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Benefits and Risks of IUDs for Young Women

David Hubacher, PhD
Senior Epidemiologist

European Society of Contraception
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David Hubacher has served on Advisory Boards for Bayer and Teva and has received product donations for research

Outline of Talk

- Definitions
- Benefits and risks items
- The evidence
- Summary view

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Type of IUD

- Copper IUD and levonorgestrel IUD
 - Numerous copper IUDs
 - Now two LNG IUDs (IUS=intrauterine system)
- Copper IUD versus LNG IUS
 - Some minor variation in benefits
 - No measurable variation in risks
- For talk: IUD = both copper and IUS for most situations

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The Benefit/Risk Discussion

- The list

BENEFITS	RISKS
Contraceptive	Infertility
Non-contraceptive	Pelvic inflammatory disease (PID)
	Perforation of the uterus
	Expulsion from the uterus
	Pain and other side effects

- Comparison contraceptive method?

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Youth Discussion

- Definition?
 - Encompasses more than just age
 - Parity
- Example combinations
 - Age 25, Parity 0
 - Age 20, Parity 2
 - Age 17, Parity 0
- Increased risk of STI among youth
 - behavior and biologic plausibility

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Benefit and Risk Considerations: Vary Tremendously

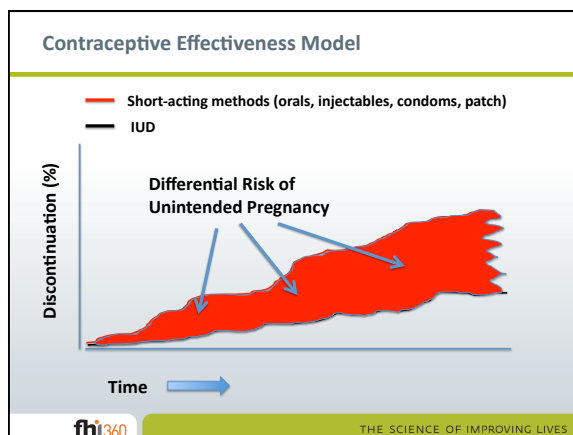
- By country of residence
- More consideration to:
 - Preventing first unintended pregnancy?
 - Preserving fertility among nulliparous?
- How compatible are these aims?
- Context of IUD use versus alternative contraceptive methods

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Review of the Evidence: IUD versus Alternatives

- Benefits
 - Contraceptive effectiveness
 - Non-contraceptive effects
- Risks
 - Infertility, PID, perforation, expulsion, side effects
- Comparisons of IUD to other methods
 - Difficult to find RCT evidence
 - Our purposes: general category of short-acting

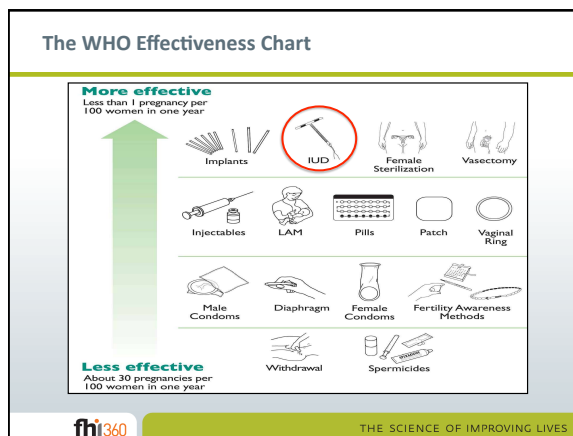
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Effectiveness - Evidence

- Cochrane Systematic Review (Tang et al., 2012)
 - Women aged 15-24
 - “Current evidence is insufficient...”
- Half of pregnancies in USA are unintended (Finer, 2006)
 - 48% occurred in month when contraception was used
- Observational studies
 - Numerous examples (CHOICE study, Winner et al., 2011)
 - WHO effectiveness chart

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Non-Contraceptive Benefits

- The LNG IUS (Fraser, 2013)
 - Generally reduces menstrual blood loss
 - Increases hemoglobin
 - Likely alleviates or prevents anemia
 - Effective treatment for menorrhagia
 - Reduces blood loss from uterine fibroids
- Oral contraceptives, similar
- The copper IUD
 - Advantageous features, but not truly benefits

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Review of the Risks

- Infertility
- PID
- Perforation
- Expulsion
- Pain and other side effects

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Infertility

- Difficult to measure possible harm from IUD
- Research from 1980s
 - Some IUD → Infertility association
 - Possible confounding
- IUD or exposure to bacteria?
 - Not the IUD (Hubacher et al., 2001)
 - *Chlamydia trachomatis*
- Return to fertility studies (Mansour et al., 2011)
 - IUD = other methods

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Pelvic Inflammatory Disease (PID)

- PID: Difficult to diagnose correctly
 - Confounding and bias (Hubacher et al., 2013)
 - Misleading results from 1980s
- Little youth-specific data (Carr and Espey, 2013)
- Primary concern: risk from insertion
- Farley et al., 1992: data on 22,000 IUD users
 - Overall low PID rate
 - Up to 1% in first 30 days
- RCTs using prophylactic antibiotic at insertion
 - No PID with placebo (Grimes et al., 2001)

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IUD Perforation of Uterus

- Unlike infertility and PID: unique to IUD
- Youth: no evidence of increased risks
- Rare event
- Up to 1.3 per 1,000 insertions (Andersson et al., 1998)

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IUD Expulsion

- Full and partial
 - IUD stem/tip in or near cervical canal
- Expulsion incidence: 5% to 15% (Deans and Grimes, 2009)
 - Varies by type of device
 - Length of observation
 - True: young women have generally higher rates

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Pain and Other Side Effects

- Pain at insertion
 - Generally higher for nulliparous
 - Use of dilator for tight cervix
- Menstrual changes
 - Do not vary much by age
 - Copper IUD: 50% increase in menstrual blood loss (MBL)
 - LNG IUS: Decrease in MBL, 10% amenorrhea, spotting

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Opinions of Associations/Organizations

- World Health Organization
 - Benefits outweigh possible risks (Category 2 on MEC)
- US Centers for Disease Control and Prevention
 - Benefits outweigh possible risks (Category 2 on MEC)
- American College of Obstetricians and Gynecologists
 - Practice bulletin No. 121, 2011
 - Committee opinion, No. 539, 2012
 - Committee opinion, No. 392, 2007
- UK National Collaborating Centre for Women's and Children's Health, 2005

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The IUD Provides...

- Best protection from common event:
 - Unintended pregnancy
- Uncertain, minimal or zero increased risks
 - from Rare events

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Summary Table

EVENT	GENERAL PROBABILITY	SIZE OF IUD BENEFIT/RISK
Unintended pregnancy	High	Large benefit
Non-contraceptive benefits	Medium	Medium benefit
Infertility	Low	Zero/Low risk
PID	Low	Zero/Low risk
Perforation	Low	Low risk
Expulsion	Low-Medium	Medium risk
Side effects	Medium	Low/Medium risk


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IUD Relative to Alternatives

Benefits



Risks



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