Levonorgestrel Intrauterine System (LNG IUS)

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Mirena® - A Levonorgestrel Intrauterine System

• Basic technology is 40 years old
• 1990 (Finland), 1990s (Europe), December 2000 (USA)
• 2009: USFDA approved Mirena as treatment for heavy menstrual blood loss
Profile of LNG IUS

- 99+ % effective
  - WHO top tier of effectiveness
- Lasts for 5+ years, 80% continuation rate at 1 yr.
- Easy to insert/remove
  - No scalpel or lidocaine needed
- Numerous non-contraceptive benefits
  - Generally reduces menstrual blood loss
  - Increases hemoglobin
  - Likely alleviates or prevents anemia
  - Effective treatment for menorrhagia
  - Reduces blood loss from uterine fibroids
How the LNG IUS Prevents Pregnancy

- Prevents endometrial growth
- Inhibits sperm motility and function
- Thickens cervical mucus
Key to Technology: Localized release of LNG

- 20 mcg per day release in uterus
- **Not systemic** like other hormonal methods
- **No peaks and troughs** of LNG in plasma
  - steady, low release
- Small amounts of LNG in bloodstream
  - Oral contraceptives: 10 times more
  - Norplant: 2 times more
- Concentration of LNG in plasma: 125-200 pg/ml
  - Maintained over 5 years and beyond
Impact of Mirena in USA – Women Like It

Percent of US contraceptors using an IUD

Introduction of Mirena
Perspective on Impact

• Never has any contraceptive in last 20 years come remotely close to Mirena on the US stage in terms of pace of uptake and sustained use:
  – DMPA, patch, NuvaRing, Implanon

Question:
The technology is 40 years old so why can’t women in other countries have it?
Cost as a Barrier for Donor Procurement

- Current price: $850 in US, $155 in India (Rs 7,000)
- Donor discounted price: Non-existent
- ICA Foundation (International Contraceptive Access)
  - Partnership between PopCouncil and Bayer
  - Mirena in old inserter system = LNG IUS
  - Donated 40,000 units in 15 countries since 2004
  - Goodwill “teaser” donations
  - Bangladesh, Dominican Republic, Ecuador, El Salvador, Ethiopia, Ghana, Indonesia, Kenya, Nigeria, South Africa, Zambia
Dispelling Myths on IUDs

• Myth: In many countries, women do not like IUDs
• Fact: Provider training/attitude are the key in any country
  – Urban Health Initiative in India: successful
  – In Africa: MSI and PSI have remarkable uptake
  – Legacy IUD countries: Egypt, Vietnam, Mexico, China
• Fact: Not all women will choose an IUD when offered an array of options
• Fact: Women need more long-acting reversible methods and alternatives to sterilization
Conclusions

• LNG IUS: proven technology
• Unique combination of features: high appeal
• Traditional barriers to widespread use
  – Cost and provider bias
• New opportunities in India
  – IUD is acceptable
  – LNG IUS now made locally