



IAS 2019

10TH IAS CONFERENCE ON HIV SCIENCE
Mexico City, Mexico 21-24 July 2019



Hormonal contraception and HIV risk: Understanding the ECHO trials results, and what's next for women, providers, policies, and programmes



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Where are we now? A Summary of the ECHO Results

Dr. Nelly R. Mugo, Kenya Medical Research Institute (KEMRI)/
University of Washington, Department of Global Health

on behalf of the ECHO Consortium

Sunday 21 July, 17.00-19.00



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Starting point

Safe and effective
contraception is essential to
the health and development
of women, children and
communities worldwide



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Context

- Women represent over half of the 37 million persons currently living with HIV; nearly 600,000 new HIV infections occur yearly among adolescent girls and women in Africa.
- Modern contraceptive methods are used by >700 million women worldwide, including >58 million African women.
- Use of these methods substantially improves the health of women and children by averting unintended pregnancy and sequelae and contributes to women's empowerment and to economic and social development.



30 years of unresolved questions

Progesterone implants enhance HIV transmission and early viral load

PRESTON A. MARX^{1,2}, ALEXANDER I. SPIRA^{1,2}, AGEGNEHU GETTIE^{1,2}, RONALD S. VEAZEY⁴, AND LEE E. CLAYTON^{1,2} | PLOS MEDICINE

RESEARCH ARTICLE
Hormonal Contraception
Acquisition
Meta-analysis

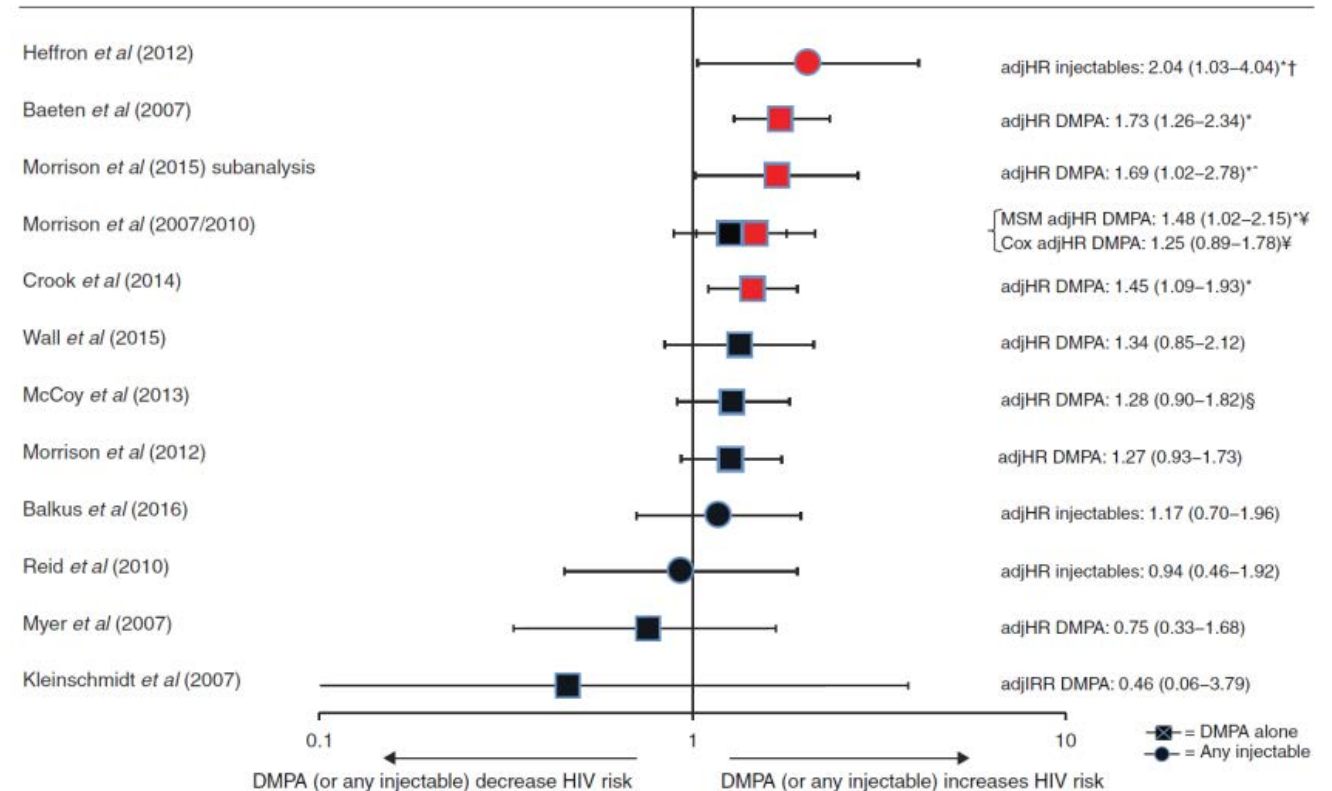
Charles S. Morrison^{1*}, Preston A. Marx^{1,2}, Angela M. Crook⁶, Lut Van der Pol¹, Barbara A. Friedland⁹, Richard Abdool Karim¹⁰, Stephanie Sheena McCormack⁴, Nuzhatun N. Straten¹⁵, Deborah Watson¹⁶, Nicola Low¹⁸



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Prior evidence

- 30 years of epidemiologic and laboratory studies have tried to determine whether there is truly increased risk of HIV acquisition associated with use of hormonal contraception.
- Some studies showed that progestin-only injectables, particularly the intramuscular injectable depot medroxyprogesterone acetate (DMPA-IM), were linked to increased HIV risk, but other studies did not show this result.
 - Some studies showed a doubling of HIV risk; in meta-analyses, the magnitude was approximately 40-50% (i.e., hazard ratios of 1.4-1.5)



Women's right to know

- Women need to know whether certain contraceptives increase their chances of getting HIV. This information will help them make informed choices about which contraceptive they want to use and which HIV prevention methods they need.



A randomised trial provides the highest quality evidence to enable women to make fully informed choices, inform clear counselling messages for clinicians, and offer guidance for

policymakers and programs.

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ECHO

- ECHO was a multicentre, open-label, randomised clinical trial comparing HIV incidence and contraceptive benefits in women living in areas of high HIV incidence and using one of three highly-effective, licensed contraceptive methods:
 - intramuscularly-delivered depot medroxyprogesterone acetate (DMPA-IM)
 - a copper intrauterine device (IUD)
 - and a levonorgestrel (LNG) implant



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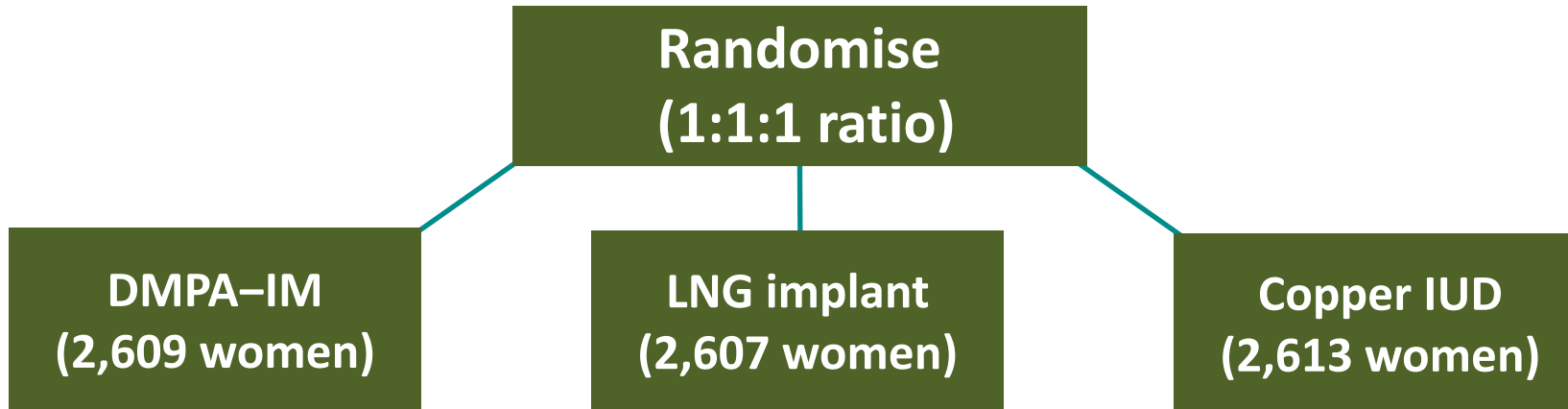
ECHO

- The primary objective was to compare HIV incidence among women randomised to DMPA-IM, a copper IUD, or an LNG implant.
- Secondary objectives included comparison by randomised method of rates of pregnancy, contraceptive method continuation, and serious adverse events and adverse events leading to method discontinuation.
- The trial began in December 2015 and concluded in October 2018.



ECHO study design

7 829 women ages 16-35 desiring contraception and willing to be randomised



3-monthly visits for up to 18 months



Number of women who took part in the study per country

Eswatini 502	Kenya 901	South Africa 5 768	Zambia 658
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Who enrolled in ECHO?



Average age 23 (range 16-35)



Most (81%) were not married



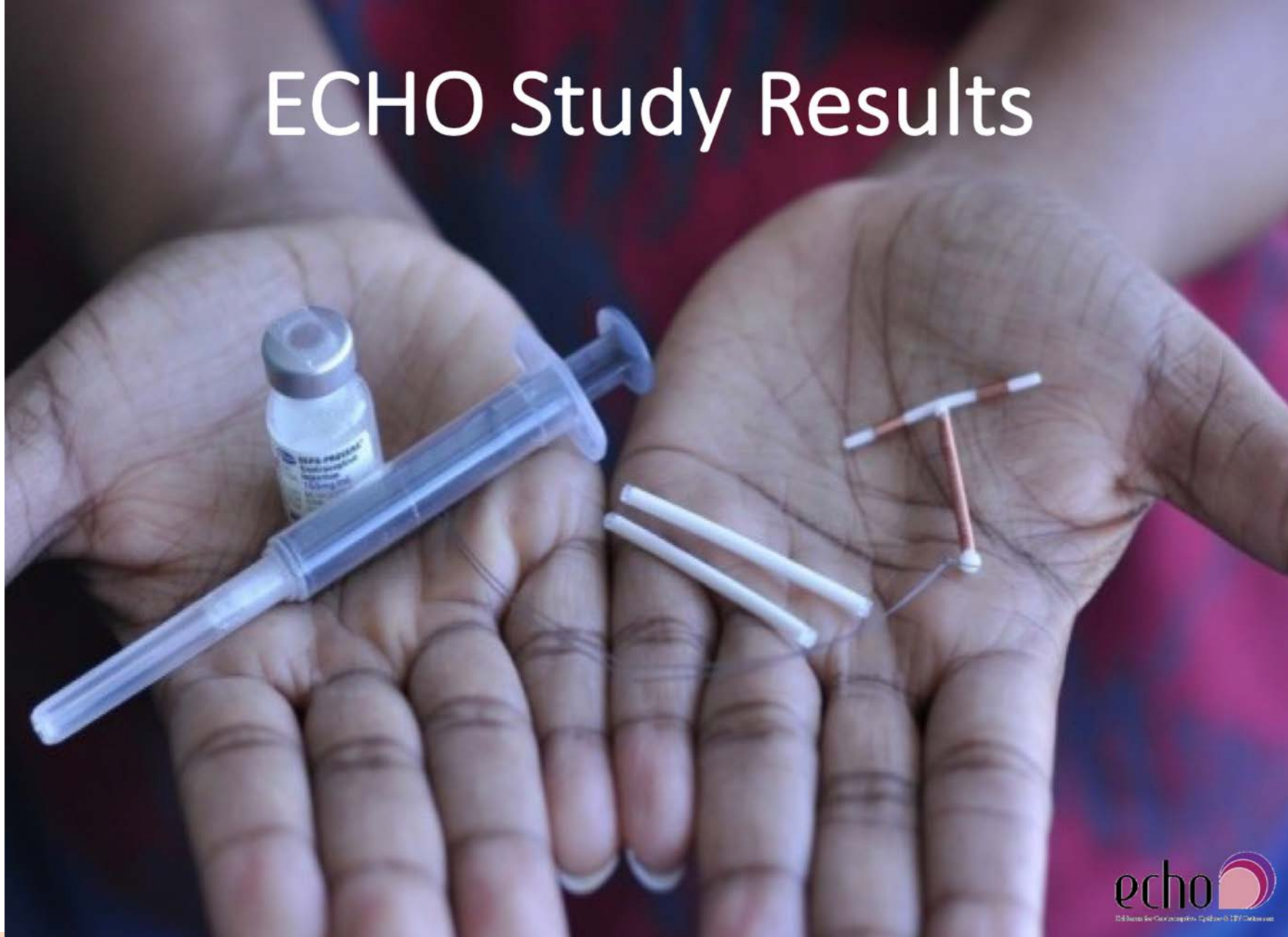
Only about 7% reported >1 partner in the prior 3 months



Nearly half did not use a condom with their last sex act



ECHO Study Results



echo
Evidence for Contraceptive Options & HIV Outcomes

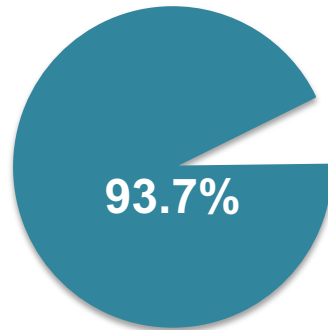


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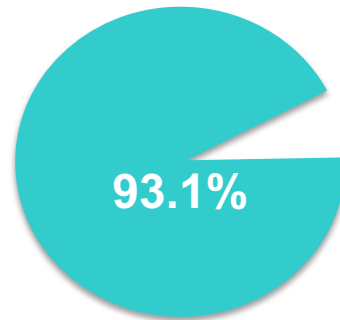
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Evidence for Contraceptive Options & HIV Outcomes

How well did women use their contraceptives ?

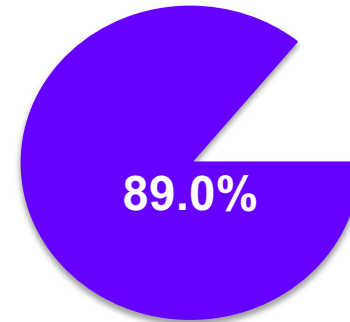
- Participants used their methods for 92% of the time they were in the study
- The percentage of time spent using an assigned method was high for all three contraceptives



LNG implant



DMPA-IM



Copper IUD



Results: Rate of new HIV infections

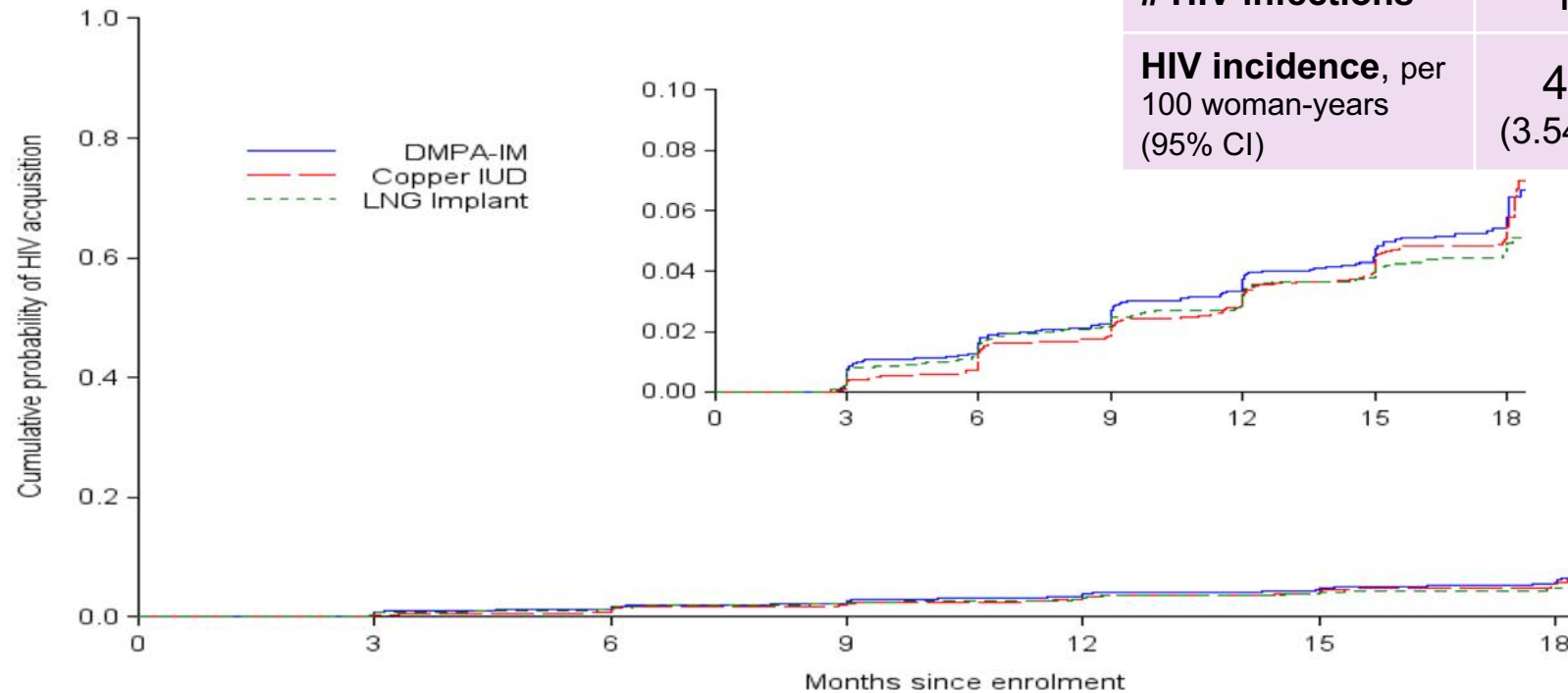


- The overall rate of new HIV infections per year was high: 3.8%.
- In total, **397** of the **7 829** women became HIV positive during the study



HIV incidence

Intention-to-treat analysis			
	DMPA-IM	Copper IUD	LNG Implant
# HIV infections	143	138	116
HIV incidence, per 100 woman-years (95% CI)	4.19 (3.54-4.94)	3.94 (3.31-4.66)	3.31 (2.74-3.98)



No. at risk	0	3	6	9	12	15	18
DMPA-IM	2556	2555	2478	2412	2341	2077	1595
Copper IUD	2571	2571	2539	2492	2440	2158	1656
LNG Implant	2588	2587	2534	2484	2442	2166	1670



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Results: Pregnancy prevention and safety

- All three methods were safe and highly effective in preventing pregnancy
- When women were using their contraceptive method, only about 1%, or 255, of 7829 participants became pregnant over one year.
- Most pregnancies (71%) happened after women stopped using their contraceptive method.



Summary of Primary ECHO results

- Evidence on rates of HIV acquisition between the 3 different methods was reassuring
- High level of HIV incidence among study participants
- Contraceptive methods; DMPA-IM, the LNG implant and the copper-IUD are safe and highly effective methods of contraceptive



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Conclusions

- Women in Africa continue to be at unacceptably high risk of HIV infection and of unplanned pregnancies.
- There is an urgent need to strengthen HIV prevention interventions, including the access to use of PrEP.
- More efforts should be made to integrate HIV prevention and contraceptive services.



Conclusions

- Women throughout the African region have the right to receive high-quality services that allows them to make informed choices about HIV prevention and contraception.



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ECHO at IAS 2019

- **Monday, 22 :**
 - Press conference: **New ECHO insights: Integrating HIV and sexual and reproductive health**
Time: 12:00 - 12:45 Venue: Casa Montejo 3
 - **Poster Exhibition:**
 - **Comparison of pregnancy incidence** in an randomized trial of DMPA-IM, LNG-implant and copper-IUD: Maricianah Onono
 - **Contraceptive-induced changes in genital tract HIV-1 cellular targets** and microbiota among women enrolled in the ECHO trial: Heather Jaspán
 - **High HIV incidence among young women in South Africa:** data from the ECHO trial: Thesla Palanee-Phillips
 - **Integrating oral PrEP delivery** into a large HIV endpoint-driven clinical trial in Eastern and Southern Africa: the ECHO trial experience: : Ivana Beesham
 - **Risk of sexually transmitted infections** among women randomized to DMPA-IM, the copper IUD, and levonorgestrel implant in the Evidence for Contraceptive Options and HIV Outcomes (ECHO) trial: Jen Deese
 - **Early relative effects** of intramuscular depot medroxyprogesterone acetate, a copper intrauterine device and the levonorgestrel implant **on HIV disease progression:** results from the ECHO Trial: Charles Morrison
- **Tuesday 23: WHO response to the results of the evidence for contraceptive options and HIV outcomes (ECHO) study**
Time: 7.00- 8.30 am Venue: Casa del Diezmo 1 y
- **Wednesday 24th : Contraception and HIV: Update on the evidence and implications for programmes**
Time: 11.00-12.30 am Casa del Diezmo 1 y 2



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Acknowledgement



- Each of the 7829 women who participated in the ECHO trial
- 12 amazing clinical trial sites personnel
- Dedicated operations team
- Team of five management committee members
- Global Community Advisory Group
- Donors
- Audience for your attention

ECHO presentations at IAS 2019:



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ECHO Trial Consortium



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