<thead>
<tr>
<th>Barrier</th>
<th>$n$ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time needed for additional visit</td>
<td>11 (41)</td>
</tr>
<tr>
<td>Inability to return for additional visit within 6 weeks of procedure</td>
<td>4 (15)</td>
</tr>
<tr>
<td>Partner, friend or family disapproval</td>
<td>3 (11)</td>
</tr>
<tr>
<td>Cost of the IUD</td>
<td>2 (7)</td>
</tr>
<tr>
<td>Transportation needed for additional visit</td>
<td>2 (7)</td>
</tr>
<tr>
<td>No barrier reported</td>
<td>5 (19)</td>
</tr>
</tbody>
</table>
Post Aspiration IUCD Randomization (PAIR) Study

- RCT of Immediate versus Delayed IUCD insertion
- 5:6 ratio of recruitment
- 4 sites in US
- 578 subjects enrolled
- Self selected Levonorgestrel IUCD or Copper IUCD
- Primary outcome: 6 month continuation rate

## PAIR Study Results

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Immediate (%)</th>
<th>Delayed (%)</th>
<th>Difference (%)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertions</td>
<td>100</td>
<td>71.3</td>
<td>28.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Expulsions</td>
<td>5.0</td>
<td>2.7</td>
<td>2.3</td>
<td>0.18</td>
</tr>
<tr>
<td>Removals</td>
<td>6.2</td>
<td>4.9</td>
<td>1.3</td>
<td>0.60</td>
</tr>
<tr>
<td>Use at 6 months</td>
<td>92.3</td>
<td>76.6</td>
<td>15.3</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

PAIR Study expulsions

# Adverse events

<table>
<thead>
<tr>
<th>Adverse Events</th>
<th>Immediate Insertion (N=258)</th>
<th>Delayed Insertion (n=317)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUCD Perforation</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Pelvic Infection</td>
<td>1.9% (5)</td>
<td>1.6% (5)</td>
<td>0.76</td>
</tr>
<tr>
<td>Incomplete Abortion</td>
<td>0.8% (2)</td>
<td>0.9% (3)</td>
<td>1.0</td>
</tr>
<tr>
<td>Failed Abortion</td>
<td>0.4% (1)</td>
<td>0</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Results: 28 Days Post-Aspiration LNG-IUS

Immediate (n=199)

Delayed (n=178)
Results: 28 Days Post-Aspiration
Copper T380A

Immediate
(n=59)

Delayed
(n=48)
Results: 28 Days Post-Aspiration
Bleeding and Spotting

LNG-IUS

Copper T380A
Post D&E LNG-IUS insertion

- RCT Immediate vs 3-6 weeks post D&E abortion
  - 15-23 weeks gestation
- Primary outcome: 6 month continuation rate
- 44/44 in the immediate group had insertions
- 20/44 (45%) in the delayed group had insertions
- Continuation rate at 6 months:
  - 22/26 (85%) in the immediate group
  - 14/25 (56%) in the delayed group (p=.02)
- Expulsions:
  - 7% in the immediate group
  - 5% in the delayed group (p=.7)

Hohmann Contraception 2009;80:209
## Summary: Immediate vs Delayed IUCD Insertion

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<th>Disadvantages</th>
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<td>Reduce repeat abortion rate?</td>
<td></td>
</tr>
</tbody>
</table>
Questions around immediate IUCD insertion after abortion

- Increased risk of infection? NO
- Increased risk of expulsion? NO
- Increased risk of perforation? PROBABLY NO
- Prolonged bleeding? NO
- Reduce repeat abortion rate? YES
Post-Abortal Provision of Long-Acting Reversible Contraception

Immediate Insertion of Contraceptive Implants After Surgical Abortion

Anne Burke, MD/MPH
Jenny Robinson, MD/MPH

Dakar, Senegal – 30 November 2011
### WHO Medical Eligibility Criteria:

#### Implants after abortion

<table>
<thead>
<tr>
<th>Condition</th>
<th>IUD</th>
<th>Implant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediately after 1(^{st}) trimester abortion</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Immediately after 2(^{nd}) trimester abortion</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Immediately post-septic abortion</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Possible advantages specific to implants

- Not contraindicated by uterine bleeding or concerns about evacuation procedure
- Not contraindicated by septic abortion
  - (vs. IUC – Category 4)
- Minimal additional equipment needed
- Easy (and quick) to insert
- Instant, long-term contraceptive protection
## Factors affecting access to LARC immediately after an abortion:

<table>
<thead>
<tr>
<th>Enablers</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Recent clinician training in placing IUCDs or implants</td>
<td>• High cost of LARC to patients</td>
</tr>
<tr>
<td>• Financial coverage of LARC methods</td>
<td>• Lack of time during visit</td>
</tr>
<tr>
<td>• Clinic sites that offer multiple reproductive health services</td>
<td>• Patients are unaware of LARC methods, and are not counseled about them</td>
</tr>
</tbody>
</table>

Cost Effectiveness

- Contraceptive implant is highly cost-effective compared to:
  - No method
  - Physical barriers (male and female condoms, diaphragm, cervical cap)
  - Behavioral methods (withdrawal, periodic abstinence)
  - Possibly shorter-acting hormonal methods, depending on duration of use

Implant and Adolescents

- Contraceptive implant is well-accepted by postpartum adolescents, and is associated with high continuation rates\(^1\)
- Implant use is associated with a longer delay until next pregnancy\(^2\)
- No change in bone mineral density with implant\(^3\)

Continuation of Implant

- Norplant: Similar continuation rates between adolescents (93.6%) and adults (91.1%) over 2 years\(^1\)
  - History of an induced abortion was a significant predictor of Norplant continuation among inner city adolescents\(^2\)

- Cochrane Review 2007: Similar continuation of Norplant and Jadelle\(^3\)

- 1-year discontinuation about 16% overall\(^4\)

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Bleeding Patterns

- Menstrual irregularities are a common complaint among adolescent users of Implanon, and often lead to requests for early removal.\(^1\)

- LNG implant is associated with a higher number of bleeding days than DMPA, but is more similar to natural cycles.\(^2\)

- Implanon was associated with fewer bleeding days and higher incidence of amenorrhea than Norplant.\(^3\)

Implants Post-Abortion

- Adolescents who chose Norplant after a pregnancy (birth or abortion) had 16% discontinuation at 1 year, compared to 46% discontinuation among those who chose OCPs\(^1\)

- After induced abortion, women who selected immediate LARC placement had higher continuation rates at 6 and 12 months than women who chose other methods\(^2\)
  - 6 months: >94% vs. 74%
  - 12 months: >90% vs. 54%

Implanon

- A single-rod, progestin implant
- 68 mg etonogestrel
- Effective for at least 3 years
- Only implant available in United States
What about post-abortion Implanon?

- Experience from urban hospital in Baltimore, Maryland
  - Mid-sized city in US
  - High unintended/teen pregnancy rate

- Hospital-based abortion clinic
  - Elective abortions up to 20 weeks
  - Immediate post-abortion LARC offered
    - IUC (previously published) and Implants
Post-abortion Implanon

● 5-10% of patients choose implants
  ● We encourage immediate insertion

● Review of cases 2008 – April 2011

● 79 women received immediate post-abortion Implanon
  ● 9 more planned delayed insertion
    ● 8 never returned for follow-up
Implanon placed, by year

2011 (Jan-Apr)

2010

2009

2008

# implanon

0 5 10 15 20 25 30

# implanon
Demographics

![Bar chart showing age distribution]

- Age 13-17: 25
- Age 18-21: 24
- Age 22-25: 6
- Age 26-29: 5
- Age 30-34: 4
- 35 or older: 1
Parity and Trimester of Abortion (percentage of women)
Questions

• What is continuation rate?
• What are reasons for discontinuation?
• Any impact on repeat pregnancy?
• Any complications as a result of post-abortion placement?
Continuation

- Loss to follow-up lower than expected
  - At least 6 months’ data for ~75% of subjects
  - (This is actually good for our population)

- No significant differences by age, but most women <age 21 anyway

- Continuation at 6 months: >90%
Continuation

- Discontinuation prior to 1 year:
  - 19 (23%) of women lost to follow up
  - Of remaining 60 women, 7 (11.7%) discontinued

- Of implants placed 3 years ago, follow-up data for 11/16 women
  - Only 1 discontinued early
Reasons for early removal

- Primarily side effects
  - Most complained of bleeding disturbances
  - One complained of weight gain
  - One cited arm pain

- No complications of removal

- 5 patients had visits to discuss side effects, but continued the method
Outcomes

- Most women who discontinued switched to less effective methods
  - Patch or DMPA, most commonly

- Of those who discontinued implant early,
  - 2 documented pregnancies within 6 months of stopping use
  - Numbers too small to draw conclusions: would need larger study to assess impact on pregnancy rates
Complications

- No complications of insertion or removal
- Of all patients, only 1 was evaluated for an abortion-related complication
  - Seen 3 days later in emergency department for bleeding
  - Evaluated and discharged
  - No apparent increase in abortion-related complications after implant insertion
  - No difference between first and second trimester abortion
Conclusions

- Continuation of post-abortion implant contraception seems similar to published data
- It’s safe! Low complication rate
  - WHO MEC Category 1
- Opportunity to provide highly effective contraception to women with undesired pregnancy
- More data needed on side effects, acceptability, long-term continuation, and repeat pregnancy
Thank you.
LARC Following Medical Abortion

Mary Fjerstad NP MHS
30 November 2011
Background

• In some settings, a high percentage of women may not return to the clinic for follow-up

• Telephone follow-up common in some settings

• Initiating LARC for women post-medical abortion is challenging

• Few studies about LARC after medical abortion
Methods

• Literature review
• Observation of medical abortion services in Ethiopia, South Africa, Nepal, India, US, UK, NZ, France, Mexico
• Personal communication
Results - Ethiopia

Success rate of medical abortion among a group of clinics trained by Ipas is 96.8%

22 Ethiopian facilities
Ethiopia

Current Technical Safe Abortion Guidelines require women to return for misoprostol
Ethiopia   April-June 2011

Ipas-trained clinics overall:

7,653  medical abortions

➢ 17.3% had implants
➢ 2.1% had IUDs
LARC chosen at Ipas Ethiopia intervention sites

Number of women receiving method

- FY09 (n=328): 89% Implant, 9% IUD, 2% TL/Vasectomy
- FY10 (n=253): 92% Implant, 8% IUD, 1% TL/Vasectomy
- FY11 (n=323): 79% Implant, 20% IUD, 1% TL/Vasectomy
Ethiopia- selected clinics

If contraception was discussed on day of mifepristone, approx. 70% of women accepted implants on day of misoprostol in some clinics

- Some Health Extension workers trained to insert implants
Ethiopia- selected clinics

In these clinics that focused on LARC, approx 20% of women had IUDs inserted at f/u
Nepal

- High percentage of f/u is by telephone
- Use of LARC at end of 2009 was 1.87%
- Many nurses and physicians not trained to insert
IUD Insertion
After Medical Abortion

Sarah J. Betstadt, MD, MPH
Boston University
Contraception 2010
Objective

First study of IUD placement after medical abortion

- **Primary outcome**: Expulsion rate of intrauterine contraception placed immediately after confirmed successful medical abortion
Methods

- **Inclusion**: Women with successful medical abortion within 14 days of mifepristone administration
- **Exclusion**: Infection, uterine cavity distortion
- 125 women
- IUD inserted 6-12 days after mifepristone
- Inserted both Cu and LNG IUDs
Data collection

- **6 week phone call:** check for fever, pain, bleeding
- **3-month visit:**
  - Check IUD placement
  - Check for fever, pain, bleeding
Results

- The IUD expulsion rate = 4.1%
- Comparable to rate of expulsion of IUDs inserted post-vacuum aspiration abortion
- No perforations or infections
- Expulsion rate was not associated with endometrial thickness
Timing of IUD insertion after MA

Study N= 156
If IUD was inserted 1 week after MA, 97% of women returned for placement.

If IUD was inserted 1 month after MA, 78% of women returned for placement.

• No difference in expulsion rates

Shimoni Contraception 2010
Future areas of study

• Administration of DMPA on the day of mifepristone to afford 3 months of contraceptive coverage

• Pilot study of implants on the day of mifepristone under way
Conclusions

• LARC after medical abortion is safe and effective
• Providers can insert implants on the day of misoprostol OR
• Have the woman return early for insertion of implants or IUD
Thank you
The potential impact of LARC after abortion
A decision analysis

Matthew Reeves, MD, MPH
November 31, 2011
Objectives

- Continuation & satisfaction with increased LARC usage
- Decision analysis
  - Effect of unintended pregnancies
  - Effect on (repeat) unsafe abortion
  - Effect on maternal mortality
Contraceptive CHOICE Project

Goals
○ Remove financial barriers
  ● IUCDs
  ● Implanon
○ Provide free contraception to make a population impact:
  ● Teen Pregnancy
  ● Repeat Abortion
CHOICE Recruitment

- Began August 2007
- Recruitment of 9,250 women by Sept 2011
  - 18% post-abortal
- Follow for 3 years
- Phone follow-up rates: 85% at 24 months
What do women choose?

<table>
<thead>
<tr>
<th>Method</th>
<th>% Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUCD</td>
<td>47</td>
</tr>
<tr>
<td>Copper T380A</td>
<td>10</td>
</tr>
<tr>
<td>Implant</td>
<td>12</td>
</tr>
<tr>
<td>DMPA</td>
<td>7</td>
</tr>
<tr>
<td>Pills</td>
<td>11</td>
</tr>
<tr>
<td>Ring</td>
<td>10</td>
</tr>
<tr>
<td>Patch</td>
<td>2</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

LARC: 69%

Cohort A: n=5,093
Continuation

<table>
<thead>
<tr>
<th>Method</th>
<th>Continuation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>88.2</td>
</tr>
<tr>
<td>Cu-IUCD</td>
<td>84.5</td>
</tr>
<tr>
<td>Implant</td>
<td>82.2</td>
</tr>
<tr>
<td>DMPA</td>
<td>70.1</td>
</tr>
<tr>
<td>Pills</td>
<td>70.9</td>
</tr>
<tr>
<td>Patch</td>
<td>53.8</td>
</tr>
<tr>
<td>Ring</td>
<td>67.0</td>
</tr>
</tbody>
</table>
No evidence that age, education, income, BMI, gravidity, parity, history of unintended pregnancy or AB are confounders.
A Decision Analysis of Post-Abortal LARC Insertion
Post-abortal vs. Interval LARC

- This is the real question:
  Is it better to insert the IUCD or implant immediately after abortion or to wait?

- What impact would post-abortal insertion have?
  - On unintended pregnancies
  - On repeat unsafe abortion
  - On maternal mortality
Return for delayed LARC insertion

Percentage NOT returning for IUCDs

- 1st trimester study: 29% (US)
- 2nd trimester study: 55% (US)
- Gillett study: 42% (Canada)
- Stanek chart review: 68% (US)

What is Decision Analysis?

- A quantitative method for making decisions
- Possible outcomes are modeled
  - Probabilities of events
  - Leading to Outcomes
    - One: “Simple” Decision Analysis
    - Two: Cost and Effect
- Data from multiple sources can be used to inform the model
An Example of Decision Analysis

In the 1960’s, the US Air Force was asked a series of comparison questions at Congressional Hearings when considering a new jet:

- How many old planes could we buy for the cost of one new jet?
- Who would win when the new jet fights …
The Decision Analysis Model

- Decision between 2 options:
  - Post-abortal (Immediate) IUCD Insertion
  - Interval (Delayed) IUCD insertion
- Outcome: Pregnancy within 12 months of abortion
  - Assumed that no pregnancies are planned
- Other outcomes do not appear to differ
  - Infection
  - Perforation
Each circle is a “chance” node where a probability is assigned to each option. The probabilities vary depending on the type of insertion.
## Variable Parameters

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to Return for Delayed IUCD</td>
<td>35%</td>
<td>5-50%</td>
</tr>
<tr>
<td>12-month Continuation Rate*</td>
<td>80%</td>
<td>65-95%</td>
</tr>
<tr>
<td>*IUCD Continuation (1 year AUC)</td>
<td>0.9</td>
<td>0.8-0.975</td>
</tr>
<tr>
<td>Excess IUCD Expulsion (post-abortal)</td>
<td>5%</td>
<td>0-30%</td>
</tr>
<tr>
<td>Pregnancy with IUCD in place</td>
<td>0.5%</td>
<td>0.1-1.0%</td>
</tr>
<tr>
<td>Pregnancy without an IUCD†</td>
<td>20%</td>
<td>8-30%</td>
</tr>
</tbody>
</table>

†Correlated with “Failure to Return”: Coefficient=

[0.5714 (20/35)]
[0.228-0.857]

Results

- Pregnancies per 1000 women receiving post-abortal IUCDs in the base case
  - Post-abortal (immediate) insertion: 34
  - Interval (delayed) insertion: 86

- 52 fewer pregnancies with immediate insertion after 12 months

Tornado Diagram of One-Way Sensitivity Analyses

Pregnancy without IUD* (8%, 30%)
Failure to Return (5, 50%)
Expulsion (30%, 0%)
Continuation (65%, 95%)
Pregnancy with IUD (1%, 0.1%)

Pregnancies prevented by immediate Insertion (per 1000 women)
Expected pregnancies

-30 0 30 60 90 120 150

0% 3% 6% 9% 12% 15% 18% 21% 24% 27% 30%

50% 40% 30% 20% 10%

Expulsion (immediate)
Failure to return (delayed)

Pregnancies prevented by immediate insertion (per 1000 women)

D&E
D&C
Post-placental

120-150
90-120
60-90
30-60
0-30
-30-0

WomanCare Global
Quality • Innovation • Choice
Conclusions from the Decision Analysis

- Post-abortal IUCDs could greatly reduce unintended pregnancies
- Little effect on results:
  - Effectiveness of IUCD
  - Continuation rate (after placement)
- Much effect:
  - Effectiveness of non-IUCD options
  - Failure-to-return rate
  - Expulsion
- Even with a high expulsion rate, pregnancies can be prevented by immediate insertion
# U.S. Estimated Effect of Post-Abortal IUCD Insertion

<table>
<thead>
<tr>
<th>United States</th>
<th>Current</th>
<th>50% accept post-abortal IUCD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IUCD</td>
</tr>
<tr>
<td>Induced Abortions</td>
<td>1,300,000</td>
<td>650,000</td>
</tr>
<tr>
<td>Pregnancy rate</td>
<td>20%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Pregnancies Expected</td>
<td>260,000</td>
<td>22,263</td>
</tr>
<tr>
<td>Abortions</td>
<td>122,200</td>
<td>10,463</td>
</tr>
<tr>
<td>Unintended Births</td>
<td>104,000</td>
<td>8,905</td>
</tr>
<tr>
<td>Pregnancies Prevented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abortions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unintended Births</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# IUCD insertion after uterine evacuation in West Africa

<table>
<thead>
<tr>
<th>West Africa</th>
<th>Current</th>
<th>50% accept post-abortal IUCD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IUCD</td>
</tr>
<tr>
<td>Unsafe abortions</td>
<td>1,800,000</td>
<td>900,000</td>
</tr>
<tr>
<td>Pregnancy rate</td>
<td>30%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Pregnancies Expected</td>
<td>540,000</td>
<td>44,325</td>
</tr>
<tr>
<td>Abortions (unsafe)</td>
<td>253,800</td>
<td>20,833</td>
</tr>
<tr>
<td>Unintended Births</td>
<td>216,000</td>
<td>17,730</td>
</tr>
<tr>
<td>Pregnancies Prevented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abortions (unsafe)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unintended Births</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Deaths prevented in 1st year

<table>
<thead>
<tr>
<th>50% of women receiving an IUCD after uterine evacuation</th>
<th>West Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintended Pregnancies prevented</td>
<td>90,270</td>
</tr>
<tr>
<td>Maternal mortality (per 100,000 live-births)</td>
<td>629</td>
</tr>
<tr>
<td>Maternal deaths prevented</td>
<td>568</td>
</tr>
</tbody>
</table>
## Cumulative effects in West Africa

**Post-abortal compared to interval LARC insertion**

<table>
<thead>
<tr>
<th>Year</th>
<th>Unsafe abortions</th>
<th>Uterine evac (PAC)</th>
<th>Eligible for LARC</th>
<th>Total women</th>
<th>Post-abortal LARC use (%)</th>
<th>Interval LARC use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,800,000</td>
<td>50%</td>
<td>90%</td>
<td>810,000</td>
<td><strong>86%</strong></td>
<td>43%</td>
</tr>
<tr>
<td>2013</td>
<td>1,800,000</td>
<td>50%</td>
<td>90%</td>
<td>1,620,000</td>
<td><strong>81%</strong></td>
<td>41%</td>
</tr>
<tr>
<td>2014</td>
<td>1,800,000</td>
<td>50%</td>
<td>90%</td>
<td>2,430,000</td>
<td><strong>77%</strong></td>
<td>39%</td>
</tr>
<tr>
<td>2015</td>
<td>1,800,000</td>
<td>50%</td>
<td>90%</td>
<td>3,240,000</td>
<td><strong>74%</strong></td>
<td>37%</td>
</tr>
<tr>
<td>2016</td>
<td>1,800,000</td>
<td>50%</td>
<td>90%</td>
<td>4,050,000</td>
<td><strong>70%</strong></td>
<td>35%</td>
</tr>
</tbody>
</table>

Simple Markov model

[Logo: WomanCare Global]

- Quality • Innovation • Choice
# Cumulative effects in West Africa

**Post-abortal** compared to **interval** LARC insertion

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual unintended pregnancies</th>
<th>Annual unsafe abortions</th>
<th>Annual maternal mortality</th>
<th>Cumulative Unsafe abortions</th>
<th>Cumulative Maternal mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>107,826</td>
<td>50,678</td>
<td>271</td>
<td>50,678</td>
<td>271</td>
</tr>
<tr>
<td>2013</td>
<td>204,870</td>
<td>96,289</td>
<td>515</td>
<td>146,967</td>
<td>787</td>
</tr>
<tr>
<td>2014</td>
<td>292,209</td>
<td>137,338</td>
<td>735</td>
<td>284,305</td>
<td>1,522</td>
</tr>
<tr>
<td>2015</td>
<td>370,814</td>
<td>174,283</td>
<td>933</td>
<td>458,588</td>
<td>2,455</td>
</tr>
<tr>
<td>2016</td>
<td>441,559</td>
<td>207,533</td>
<td>1,111</td>
<td>666,121</td>
<td>3,566</td>
</tr>
</tbody>
</table>
Summary

- LARC Methods are very effective contraception
  - Forgettable
  - Not dependent on compliance or follow-up
- Easy to provide after abortion
  - Easier than interval insertion
  - No insertion-related complications in any study
- Policy Implications:
  - Reduce unintended pregnancies
  - Reduced unsafe abortion
  - Reduced maternal mortality