SUPPLEMENTAL TEXT

Description of services provided by FACES

FACES provides family-centered, comprehensive, compassionate care, as well as long-term, sustainable treatment options for HIV-positive individuals living in the Nyanza region of Kenya and Nairobi (www.faces-kenya.org). FACES launched with one site in Nairobi in 2004 and a second site in Kisumu, Nyanza Province in 2005, with a focus on HIV care and treatment, as well as HIV testing and counseling services. FACES rapidly expanded in Kisumu and to the neighboring isolated, island region of Suba, a fishing community along Lake Victoria's shores with an HIV prevalence of 27% – the highest in the country. In 2007, FACES support extended to include Prevention of Parent-to-Child Transmission (PPCT) and Voluntary Medical Male Circumcision (VMMC) services.

FACES now supports over 146 health facilities in three counties in the Nyanza region: Kisumu, Migori, and Homabay counties and two sites in Nairobi. Over 85,000 patients are currently enrolled in care with over 63,000 initiated on antiretroviral treatment (ART). A whole spectrum of HIV-related and unrelated services is provided at FACES-supported HIV facilities. For example, symptomatic TB screening is conducted at each visit, as well as blood pressure monitoring. In terms of family planning services, patients are asked if they wish or plan to conceive a child; if they are not currently pregnant and the patient wishes to become pregnant, appropriate pre-conception counseling is subsequently provided. If the patient indicates not wishing or planning to become pregnant, then the provider initiates a conversation regarding contraception. Both counseling and provision of family planning methods routinely occur at the HIV facility, generally by the same provider. Of note, permanent methods of contraception are not provided at these facilities; if a patient wishes for permanent methods of contraception, s/he is referred to another facility, such as the Marie Stopes clinics. Certain facilities may not provide IUD or implant insertion, in which case, patients are again referred to nearby facilities that do provide such services. Quarterly reports on FACES services can be found at: http://www.faces-kenya.org/about/program-figures/.

Description of data collection and quality control conducted by FACES

FACES conducts rigorous data quality control measures, including monthly chart audits at each OpenMRS site to assess data entry accuracy and form completion, daily alignment of encounters entered against tallies of clinic activity registers, and monthly queries of key variable completeness, such as WHO staging and ART adherence, within OpenMRS. Data entry staff and providers receive individualized monthly progress reports, which are used to improve the data collection process.

Definitions of covariates

Age at the time of the start of the observation period was calculated in years and rounded to the nearest integer based on the date of birth provided on the enrollment forms. Educational attainment was considered as the highest level of education completed at the time of enrollment. Marital status with main sexual partner was documented in enrollment forms. The number of living children was extracted from fields in the enrollment forms that dealt with household members and children with known HIV status. Children were defined as 14 years of age or younger. HIV-positive status disclosure to main sexual partner was documented in the enrollment forms. The above variables were carried forward for all observation periods for the same woman, because they were only recorded once in OpenMRS at the time of enrollment and not updated on subsequent clinic visits.

Percent use of condoms was calculated as the number of clinic visits with documented use of male or female condoms, which could be in addition to other contraceptive methods, out of the total number of clinic visits for that observation period. BMI was calculated by weight in kilograms divided by height in meters^2 closest to the start of the observation period. We used the WHO stage of HIV disease and CD4 cell count documented closest to but within one year of the start of the observation period. Self-reported ART adherence is assessed by asking patients the number of missed doses per month, and categorized as good (less than two missed doses), fair (2-4 missed doses), or poor (greater than four missed doses). A participant was considered to be on anti-tuberculosis medications if there was documentation in various parts of the clinic visit form that she was being treated for latent or active tuberculosis or had documentation of isoniazid, rifampin (or rifampicin), ethambutol, or pyrazinamide use.

Supplemental Table 1. Contraceptive method and antiretroviral therapy (ART) regimen use (n=94,162 observations, percent of total observations)

Contraceptive method	**ART regimen**					
	Efavirenz-based ART	Nevirapine-based ART	Lopinavir/ritonavir-based ART	No ART	Missing	**Total**
Implant	832 (0.88%)	3,082 (3.3%)	284 (0.30%)	2,023 (2.2%)	11 (0.01%)	6,232 (6.6%)
Depomedroxyprogesterone acetate (DMPA)	1,984 (2.1%)	8,114 (8.6%)	633 (0.67%)	5,595 (5.9%)	37 (0.04%)	16,363 (17%)
Combined oral contraceptives or oral contraceptive pills (COCs or OCPs)	343 (0.36%)	1,239 (1.3%)	92 (0.10%)	819 (0.87%)	2 (<0.01%)	2,495 (2.7%)
Other more effective contraception (IUDs, permanent)	421 (0.45%)	1,517 (1.6%)	139 (0.15%)	725 (0.77%)	9 (0.01%)	2,811 (3.0%)
Less effective contraception (condoms, and "natural" methods)	5,008 (5.3%)	17,853 (19%)	1,386 (1.5%)	10,132 (11%)	65 (0.07%)	34,444 (37%)
No contraceptive method	4,920 (5.2%)	14,093 (15%)	1,103 (1.2%)	10,708 (11%)	110 (0.12%)	30,934 (33%)
Missing	65 (0.07%)	234 (0.25%)	12 (0.01%)	492 (0.52%)	80 (0.08%)	883 (0.94%)
Total	13,573 (14%)	46,132 (49%)	3,649 (3.9%)	30,494 (32%)	314 (0.33%)	94,162

Supplemental Table 2. Pregnancy incidence per 100 women-years, grouped by type of implant and antiretroviral therapy (ART) regimen combinations

Implant type	Number of pregnancies	Women-years of follow-up	Unadjusted pregnancy rate[§] per 100 women-years (95% CI)	Adjusted pregnancy rate[#] per 100 women-years (95% CI)	Adjusted pregnancy rate ratios[#] per 100 women-years (95% CI)
Etonogestrel implants (e.g. Implanon®)	62	2115	3.1 (2.3-3.9)*	1.4 (1.0-1.8)**	Ref.
Nevirapine-based ART	24	1092	2.3 (1.4-3.3)	1.2 (0.67-1.6)	Ref.
Efavirenz-based ART	15	289	5.5 (2.5-8.4)	3.0 (1.4-4.7)	2.6 (0.89-4.3)
Lopinavir/ritonavir-based ART	2	90	2.4 (0-5.7)	1.3 (0-3.0)	1.1 (0-2.7)
No ART	21	644	3.4 (1.9-4.9)	1.3 (0.71-1.9)	1.1 (0.46-1.8)
Levonorgestrel implants (e.g. Jadelle®)	24	926	2.7 (1.6-3.7)*	1.4 (0.82-2.0)**	0.96 (0.51-1.4)
Nevirapine-based ART	10	552	1.9 (0.71-3.0)	1.0 (0.38-1.7)	Ref.
Efavirenz-based ART	6	86	7.1 (1.5-12.6)	4.2 (0.84-7.5)	4.1 (0-8.2)
Lopinavir/ritonavir-based ART	0	35	--	--	--
No ART	8	253	3.3 (1.0-5.6)	1.44 (0.43-2.4)	1.4 (0.10-2.7)

[§]Stratified rates by ART regimen calculated with an unadjusted Poisson model that included an interaction term between contraceptive method and ART regimen.

[#]Stratified rates by ART regimen calculated with an adjusted Poisson model that included an interaction term between contraceptive method and ART regimen and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

*Unadjusted rates by implant type calculated with an unadjusted Poisson model without ART regimen or an interaction term between contraceptive method and ART regimen.

**Adjusted rates by implant type calculated with ART regimen (but not an interaction term between contraceptive method and ART regimen) and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

Supplemental Table 3. Pregnancy incidence rate ratios per 100 women-years by covariates

Variable	Unadjusted pregnancy rate ratios[#] per 100 women-years (95% CI)	Adjusted pregnancy rate ratios[¶] per 100 women-years (95% CI)
Age (per 5 years change from mean of 31 years)	0.51 (0.48-0.53)	0.50 (0.48-0.53)
Educational attainment		
None	Ref.	Ref.
Some primary school	1.6 (0.98-2.1)	1.1 (0.69-1.5)
Completed primary school	2.0 (1.2-2.8)	1.2 (0.70-1.7)
Some secondary school	1.4 (0.88-1.9)	1.0 (0.65-1.4)
Completed secondary school	1.3 (0.50-2.1)	0.86 (0.31-1.4)
Some college or university	1.2 (0.65-1.7)	0.92 (0.51-1.3)
Marital status		
Single, widowed, or divorced	Ref.	Ref.
Married or cohabitating	1.5 (1.3-1.6)	1.3 (1.2-1.4)
Number of living children		
0	Ref.	Ref.
1	1.2 (1.1-1.4)	1.2 (1.0-1.4)
2	1.2 (1.0-1.4)	1.2 (1.0-1.4)
3	1.1 (0.89-1.2)	1.2 (0.97-1.3)
4+	1.1 (0.90-1.2)	1.3 (1.1-1.5)
HIV-positive status disclosed to partner	1.4 (1.3-1.5)	1.1 (0.95-1.1)
Percent use of condoms (per 10% change from mean of 47%)	1.1 (1.1-1.1)	1.0 (1.0-1.1)
BMI (per 10% change from mean of 22.3 kg/m^2)	0.54 (0.44-0.64)	0.70 (0.58-0.82)
WHO stage		
1	Ref.	Ref.
2	0.76 (0.70-0.82)	0.94 (0.86-1.0)
3	0.74 (0.68-0.81)	1.0 (0.91-1.1)
4	0.63 (0.52-0.73)	0.92 (0.76-1.1)
CD4 cell count (per 50 cells/mm^3 change from mean of 500 cells/mm^3)	1.1 (1.0-1.1)	1.1 (1.0-1.1)
Use of anti-tuberculosis medications		
Active tuberculosis treatment	0.62 (0.46-0.78)	0.70 (0.52-0.87)
Latent tuberculosis treatment	0.23 (0.11-0.35)	0.30 (0.14-0.45)

[#]Calculated with an unadjusted Poisson model that included only the covariate (not contraceptive method, ART regimen, or an interaction term between contraceptive method and ART regimen).

[¶]Calculated with an adjusted Poisson model that included an interaction term between contraceptive method and ART regimen and other covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

Supplemental Table 3. Contraceptive method sensitivity analysis[^] - Pregnancy incidence per 100 women-years, grouped by contraceptive method and antiretroviral therapy (ART) regimen combinations (n=80,897 observations, with 24,555 individuals)

Contraceptive method and ART regimen combinations	Number of pregnancies	Women-years of follow-up	Unadjusted pregnancy rate[§] per 100 women-years (95% CI)	Adjusted pregnancy rate[#] per 100 women-years (95% CI)	Adjusted pregnancy rate ratios[#] per 100 women-years (95% CI)
Implant	84	3155	2.8 (2.2-3.4)*	1.4 (1.1-1.7)**	
Nevirapine-based ART	35	1710	2.2 (1.4-2.9)	1.2 (0.77-1.6)	Ref.
Efavirenz-based ART	21	386	5.7 (3.2-8.2)	3.4 (1.9-4.9)	2.9 (1.3-4.5)
Lopinavir/ritonavir-based ART	2	127	1.7 (0-4.0)	0.97 (0-2.3)	0.83 (0-2.0)
No ART	26	931	2.9 (1.8-4.0)	1.2 (0.73-1.7)	1.0 (0.50-1.6)
Depomedroxyprogesterone acetate (DMPA)	650	7777	8.7 (8.1-9.4)*	4.4 (3.8-4.9)**	
Nevirapine-based ART	329	4190	8.2 (7.4-9.1)	4.5 (3.9-5.2)	Ref.
Efavirenz-based ART	78	889	9.2 (7.1-11.2)	5.6 (4.2-6.9)	1.2 (0.93-1.5)
Lopinavir/ritonavir-based ART	21	311	7.2 (4.2-10.3)	4.7 (2.7-6.7)	1.0 (0.60-1.5)
No ART	222	2381	9.6 (8.4-10.9)	3.9 (3.2-4.6)	0.86 (0.71-1.0)
Combined oral contraceptives or oral contraceptive pills (COCs or OCPs)	95	868	11.5 (9.1-13.8)*	6.0 (4.7-7.4)**	
Nevirapine-based ART	45	451	10.4 (7.4-13.4)	5.8 (4.0-7.6)	Ref.
Efavirenz-based ART	17	116	15.3 (8.2-22.5)	9.8 (5.0-14.6)	1.7 (0.75-2.6)
Lopinavir/ritonavir-based ART	4	32	15.0 (0.45-29.6)	8.0 (0.10-15.8)	1.4 (0-2.8)
No ART	29	268	11.2 (7.0-15.3)	5.0 (3.1-6.9)	0.86 (0.45-1.3)
Other more effective contraception (IUDs, permanent)	16	1393	1.2 (0.60-1.8)*	1.0 (0.52-1.6)**	
Nevirapine-based ART	7	807	0.88 (0.23-1.5)	0.80 (0.20-1.4)	Ref.
Efavirenz-based ART	2	225	0.92 (0-2.2)	0.98 (0-2.4)	1.2 (0-3.2)
Lopinavir/ritonavir-based ART	1	72	1.5 (0-4.3)	1.7 (0-5.2)	2.2 (0-6.7)
No ART	6	286	2.2 (0.45-3.9)	1.5 (0.31-2.8)	1.9 (0-4.0)
Less effective contraception (condoms, "natural" methods)	1724	13614	13.4 (12.7-14.0)*	5.3 (4.4-6.2)**	
Nevirapine-based ART	947	7879	12.7 (11.9-13.5)	5.4 (4.4-6.4)	Ref.
Efavirenz-based ART	200	2030	10.2 (8.8-11.7)	5.0 (3.9-6.1)	0.93 (0.79-1.1)
Lopinavir/ritonavir-based ART	67	555	13.1 (10.0-16.2)	6.3 (4.5-8.2)	1.2 (0.89-1.5)
No ART	510	3143	17.1 (15.6-18.6)	5.1 (4.1-6.1)	0.95 (0.84-1.1)
No contraceptive method	762	10686	7.5 (6.9-8.0)*	5.3 (4.3-6.2)**	
Nevirapine-based ART	353	5597	6.7 (5.9-7.4)	5.2 (4.1-6.2)	Ref.
Efavirenz-based ART	98	2091	4.8 (3.8-5.7)	4.4 (3.2-5.6)	0.85 (0.66-1.0)
Lopinavir/ritonavir-based ART	29	476	6.4 (4.0-8.9)	5.7 (3.3-8.1)	1.1 (0.67-1.6)
No ART	282	2512	11.7 (10.4-13.1)	5.7 (4.5-6.9)	1.1 (0.93-1.3)
Overall	**3,331[¶]**	**37,492**	**8.9 (8.6-9.2)**		

[^]In this sensitivity analysis, we placed more stringent criteria on definition of contraceptive exposure on the original dataset. If a woman was recorded being on a long-acting contraceptive method (implants, IUDs, or permanent methods), followed by another contraceptive method or no method for one observation, and then back on the prior long-acting contraceptive method, we considered the recording of the intermediate contraceptive method an error and replaced it with the first contraceptive method. If a woman was noted to switch from another contraceptive method or no method to a long-acting contraceptive method, we required two consecutive visits documenting its use to consider it a true switch.
[§]Stratified rates by ART regimen calculated with an unadjusted Poisson model that included an interaction term between contraceptive method and ART regimen.
[#]Stratified rates by ART regimen calculated with an adjusted Poisson model that included an interaction term between contraceptive method and ART regimen and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.
*Unadjusted rates by contraceptive method calculated with an unadjusted Poisson model without ART regimen or an interaction term between contraceptive method and ART regimen.

**Adjusted rates by contraceptive method calculated with ART regimen (but not an interaction term between contraceptive method and ART regimen) and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.
¶Seven pregnancies occurred in observations where contraceptive method was missing (in seven different women)

Supplemental Table 4. ART regimen sensitivity analysis[^] - Pregnancy incidence per 100 women-years, grouped by contraceptive method and antiretroviral therapy (ART) regimen combinations (n=90,076 observations, with 24,554 individuals)

Contraceptive method and ART regimen combinations	Number of pregnancies	Women-years of follow-up	Unadjusted pregnancy rate[§] per 100 women-years (95% CI)	Adjusted pregnancy rate[#] per 100 women-years (95% CI)	Adjusted pregnancy rate ratios[#] per 100 women-years (95% CI)
Implant	86	3046	3.0 (2.3-3.6)*	1.4 (1.1-1.7)**	
Nevirapine-based ART	34	1649	2.2 (1.4-2.9)	1.1 (0.71-1.5)	Ref.
Efavirenz-based ART	21	372	5.9 (3.3-8.5)	3.3 (1.8-4.8)	3.0 (1.3-4.6)
Lopinavir/ritonavir-based ART	2	129	1.7 (0-4.0)	0.93 (0-2.2)	0.84 (0-2.0)
No ART	29	895	3.4 (2.2-4.6)	1.3 (0.81-1.8)	1.2 (0.60-1.8)
Depomedroxyprogesterone acetate (DMPA)	631	7402	8.9 (8.2-9.6)*	4.3 (3.7-4.9)**	
Nevirapine-based ART	324	3985	8.5 (7.6-9.5)	4.5 (3.8-5.2)	Ref.
Efavirenz-based ART	75	846	9.3 (7.2-11.4)	5.4 (4.0-6.7)	1.2 (0.89-1.5)
Lopinavir/ritonavir-based ART	20	302	7.1 (4.0-10.1)	4.5 (2.5-6.4)	0.99 (0.55-1.4)
No ART	212	2264	9.7 (8.4-11.0)	3.8 (3.1-4.5)	0.85 (0.70-0.99)
Combined oral contraceptives or oral contraceptive pills (COCs or OCPs)	95	850	11.7 (9.4-14.1)*	5.8 (4.4-7.2)**	
Nevirapine-based ART	46	443	10.9 (7.8-14.0)	5.8 (4.0-7.5)	Ref.
Efavirenz-based ART	17	116	15.3 (8.1-22.6)	9.3 (4.6-14.0)	1.6 (0.70-2.5)
Lopinavir/ritonavir-based ART	4	32	14.9 (0.63-29.2)	7.2 (0.23-14.2)	1.3 (0-2.5)
No ART	28	258	11.2 (7.0-15.4)	4.7 (2.9-6.5)	0.81 (0.43-1.2)
Other more effective contraception (IUDs, permanent)	17	1327	1.3 (0.69-1.9)*	1.1 (0.56-1.6)**	
Nevirapine-based ART	8	768	1.1 (0.33-1.8)	0.93 (0.28-1.6)	Ref.
Efavirenz-based ART	2	217	0.93 (0-2.2)	0.94 (0-2.3)	1.0 (0-2.6)
Lopinavir/ritonavir-based ART	1	68	1.6 (0-4.6)	1.7 (0-5.1)	1.9 (0-5.8)
No ART	6	272	2.3 (0.47-4.1)	1.5 (0.29-2.6)	1.6 (0-3.2)
Less effective contraception (condoms, "natural" methods)	1739	14018	13.1 (12.5-13.7)*	5.5 (4.5-6.5)**	
Nevirapine-based ART	961	8113	12.5 (11.7-13.3)	5.6 (4.6-6.7)	Ref.
Efavirenz-based ART	204	2090	10.1 (8.7-11.5)	5.3 (4.2-6.4)	0.94 (0.80-1.1)
Lopinavir/ritonavir-based ART	66	567	12.6 (9.6-15.5)	6.3 (4.5-8.2)	1.1 (0.85-1.4)
No ART	508	3243	16.5 (15.0-17.9)	5.3 (4.3-6.3)	0.93 (0.83-1.0)
No contraceptive method	761	10835	7.4 (6.8-7.9)*	4.8 (3.9-5.7)**	
Nevirapine-based ART	349	5671	6.5 (5.8-7.2)	4.6 (3.7-5.5)	Ref.
Efavirenz-based ART	98	2146	4.7 (3.8-5.6)	3.9 (2.9-5.0)	0.85 (0.66-1.1)
Lopinavir/ritonavir-based ART	28	487	6.0 (3.7-8.4)	4.9 (2.8-7.0)	1.1 (0.65-1.5)
No ART	286	2522	11.9 (10.5-13.3)	5.4 (4.2-6.5)	1.2 (0.98-1.4)
Overall	**3,329[¶]**	**37,477**	**8.9 (8.6-9.2)**		

[^] In this sensitivity analysis, we placed more stringent criteria on definition of ART exposure on the original dataset. Similar to the contraceptive exposure sensitivity analysis, if another ART regimen was "sandwiched" between two identical ART regimens, we considered it an error and replaced it with the first ART regimen.

[§] Stratified rates by ART regimen calculated with an unadjusted Poisson model that included an interaction term between contraceptive method and ART regimen.

[#] Stratified rates by ART regimen calculated with an adjusted Poisson model that included an interaction term between contraceptive method and ART regimen and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

*Unadjusted rates by contraceptive method calculated with an unadjusted Poisson model without ART regimen or an interaction term between contraceptive method and ART regimen.

**Adjusted rates by contraceptive method calculated with ART regimen (but not an interaction term between contraceptive method and ART regimen) and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

[¶] Seven pregnancies occurred in observations where contraceptive method was missing (in seven different women)

Supplemental Table 5. Pregnancy sensitivity analysis^ - Pregnancy incidence per 100 women-years, grouped by contraceptive method and antiretroviral therapy (ART) regimen combinations (n=94,923 observations, with 24,660 individuals)

Contraceptive method and ART regimen combinations	Number of pregnancies	Women-years of follow-up	Unadjusted pregnancy rate[§] per 100 women-years (95% CI)	Adjusted pregnancy rate[#] per 100 women-years (95% CI)	Adjusted pregnancy rate ratios[#] per 100 women-years (95% CI)
Implant	71	3050	2.4 (1.9-3.0)*	1.2 (0.88-1.5)**	
Nevirapine-based ART	24	1650	1.5 (0.92-2.1)	0.80 (0.47-1.1)	Ref.
Efavirenz-based ART	18	375	5.0 (2.6-7.4)	2.9 (1.5-4.3)	3.6 (1.4-5.8)
Lopinavir/ritonavir-based ART	2	125	1.7 (0-4.0)	0.98 (0-2.3)	1.2 (0-3.0)
No ART	27	899	3.1 (1.9-4.3)	1.3 (0.75-1.7)	1.6 (0.70-2.4)
Depomedroxyprogesterone acetate (DMPA)	572	7426	8.0 (7.4-8.7)*	4.0 (3.4-4.5)**	
Nevirapine-based ART	297	3987	7.8 (6.9-8.6)	4.2 (3.5-4.9)	Ref.
Efavirenz-based ART	65	843	8.0 (6.1-10.0)	4.7 (3.4-6.0)	1.1 (0.83-1.4)
Lopinavir/ritonavir-based ART	19	300	6.8 (3.8-9.8)	4.4 (2.4-6.4)	1.1 (0.57-1.5)
No ART	191	2290	8.6 (7.4-9.8)	3.4 (2.8-4.1)	0.82 (0.67-0.97)
Combined oral contraceptives or oral contraceptive pills (COCs or OCPs)	86	854	10.5 (8.3-12.8)*	5.4 (4.1-6.7)**	
Nevirapine-based ART	42	446	9.9 (6.9-12.9)	5.4 (3.7-7.2)	Ref.
Efavirenz-based ART	15	115	13.4 (6.6-20.2)	8.4 (3.9-13.0)	1.6 (0.62-2.5)
Lopinavir/ritonavir-based ART	4	32	15.2 (0.54-29.9)	7.8 (0.15-15.4)	1.4 (0-2.9)
No ART	25	261	9.9 (5.9-13.8)	4.2 (2.5-4.1)	0.78 (0.39-1.2)
Other more effective contraception (IUDs, permanent)	10	1332	0.78 (0.30-1.3)*	0.70 (0.26-1.1)**	
Nevirapine-based ART	4	771	0.54 (0.01-1.1)	0.50 (0.01-0.99)	Ref.
Efavirenz-based ART	1	217	0.51 (0-1.5)	0.55 (0-1.6)	1.1 (0-3.6)
Lopinavir/ritonavir-based ART	0	68	--	--	--
No ART	5	273	1.9 (0.24-3.5)	1.3 (0.16-2.4)	2.6 (0-6.0)
Less effective contraception (condoms, "natural" methods)	1600	14108	11.9 (11.3-12.5)*	5.2 (4.3-6.2)**	
Nevirapine-based ART	881	8155	11.4 (10.6-12.1)	5.4 (4.4-6.4)	Ref.
Efavirenz-based ART	194	2082	9.6 (8.3-11.0)	5.3 (4.1-6.5)	0.99 (0.83-1.2)
Lopinavir/ritonavir-based ART	57	574	10.7 (7.9-13.4)	5.8 (4.0-7.6)	1.1 (0.79-1.4)
No ART	468	3290	14.9 (13.6-16.3)	4.9 (3.9-5.9)	0.91 (0.80-1.0)
No contraceptive method	691	10912	6.6 (6.1-7.1)*	4.7 (3.8-5.6)**	
Nevirapine-based ART	312	5716	5.7 (5.1-6.4)	4.5 (3.5-5.4)	Ref.
Efavirenz-based ART	88	2122	4.3 (3.4-5.1)	4.0 (2.9-5.1)	0.89 (0.67-1.1)
Lopinavir/ritonavir-based ART	28	481	6.1 (3.8-8.5)	5.6 (3.2-8.0)	1.2 (0.74-1.7)
No ART	263	2583	10.6 (9.3-11.9)	5.1 (4.0-6.3)	1.2 (0.95-1.3)
Overall	**3,030[¶]**	**37,683**	**8.0 (7.8-8.3)**		

^In this sensitivity analysis, we placed more stringent criteria on definition of pregnancy outcome on the original dataset. Pregnancies were verified through the use of two data points, either through two visit dates recording a pregnancy or one visit date where both a pregnancy as well as an estimated delivery date were noted.

[§]Stratified rates by ART regimen calculated with an unadjusted Poisson model that included an interaction term between contraceptive method and ART regimen.

[#]Stratified rates by ART regimen calculated with an adjusted Poisson model that included an interaction term between contraceptive method and ART regimen and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

*Unadjusted rates by contraceptive method calculated with an unadjusted Poisson model without ART regimen or an interaction term between contraceptive method and ART regimen.

**Adjusted rates by contraceptive method calculated with ART regimen (but not an interaction term between contraceptive method and ART regimen) and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

[¶]Six pregnancies occurred in observations where contraceptive method was missing (in six different women)

Supplemental Table 6. Missing pregnancy status sensitivity analysis[^] - Pregnancy incidence per 100 women-years, grouped by contraceptive method and antiretroviral therapy (ART) regimen combinations (n=94,139 observations, with 24,556 individuals)

Contraceptive method and ART regimen combinations	Number of pregnancies	Women-years of follow-up	Unadjusted pregnancy rate[§] per 100 women-years (95% CI)	Adjusted pregnancy rate[#] per 100 women-years (95% CI)	Adjusted pregnancy rate ratios[#] per 100 women-years (95% CI)
Implant	86	3013	3.0 (2.4-3.7)*	1.4 (1.1-1.7)**	
Nevirapine-based ART	34	1629	2.2 (1.5-3.0)	1.1 (0.71-1.5)	Ref.
Efavirenz-based ART	21	372	5.9 (3.3-8.5)	3.2 (1.8-4.7)	2.9 (1.3-4.5)
Lopinavir/ritonavir-based ART	2	125	1.7 (0-4.1)	0.93 (0-2.2)	0.84 (0-2.0)
No ART	29	887	3.4 (2.2-4.7)	1.3 (0.81-1.8)	1.2 (0.60-1.8)
Depomedroxyprogesterone acetate (DMPA)	631	7252	9.1 (8.4-9.8)*	4.3 (3.7-4.9)**	
Nevirapine-based ART	320	3901	8.6 (7.7-9.6)	4.4 (3.7-5.1)	Ref.
Efavirenz-based ART	76	828	9.6 (7.4-11.7)	5.3 (4.0-6.7)	1.2 (0.90-1.5)
Lopinavir/ritonavir-based ART	20	296	7.3 (4.2-10.4)	4.4 (2.5-6.3)	0.99 (0.55-145)
No ART	215	2221	10.0 (8.7-11.3)	3.9 (3.2-4.6)	0.88 (0.21-1.0)
Combined oral contraceptives or oral contraceptive pills (COCs or OCPs)	95	830	12.0 (9.6-14.5)*	5.8 (4.4-7.2)**	
Nevirapine-based ART	46	432	11.2 (8.0-14.4)	5.8 (4.0-767)	Ref.
Efavirenz-based ART	17	113	15.7 (8.3-23.0)	9.1 (4.5-13.7)	1.6 (0.68-2.5)
Lopinavir/ritonavir-based ART	4	31	15.6 (0.54-30.1)	7.4 (0.17-14.7)	1.3 (0-2.6)
No ART	28	253	11.4 (7.1-15.8)	4.7 (2.9-6.6)	0.82 (0.43-1.2)
Other more effective contraception (IUDs, permanent)	17	1296	1.3 (0.70-2.0)*	1.1 (0.55-1.6)**	
Nevirapine-based ART	8	746	1.1 (0.33-1.8)	0.91 (0.27-1.6)	Ref.
Efavirenz-based ART	2	215	0.94 (0-2.2)	0.92 (0-2.2)	1.0 (0-2.6)
Lopinavir/ritonavir-based ART	1	67	1.6 (0-4.7)	1.7 (0-5.1)	1.9 (0-5.8)
No ART	6	266	2.3 (0.48-4.2)	1.5 (0.29-2.7)	1.6 (0-3.4)
Less effective contraception (condoms, "natural" methods)	1739	13476	13.6 (13.0-14.3)*	5.6 (4.6-6.6)**	
Nevirapine-based ART	957	7808	13.0 (12.1-13.8)	5.7 (4.6-6.7)	Ref.
Efavirenz-based ART	202	2013	10.4 (9.0-11.9)	5.3 (4.1-6.4)	0.93 (0.79-1.1)
Lopinavir/ritonavir-based ART	67	553	13.1 (10.0-16.3)	6.5 (4.6-8.4)	1.2 (0.87-145)
No ART	513	3095	17.5 (16.0-19.0)	5.5 (4.4-6.6)	0.97 (0.86-1.1)
No contraceptive method	762	10348	7.7 (7.2-8.3)*	4.9 (4.0-5.9)**	
Nevirapine-based ART	351	5436	6.8 (6.1-7.5)	4.7 (3.8-5.7)	Ref.
Efavirenz-based ART	98	2050	4.9 (3.9-5.9)	4.0 (2.9-5.1)	0.85 (0.65-1.0)
Lopinavir/ritonavir-based ART	29	467	6.5 (4.1-9.0)	5.1 (3.0-7.3)	1.1 (0.66-1.5)
No ART	284	2388	12.5 (11.0-14.0)	5.6 (4.4-6.8)	1.2 (0.99-1.4)
Overall	**3,330[¶]**	**36,212**	**9.2 (8.9-9.5)**		

[^] In this sensitivity analysis, we dropped the 8,847 of 94,162 (9.4%) observations where pregnancy status was missing during all of the visits contributing data to that observation. Of note, 85% of these observations were one-time visits.

[§] Stratified rates by ART regimen calculated with an unadjusted Poisson model that included an interaction term between contraceptive method and ART regimen.

[#] Stratified rates by ART regimen calculated with an adjusted Poisson model that included an interaction term between contraceptive method and ART regimen and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

*Unadjusted rates by contraceptive method calculated with an unadjusted Poisson model without ART regimen or an interaction term between contraceptive method and ART regimen.

**Adjusted rates by contraceptive method calculated with ART regimen (but not an interaction term between contraceptive method and ART regimen) and covariates adjusted for included age, educational attainment, marital status, number of living children, HIV-positive status disclosure to partner, and time-dependent covariates of percent use of condoms, body mass index (BMI), World Health Organization (WHO) stage, CD4 cell count, and use of anti-tuberculosis medications during the observation period.

[¶] Seven pregnancies occurred in observations where the contraceptive method was missing (in seven different women).