CDC’s Teen Pregnancy Prevention Project:
Integrating Services, Programs, and Strategies through Community-wide Initiatives

Clinical Component

Utilization of Long-Acting Reversible Contraception (LARC)
Among Adolescents

Thursday, November 10, 2011
2:30am – 4:00pm
Call-in Number: 1-866-200-6965
PIN: 49378602#
Webinar Objectives

• Provide an overview of current trends in the utilization of LARC among teens in the United States

• Familiarize Part A Grantees with the Contraceptive CHOICE Project, an intervention that promoted LARC among 9,250 women aged 14-45 years in the St. Louis area by removing financial barriers and increasing patient access
Utilization of Long-Acting Reversible Contraception (LARC) Among Adolescents

Presenters

Megan Kavanaugh, DrPH
Senior Research Associate
The Alan Guttmacher Institute

Tessa Madden, MD, MPH
Assistant Professor, Department of Obstetrics & Gynecology
Washington University in St. Louis School of Medicine
Contraception and Young Women: The Current and Potential Role of Long-Acting Reversible Contraception

Megan Kavanaugh, DrPH

CDC Family Planning Grantees’ Webinar
November 10, 2011
Unintended pregnancy rates have increased overall

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% of pregnancies unintended</strong></td>
<td>48%</td>
<td>49%</td>
</tr>
<tr>
<td>15-19</td>
<td>82%</td>
<td>82%</td>
</tr>
<tr>
<td>20-24</td>
<td>59%</td>
<td>64%</td>
</tr>
<tr>
<td><strong>Unintended pregnancy rate</strong></td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td>15-19</td>
<td>67</td>
<td>60</td>
</tr>
<tr>
<td>20-24</td>
<td>101</td>
<td>107</td>
</tr>
</tbody>
</table>
Factors driving (changes in) unintended pregnancy

- Sexual activity
- Fecundity
- Contraceptive use
- Desire for pregnancy
- Population composition
What are LARC methods?

- Defined as a method that requires less than monthly administration
- Typically includes IUDs, implants, sometimes Depo
- Other characteristics
  - Limited user intervention = high compliance
  - High efficacy
  - High continuation rates (80%)
  - Few side effects
Why focus on LARC methods?

- Persistent high rates of unintended pregnancy
- Evidence that inserting LARC methods post-abortion reduces repeat abortion rates
- High proportion of unintended pregnancies are due to incorrect or inconsistent method use rather than method failure
- LARC methods have high efficacy, high continuation rates, high satisfaction, and rapid return to fertility after removal
What *might* be happening as childbearing shifts later?

<table>
<thead>
<tr>
<th>Age</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 years ago</td>
<td>Virgin</td>
<td>Condom and pill</td>
<td>Child-bearing</td>
<td>Sterilization and LARC</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Now</td>
<td>Virgin</td>
<td>Condom and pill</td>
<td>Child-bearing</td>
<td>Sterilization and LARC</td>
<td></td>
<td></td>
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</tbody>
</table>
Evidence on LARC methods and young women
### Professional opinion on IUDs has evolved

<table>
<thead>
<tr>
<th>Year</th>
<th>Opinion</th>
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<tbody>
<tr>
<td>1992</td>
<td>ACOG: IUD “especially suited” for older, parous, monogamous women</td>
</tr>
<tr>
<td>2005</td>
<td>ACOG: IUD “should be considered for all women who seek a reliable, reversible contraceptive”</td>
</tr>
<tr>
<td>2007</td>
<td>ACOG: IUDs “should be considered first-line choices for both nulliparous and parous adolescents”</td>
</tr>
</tbody>
</table>
Clinical Guidelines for IUD Use in Nulliparous Women

• Mirena and Paragard are effective and safe
• IUDs have comparable or higher continuation rates compared to other methods
• IUDs do not increase risk of PID or infertility. Mirena may reduce risk
• Due to expulsion rates and bleeding profile, Mirena may be better tolerated than Paragard
• Insertion of an IUD may be more challenging in nulliparous women
Perspectives of Young Women

• Majority of young women unaware of LARC methods (more knowledge of IUDs than implant)
• Those who are aware have limited knowledge regarding safety and efficacy
• Once counseled about the IUD, young women exhibit a positive attitude toward method
• Desirable method characteristics
  – Effectiveness
  – Safety
  – Limited user intervention
  – Discreet
Provider Perspectives

- Counseling about LARC methods varies by provider
- Providers have misconceptions about candidacy for LARC methods
  - Age
  - Parity
  - # of sexual partners
  - STI/PID history
- Providers still hesitant to recommend LARC methods for young, nulliparous women
Since 2002, LARC use has increased within all age groups.
But LARC methods are still unpopular among adolescent and young adult contraceptors.

- Pill: 49%
- Condom: 23%
- Other short-term hormonals: 13%
- All other methods: 8%
- Female sterilization: 2%
- LARC: 5%
Women who have had 1 or 2 births are most likely group to use LARC
These findings are preliminary

Please do not quote or cite
Goal of Guttmacher study

- To what extent is the provision of LARC methods integrated into services for adolescents and young adults?
  - Key barriers
  - Effective strategies
Mixed-method approach

Quantitative component: National survey of clinics

Qualitative component:
- Director interviews
- Staff focus groups
- Client interviews
Mixed-method approach

Quantitative component: National survey of clinics

Qualitative component

- Director interviews
- Staff focus groups
- Client interviews
Mixed-method approach: Quantitative survey of clinics

- Look at outreach efforts and services tailored to adolescents and young adults
- Examine provision of LARC methods
  - Staff knowledge and training
  - Practice and protocols
  - Use, availability and costs
  - Interest in increased access
  - Barriers
Preliminary findings

- Regular discussion of LARC methods with younger patients occurs at half of sites
  - IUDs: 44% discuss with teens, 58% with young adults
  - Implants: 45% discuss with teens, 48% with young adults
- 51% of facilities said IUD use increased among younger patients over past 2 years; 57% said implant use increased
Preliminary findings

• Use of hormonal IUD (60%) more common than copper IUD (17%) among younger patients

• 34% of sites indicated that they do not stock LARC methods due to cost
Prelim findings: Staff training on IUD is low

<table>
<thead>
<tr>
<th></th>
<th>Copper IUD (%)</th>
<th>Hormonal IUS (%)</th>
<th>Implant (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff trained</td>
<td>5</td>
<td>17</td>
<td>78</td>
</tr>
<tr>
<td>Staff scheduled for training</td>
<td>10</td>
<td>10</td>
<td>80</td>
</tr>
<tr>
<td>Prelim findings: Issues identified as barriers</td>
<td></td>
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<td>-----------------------------------------------</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost and reimbursement</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>LARCs are too costly</td>
<td>52</td>
</tr>
<tr>
<td>Inadequate LARC reimbursement from private insurance</td>
<td>32</td>
</tr>
<tr>
<td>Inadequate LARC reimbursement from Medicaid</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff concerns about IUD use in...</th>
<th></th>
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<tbody>
<tr>
<td>Adolescents</td>
<td>38</td>
</tr>
<tr>
<td>Non-monogamous women</td>
<td>35</td>
</tr>
<tr>
<td>Women without children</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>More staff training needed</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inserting implants</td>
<td>35</td>
</tr>
<tr>
<td>Inserting IUDs</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inadequate supply of LARCs available</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>
Mixed-method approach

Quantitative component: National survey of clinics

Qualitative component

- Director interviews
- Staff focus groups
- Client interviews
Mixed-method approach: Qualitative component (coming soon)

- Identify Title X grantees with high and low LARC utilization among young women
- Grantees help identify clinic sites
- Conduct interviews/focus groups with
  - Clinic directors (N = 20)
  - Clinic staff (6 FGDs)
  - Clients (N = 48)
Key issues for directors and clinic staff

- Clinic approaches to reaching/serving adolescents, young adults generally
- Provision of LARC methods:
  - Attitudes
  - Workforce/training issues and needs
  - Counseling practices
  - Perceptions of patient attitudes and knowledge
  - Barriers and opportunities
Key issues for clients

• Clients’ priorities regarding locating, choosing, and accessing services

• LARC methods:
  – Attitudes
  – Knowledge
  – Experience
  – Interest
  – Concerns
  – Perceived stigma
This work is supported by the Office of Population Affairs and the Centers for Disease Control and Prevention

Thank you

www.guttmacher.org
Increasing Utilization of LARC Among Adolescents

Tessa Madden, MD, MPH
Assistant Professor
Department of Obstetrics & Gynecology
Washington University in St. Louis School of Medicine
Disclosure

• This presentation includes preliminary data.
Teen Sexual Activity is Similar Across Developed Countries...

% of women aged 20–24 who had sex in their teen years

- France
- Sweden
- Canada
- Great Britain
- United States

By age 15   By age 18   By age 20
Long-Acting Reversible Contraception

There is a need for effective contraceptive methods that are forgettable.
LARC = Long-acting Reversible Contraception

- Improved contraceptive methods
  - Less dependence on compliance
  - Higher continuation rates
- Contraceptive Implants
  - 70 – 85% at 12 months
- Intrauterine Contraception
  - 70 – 90% at 12 months
**Contraceptive Implant**

- Single rod
  - 4cm long
- Implanted in upper arm
- Prevents pregnancy for up to 3 years
- Releases etonorgestrel
  - 60mcg/day
- Side effects: irregular bleeding
  - “Irregularly irregular”
  - Spotting, amenorrhea, bleeding
Characteristics of IUDs

- Highest patient satisfaction among methods
- Rapid return of fertility
- Safe
- Long-term protection
- Highly effective

IUDs Available in the U.S.

- LNG IUS
- Copper T 380A IUD
Levonorgestrel IUS

- Delivers 20 mcg LNG / day
- Effective for up to 5 years
- No long-term effect on fertility
- Risk of expulsion = 5%
- Reduces menstrual blood loss by 90%
Levonorgestrel IUS: Side Effects

- Bleeding irregularities are common
  - Amenorrhea
    - 20% at 1 year
    - 50% at 5 years
- Perforation uncommon
  - 1/1000 insertions
Copper IUD

- Increase in Cu ions, PGs, and macrophages in uterine and tubal fluid
- Impairs sperm function and prevents fertilization
- Can be used as emergency contraception
- No effects on fertility
- Expulsion 5%
Copper IUD: Side Effects

- No systemic side effects
- May cause heavier menses or dysmenorrhea
  - Most common in the first 3-6 months
  - Manage with NSAIDs
IUD Use for Adolescents

• Appropriate for properly selected and counseled adolescents
• Encourage consistent and correct use of condoms if concern for STI

The Contraceptive CHOICE Project
The CHOICE Project: Objectives

- To promote LARC
  - Remove financial barriers
  - Increase patient access
- To measure acceptability, satisfaction, side-effects, and rates of continuation across a variety of reversible contraceptive methods, including long-acting reversible methods
The CHOICE Project: Objectives

- To provide enough no-cost contraception to make a population impact on unintended pregnancies:
  - Measures
    - Teen Pregnancy
    - Repeat Abortions
The CHOICE Project: Goals

- To increase rates of IUD use in the STL region:
  - From < 1-2% TO 6% or greater
- Rates of post-abortion IUD use will increase from <1% to 10% or more
- To increase use of contraceptive implants to 3% or greater
The CHOICE Project: Hypotheses

• Population-Based Outcomes:
  • By the end of the study
    • Teen pregnancy rates in STL region will decline by 10%
    • Repeat abortion procedures will decline by 10%
The CHOICE Project: Hypotheses

• Rates of **continuation and satisfaction** at 12 months will be higher among LARC users than pill, patch, ring, and DMPA
The CHOICE Project: Inclusion Criteria

- 14-45 years of age
- Live in Saint Louis City or Country
- Sexually active with male partner or plans to become sexually active
- Does not desire pregnancy during next 12 months
  - Desires reversible contraception
- Willing to start a new contraceptive method
CHOICE: Counseling

• All participants enrolled at university site undergo standardized contraceptive counseling
  • Participants at community site undergo “usual counseling”
• Contraceptive counselors undergo formal training
  • Are evaluated prior to counseling
  • Majority without healthcare background
Typical Use - First Year Failure Rates

- No Contraception: 85.0%
- Spermicides: 29.0%
- Condom - Male: 15.0%
- Oral Contraceptives: 8.0%
- *Patch/Ring: 8.0%
- Injectable (DMPA): 3.0%
- IUD - Copper T 380A: 0.8%
- IUD - Levonorgestrel: 0.1%
- Implant: 0.00%

*Estimates in lieu of actual data

Trussell J. Contraception 2004;70:89-96.
Contraceptive Use in U.S.

% of Women Using Method

- Pill: 33%
- Tubal: 11%
- Condom: 4%
- Vasectomy: 2%
- DMPA: 19%
- Ring: 33%

LARC < 6%

From NSFG 2006-8
Contraceptive Use in the CHOICE Project

% of Women Using Method

- LNG-IUS: 46%
- Copper IUD: 10%
- Implant: 7%
- DMPA: 2%
- OCP: 4%
- Ring: 7%
- Patch: 16%

LARC = 74%

N = 8041
What Teens in CHOICE Choose

% of Women Using Method

- LNG-IUS: 34%
- Copper IUD: 9%
- Implant: 6%
- OCP: 2%
- DMPA: 31%
- Ring: 13%
- Patch: 6%

LARC = 71%
Choice of LARC Methods in Adolescents

- IUD
- Implant

14-17 years:
- IUD: 30%
- Implant: 50%

18-20 years:
- IUD: 40%
- Implant: 20%
Unintended Pregnancies in CHOICE

CHOICE Pregnancy Rates (Method Failures)

- LARC
- DMPA
- Pills/patch/ring

March 30, 2011

Washington
Teen Births: St. Louis Region 2007 - 2010

2007: 5,340
2008: 5,150
2009: 4,836
2010: 4,581

Metro Region
Barnes Jewish Hospital
Repeat Abortion in the St. Louis Region

- Data obtained from MO DHHS
  - Represents women who reside in Missouri at time of abortion
- Repeat abortion measured as ever had a previous abortion
- Compared to Kansas City & non-metro MO
  - KC: One abortion clinic
  - KC: Similar demographic characteristics to STL
Continuation and Satisfaction

• 3,244 women who reported using their baseline method at 3 months and completed 12-month survey
• Satisfaction at 12 months
  • Discontinued method = Not satisfied
  • Continued method
    • Very satisfied
    • Somewhat satisfied
    • Not satisfied

Peipert Obstet Gyn 2011
# 12-Month Continuation

<table>
<thead>
<tr>
<th>Method</th>
<th>Using at 12 Mo</th>
<th>Continuation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS (n=1457)</td>
<td>1285</td>
<td>87.5</td>
</tr>
<tr>
<td>Copper IUD (n=323)</td>
<td>273</td>
<td>84.0</td>
</tr>
<tr>
<td>Implant (n=370)</td>
<td>304</td>
<td>83.3</td>
</tr>
<tr>
<td>Any LARC (n=2150)</td>
<td>1862</td>
<td>86.2</td>
</tr>
<tr>
<td>DMPA (n=224)</td>
<td>157</td>
<td>56.5</td>
</tr>
<tr>
<td>Pills (n=426)</td>
<td>302</td>
<td>55.1</td>
</tr>
<tr>
<td>Ring (n=364)</td>
<td>244</td>
<td>54.2</td>
</tr>
<tr>
<td>Patch (n=80)</td>
<td>43</td>
<td>49.1</td>
</tr>
<tr>
<td>Non-LARC (n=1094)</td>
<td>746</td>
<td>54.7</td>
</tr>
</tbody>
</table>

Peipert Obstet Gyn 2011
## Continuation Stratified by Age

<table>
<thead>
<tr>
<th>Method</th>
<th>Age &lt; 21 years</th>
<th>Age &gt; 21 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>85.2</td>
<td>87.8</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>71.8</td>
<td>85.2</td>
</tr>
<tr>
<td>Implant</td>
<td>80.1</td>
<td>85.2</td>
</tr>
<tr>
<td>DMPA</td>
<td>46.4</td>
<td>60.6</td>
</tr>
<tr>
<td>OCP</td>
<td>49.2</td>
<td>57.5</td>
</tr>
<tr>
<td>Ring</td>
<td>40.9</td>
<td>57.3</td>
</tr>
<tr>
<td>Patch</td>
<td>39.7</td>
<td>50.9</td>
</tr>
</tbody>
</table>
## LARC Continuation By Age

<table>
<thead>
<tr>
<th>Age &lt; 21 years</th>
<th>LNG-IUS</th>
<th>85%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Implant</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>Copper IUD</td>
<td>72%</td>
</tr>
<tr>
<td>Age ≥ 21 years</td>
<td>LNG-IUS</td>
<td>88%</td>
</tr>
<tr>
<td></td>
<td>Implant</td>
<td>85%</td>
</tr>
<tr>
<td></td>
<td>Copper IUD</td>
<td>85%</td>
</tr>
</tbody>
</table>

- No difference in continuation of LNG-IUS and implant
- Increased risk of discontinuation with copper IUD
  - HR 2.10, 95% CI 1.11, 4.02)
### 12-Month Satisfaction

<table>
<thead>
<tr>
<th>Method</th>
<th>Very Satisfied (%)</th>
<th>Somewhat Satisfied (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG- IUS</td>
<td>70.4</td>
<td>15.3</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>65.6</td>
<td>14.5</td>
</tr>
<tr>
<td>Implant</td>
<td>54.8</td>
<td>23.9</td>
</tr>
<tr>
<td>Any LARC</td>
<td>66.9</td>
<td>16.8</td>
</tr>
<tr>
<td>DMPA</td>
<td>42.3</td>
<td>11.7</td>
</tr>
<tr>
<td>Pills</td>
<td>41.0</td>
<td>12.6</td>
</tr>
<tr>
<td>Ring</td>
<td>46.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Patch</td>
<td>35.1</td>
<td>9.3</td>
</tr>
<tr>
<td>Non-LARC</td>
<td>42.7</td>
<td>10.0</td>
</tr>
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Peipert Obstet Gyn 2011
# Satisfaction Stratified By Age

<table>
<thead>
<tr>
<th>Method</th>
<th>Age &lt; 21 years</th>
<th>Age ≥ 21 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG-IUS</td>
<td>82.8</td>
<td>86.2</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>68.5</td>
<td>81.3</td>
</tr>
<tr>
<td>Implant</td>
<td>73.7</td>
<td>81.5</td>
</tr>
<tr>
<td>DMPA</td>
<td>44.1</td>
<td>58.0</td>
</tr>
<tr>
<td>OCP</td>
<td>47.4</td>
<td>56.1</td>
</tr>
<tr>
<td>Ring</td>
<td>39.0</td>
<td>56.1</td>
</tr>
<tr>
<td>Patch</td>
<td>31.8</td>
<td>48.0</td>
</tr>
</tbody>
</table>
Real World Experience

• The SPOT (Supporting Positive Opportunities with Teens)
• Provides a range of free and confidential services to youth ages 13-24 years old
• At risk population
The SPOT: Rates of STI

<table>
<thead>
<tr>
<th>Condition</th>
<th>Total Tests</th>
<th>Positives</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia</td>
<td>2099</td>
<td>296</td>
<td>14.1</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>2099</td>
<td>85</td>
<td>4</td>
</tr>
<tr>
<td>Syphilis</td>
<td>1339</td>
<td>29</td>
<td>2.2</td>
</tr>
<tr>
<td>HIV</td>
<td>1934</td>
<td>19</td>
<td>1</td>
</tr>
</tbody>
</table>
The SPOT

- 763 young women have received contraception
  - Implanon = 78 (10%)
  - Mirena = 22 (3%)
  - OCPs = 285 (37%)
  - DMPA = 247 (32%)
  - Ring = 81 (11%)
  - Patch = 62 (8%)
  - EC = 207 (27%)
Bottom Line: Take-home Messages

- LARC methods are THE most effective contraceptive options
  - Forgettable
  - Not dependent on compliance/adherence
  - Higher continuation & satisfaction
- LARC methods are appropriate for adolescents and should be considered first-line options
Utilization of Long-Acting Reversible Contraception (LARC) Among Adolescents

Question and Answer Period

Megan Kavanaugh, DrPH
Senior Research Associate
The Alan Guttmacher Institute

Tessa Madden, MD, MPH
Assistant Professor, Department of Obstetrics & Gynecology
Washington University in St. Louis School of Medicine
Thank You!

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