

Webappendix

Search strategies for PubMed and Embase:

Search Strategy for PubMed:

((mother-to-child transmission) OR mtct OR ``prevention of mother-to-child-transmission" OR pmktct OR (disease transmission, vertical) OR (perinatal transmission) OR (postnatal transmission) OR (maternal-infant transmission) OR (mother-infant transmission) OR (mother-to-infant transmission) OR pregnan* OR ``prenatal care"[All Fields] OR ('`prenatal"[All Fields] AND ``care"[All Fields]) OR ``antenatal care"[All Fields] OR "Prenatal Care"[Mesh] OR ('`antenatal"[All Fields] AND ``care"[All Fields])) AND ('`hiv"[MeSH Terms] OR ``hiv"[All Fields]) AND (ART OR HAART OR (antiretroviral treatment) OR ``Anti-Retroviral Agents/therapeutic use"[Mesh] OR ``antiretroviral agents"[All Fields] OR ``Anti-HIV Agents"[Mesh] OR ``Anti-HIV agents"[All Fields] OR ``Nevirapine/therapeutic use"[Mesh] OR ``nevirapine"[All Fields]) AND (Follow-up OR follow-up studies OR follow-up care OR Loss to follow-up OR (Eligib* AND (ART OR HAART)) OR referral process OR (referral other hiv services) OR postnatal care OR postnatal follow up OR follow up care OR (initiation OR initialization OR implementation OR installation) OR (Health Services Accessibility) OR (Infection AND newborn) OR adherence) NOT ('`europe"[MeSH Terms] OR ``australia"[MeSH Terms] OR ``north america"[MeSH Terms])

Limits date: 01.01.2002–18.11.2011

Limits language: English

Search Strategy for Embase:

(pmktct OR mtct OR ((`mother to child" OR mother-to-child OR maternal-infant OR ``maternal infant" OR mother-to-infant OR ``mother to infant") NEAR/5 transmission) OR (vertical NEAR/5 transmission) OR vertical transmission OR ((perinatal OR antenatal) NEAR/5 transmission) OR pregnan* OR prenatal care OR (antenatal NEAR/5 care)) AND (ART OR HAART OR (antiretroviral NEAR/5 treatment) OR anti human immunodeficiency virus agent OR (antiretroviral NEAR/5 agents) OR antiretrovirus agent OR (Anti-HIV OR ``anti hiv" NEAR/5 agents) OR highly active antiretroviral therapy OR Nevirapine) AND (follow up OR ((`follow up" OR follow-up) NEAR/5 (studies OR care OR loss)) OR (Eligib* NEAR/5 (ART OR HAART OR ``anti human immunodeficiency virus agent" OR ``antiretrovirus agent" OR ``highly active antiretroviral therapy")) OR (referral NEAR/5 process) OR (referral AND (hiv OR ART) AND services) OR (postnatal NEAR/5 (care OR ``follow up" OR follow-up)) OR ((`follow up" OR follow-up) NEAR/5 care) OR (initiation OR initialization OR implementation OR installation) OR ('`Health Services Accessibility") OR (Infection NEAR/5 newborn) OR adherence) NOT (Europe OR australia OR north america)

Limits date: 01.01.2002–18.11.2011

Limits language: English

Table S1

Auth or, publication year	Gestational age at presentation		cART/ARV prophylaxis initiation (gestational age) or weeks on cART/ARV prophylaxis before delivery		CD4 cell count (cells/ μ l)			Delivery mode			Comment
	All pregnant women	HIV+ pregnant women	cART eligible	Not cART eligible	All women	Eligible for cART	Not eligible for cART	Vaginal	C-section		
Azcoaga-Lorenzo (2011)		M 26·0 (SD 7·0)						749	9		
Barigye (2010)	1st trimester : 11·3%, 2nd trimester : 32·4%, 3rd trimester : 56·0%	1st trimester: 9·2%, 2nd trimester: 31·2%, 3rd trimester: 60·0%									
Braun (2011)											
Chama (2007)								5	17 (13 elective)	Information was provided for HIV+ women on cART whose infants were followed for 18mth	
Chama (2010)			Weeks on ARV Prophylaxis before delivery <4wk.: 2%, 4–8wk.: 3%, 9–13wk.: 7%, 14–18wk.: 13%, 19–23wk.: 16%, ≥24wk.: 62% (not specified if women were eligible for cART)					373	67 (51 elective)	Information was provided for a total 446 births of HIV+ women	
Chen (2010)					Mdn 382 (IQR 260–536)						
Chi (2007)			Gestational age Mdn 28·3wk. (IQR 24·9–35wk.)	Gestational age Mdn 31wk. (IQR 29–34wk.)							
Colvin (2007)		M 24·3 (SD 5·7)						410	175 (63 elective)		
Cook (2011)								91	3	Information was recorded for 105 HIV+ women who brought infant for early infant diagnosis	
Gedes (2011)								247	427	Information was provided for 680 HIV+ women	
Kase								22			

Nga (2009)									
Kipto o (2009)				M 466	<20 0: 39 wom en	200– 249: 72 wom en, >35 0: 167 wom en			
Kirer e (2008)	Gestational age >36 wk. was an inclusion criteria								
Koua m (2006)							15	3	
Man dala (2009)				Mdn 366					
Mara zzi (2010)			Gestation al age M 23wk.	Gestation al age M 17·2wk.					
Mirk uzie (2011)		Mdn 21 (IQR 16– 28)			Mdn 310 (IQ R 216– 433)				
Moo dley (2011)	M 24 (Range 6–39)								
Msuya (2006)	Pregnancy in 3 rd trimester was inclusion criteria								
Nam ukwa ya (2011)	Mdn 28 (IQR 24–32)								
Orie (2009)							138	69	Information on birth was provided for 207 HIV+ women
Rutta (2008)	Mdn 22 (IQR 20–34)								
Shett y (2008)									
Stinson (2010)		Mdn 26 (IQR 21– 31) (Informati on was provided only on cART eligible women)	Gestation al age Mdn 32wk. (IQR 28– 36kw.) Weeks on cART before delivery: 48% >8weeks, 32% 4– 8weeks, 20% <4weeks	Mdn 382 (IQ R 256– 542)	Mdn 140 (IQ R 98– 170)		274	117	Infromation on birth was provided for 391 cART eligible women

			126/516 women>8 weeks on cART						
Teijo kem (2011)							141 6		89·2% of HIV+ women had vaginal deliveries
Town e-Gold (2007)		Mdn 30wk. (IQR 25–33wk.)	Gestation al age Mdn 30wk. (IQR 27–33wk.) Weeks on cART before delivery Mdn 10·6wk. (IQR 6·8–13·0wk.) 37/105 women > 8wk. on cART prophylaxis	Gestation al age Mdn 34wk. (IQR 32–36wk.) Weeks on cART before delivery Mdn 6·6 (IQR 4·4–9·3) 89/145 women > 8wk. on ARV prophylaxis	Mdn 338 (IQR 206–488)	Mdn 189 (IQR 135–266)	Mdn 467 (IQR 368–602)		
Tukur (2007)			Gestation al age 0 wk. for 20 of 26 women as they were treated with cART prior to pregnancy				110	15	2 emergency c-sections, 13 because cephalopelvic disproportion
Van der Merwe (2006)		Mdn 24·6wk. (IQR 17·9–28wk.) before intervention; Mdn 25·6wk. (IQR 19·4–28·9wk.) after intervention	Gestational age Mdn 33·5wk. (IQR 30·7–36·4wk.) before intervention; after Mdn 32·4wk. (IQR 28·1–34·6wk.), significant reduction post-intervention (intervention consisted of: health workers from HIV clinic held a weekly clinic for HIV+ women at the site; CD4 cell count was performed at 1 st ANC visit; result was available at 2 nd ANC visit 2wk. later; eligible women were given adherence counseling and treatment preparation at 2 nd visit)				730	203	
Zvandasara (2006)							241	83 (75 elective)	

M= mean, SD=standard deviation, Mdn=median, IQR=interquartile range, mth=month, wk=week
 cART=antiretroviral combination therapy, ARV=antiretroviral, ANC=antenatal care, HIV+=HIV positive, c-section=caesarean section

Only studies listed where any of the additional information was provided; empty fields meaning that the study did not report about the topic

Table S2: Predictors for successful uptake of PMTCT interventions

Categories	Predictors	HIV testing	CD4 cell count	cART initiation	sdNVP intake	Early infant diagnosis
Male partner	Partner accompanying the women	Pos. [20]				
	Told partner about the drug				Pos. [20]	
Health	Presentation later in pregnancy		Neg. [18]	Neg. [21]	Pos. [10, 23]	Neg. [27]
	No prophylaxis received					Neg. [27]
	Higher number of pregnancies			Pos. [25]		
	Emergency caesarean section					Neg. [27]
Health service related	Blood for CD4 taken same day as HIV test		Pos. [8]			
	CD4 result back within a week		Pos. [8]			
	cART provided at same site	Pos. [21]	Neg. [8], Pos. [24]	Pos. [8, 24]		
	Enhanced referral					Pos. [26]
	Delivery at home				Neg. [19]	
Setting	Urban		Pos. [8]		Pos. [13]	
	Shorter distance to clinic					Pos. [26]
Social	Small household size					Neg. [26]
	Unemployment		Neg. [18]			
	Higher age of pregnant women			Pos. [21]_ENREF_46_ENREF_46_ENREF_46		

Pos. = Positive association with $p < 0.05$

Neg. = Negative association with $p < 0.05$

cART = antiretroviral combination therapy

sdNVP = single dose nevirapine given at birth

Only studies which include predictors with a significant ($p < 0.05$) positive or negative association are included in the table

Table S3: HIV testing of infants: early infant diagnosis by PCR around 6 weeks and testing between 12 and 18 months postpartum

Studies	Age at HIV testing (testing method)	No tested by PCR around 6 weeks if PCR was available at programme	Actual age at early infant diagnosis	PCR at 4– 6 weeks		No of infants eligible for testing at 12–18 months	No tested at 12– 18mth
				HI V+	HI V-		
Azcoaga (2011)	6 weeks (PCR), 6 weeks after weaning (PCR/rapid antibody test)	n.r.	n.r.	n.r.	n.r.	485	309
Braun (2011)	6 weeks (PCR), 6 weeks after weaning (PCR)	7875	Standard referral 8·4wk. (IQR: 4·6–12·4wk.) enhanced referral 4·7wk. (IQR: 4·3– 9·0wk.)	108 4	679 1	n.r.	n.r.
Chama (2007)	18 months (n.r.)	n.r.	n.r.	n.r.	n.r.	52	31
Ciampa (2011)	4 weeks (PCR)	145	n.r.	n.r.	n.r.	n.r.	n.r.
Colvin (2007)	3–4 weeks (PCR)	585	Range 3·0–4·0wk.	68	517	n.r.	n.r.
Cook (2011)	1–18 months (PCR)	105	Mdn 21·5wk. (IQR 8·6–30·1wk.)	17	n.r.	n.r.	n.r.
Doherty (2009)	6 weeks (PCR)	740	n.r.			n.r.	n.r.
Geddes (2011)	6 weeks (PCR)	571	n.r.	16	555	n.r.	n.r.
Kouam (2006)	6 weeks (PCR), 6 months (PCR), 15– 18 months (PCR, ELISA, immunoblot)	18	Range 5–6wk.	1	n.r.	17	18
Marazzi (2010)	4 weeks (HIV-1 bDNA assay), 6 and 12 months (HIV-1 bDNA assay)	3081	n.r.	25	305 6	3148	2552
Mirkuzie (2011)	6 weeks (PCR)	115 (test result available from 71 infants)	n.r.	6	65	n.r.	n.r.
Namukw aya (2011)	6 weeks (PCR)	2338	Mdn 6·4wk. (IQR 6·1–7·1wk.)	117	222 1	n.r.	n.r.
Oladokun (2010)	18 months (ELISA)	n.r.	n.r.	n.r.	n.r.	303	207
Rutta (2008)	18 months (ELISA)	n.r.	n.r.	n.r.	n.r.	184	27
Teijokem (2011)	6 weeks (PCR)	1431	Mdn 6·5wk. (IQR 6·0–6·9wk.)	50	130 1	n.r.	n.r.
Tonwe- Gold (2007)	4 weeks (PCR), 12 months (rapid test)	225	Mdn 4·6wk. (IQR 4·3–5·6wk.)	8	217	231	196
Van der Merwe (2006)	6 weeks (PCR)	808	n.r.	79	729	n.r.	n.r.
Wanyu (2007)	15 months (rapid antibody test)	n.r.	n.r.	n.r.	n.r.	29	14

No = number, n.r. = not reported, PCR = polymerase chain reaction, ELISA = enzyme-linked immunosorbent assay, HIV+ = HIV positive, HIV- = HIV negative, Mdn = median

Figure S1: Identification and selection of studies RCT= randomized controlled trial, PMTCT= prevention of mother-to-child-transmission

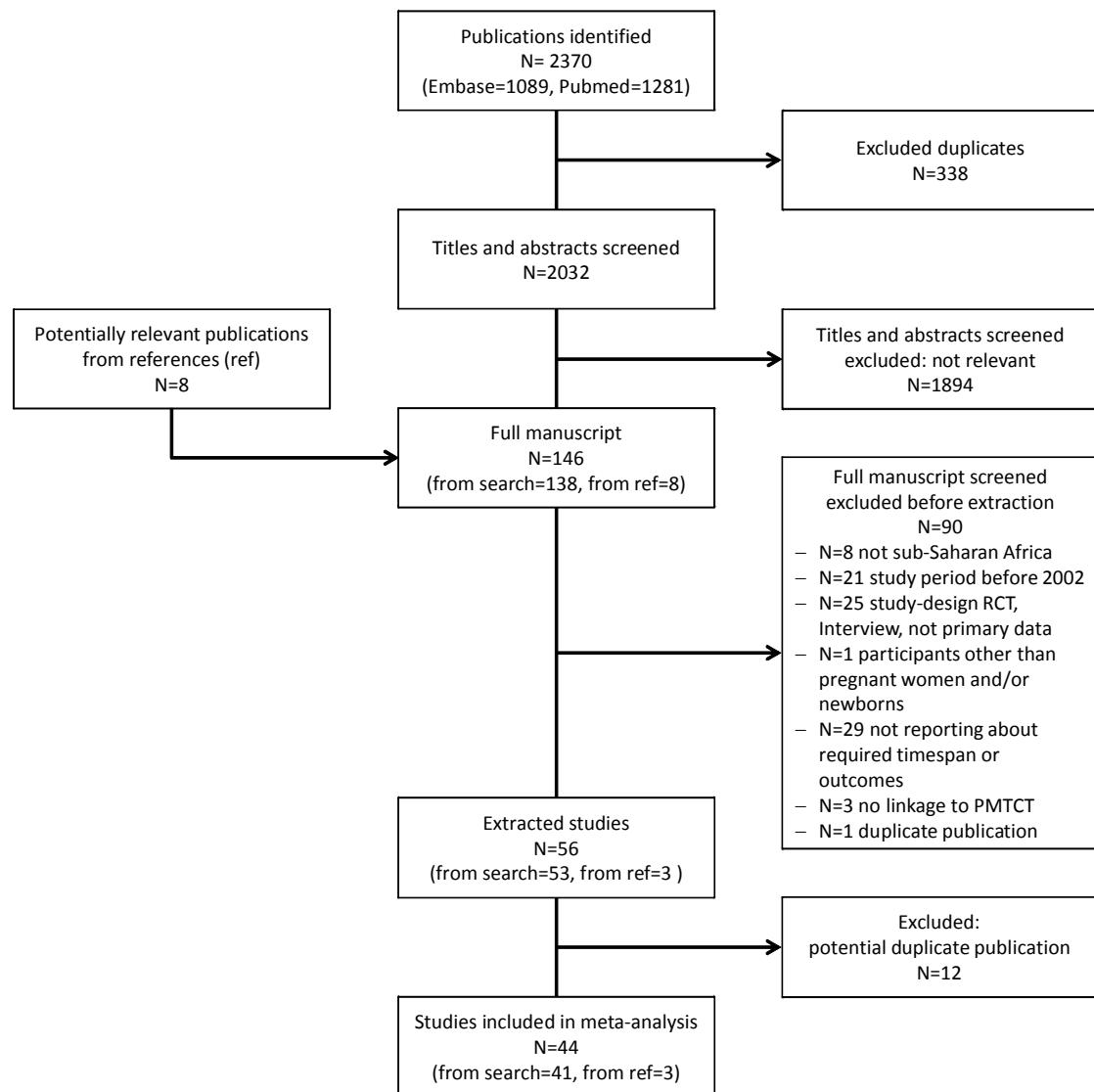


Figure S2: Geographic distributions of included studies Number of included publications per country are shown (one publication from Malawi and Mozambique was counted for both countries)

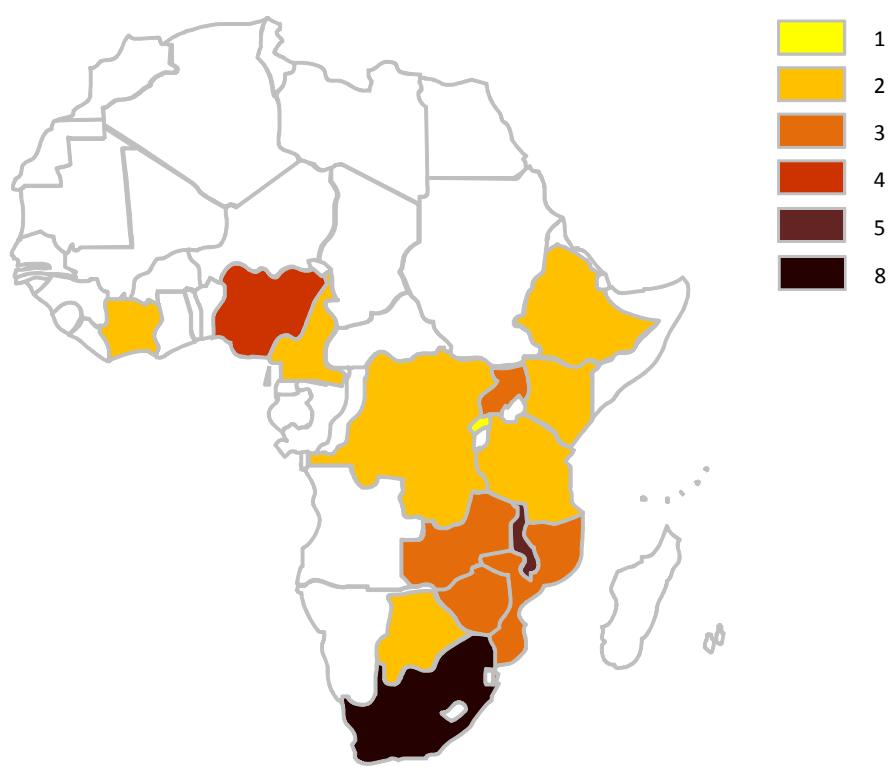


Figure S3: Original data of Figure 3 top panel 34 studies reporting on any type of prophylaxis

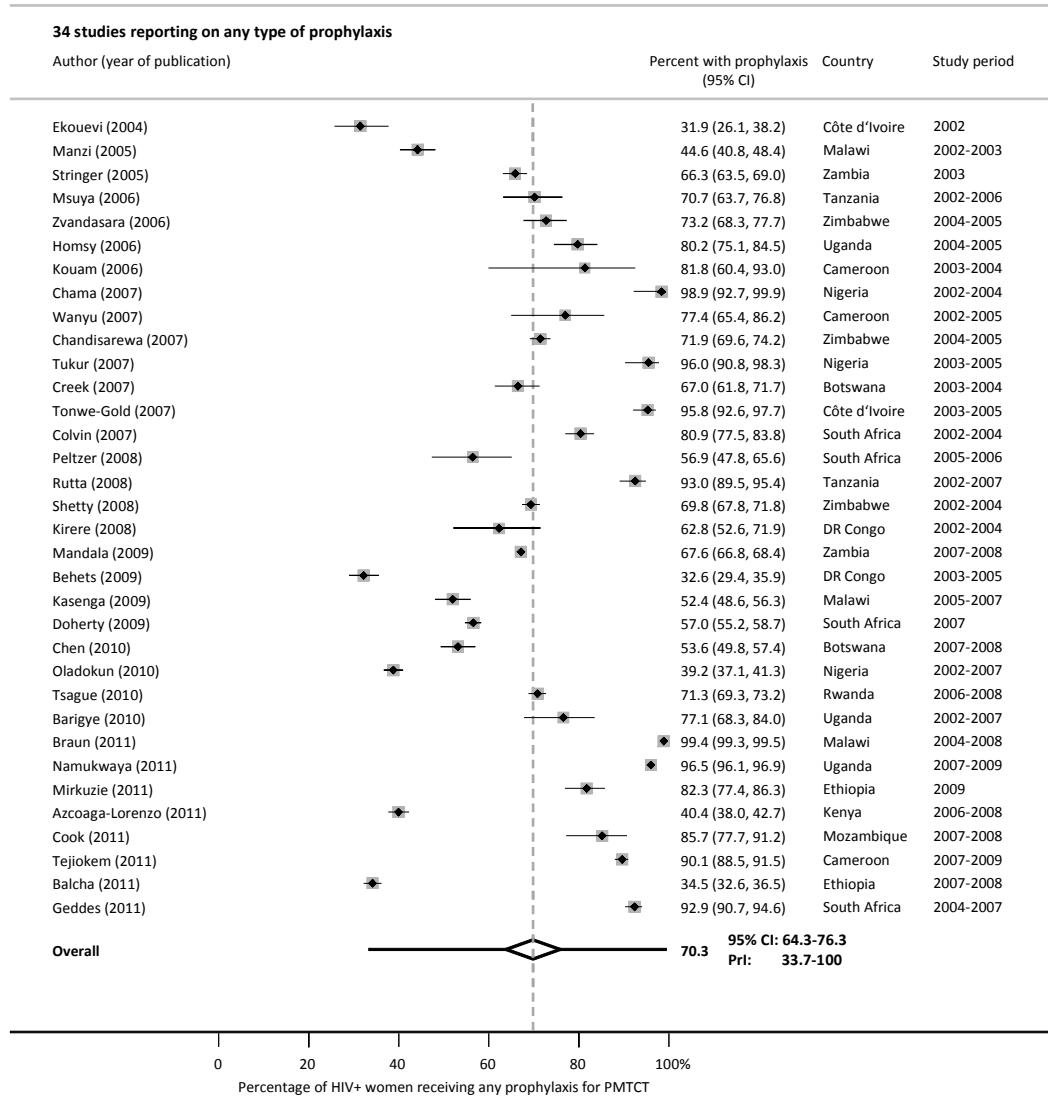


Figure S4: Original data of Figure 3 middle panel 9 studies reporting on dual or triple prophylaxis

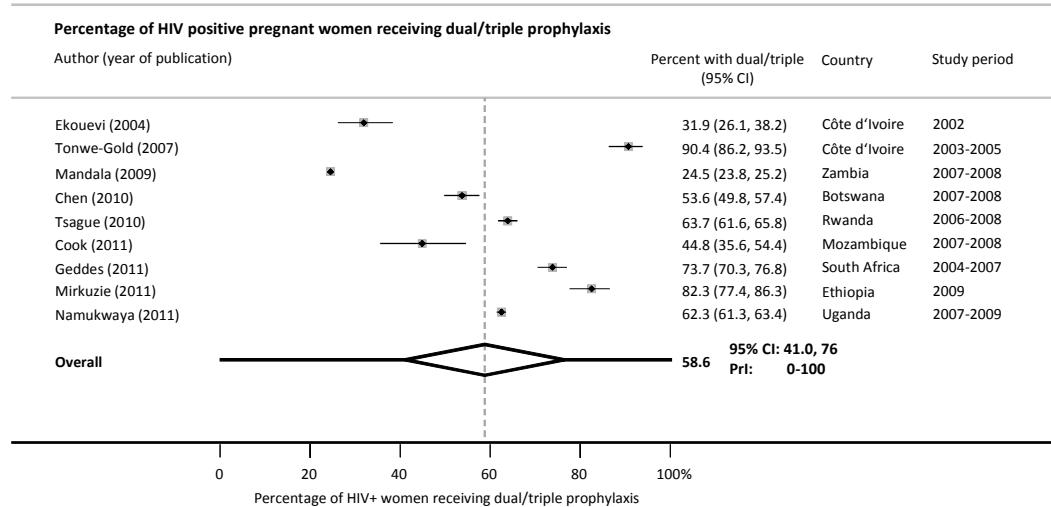
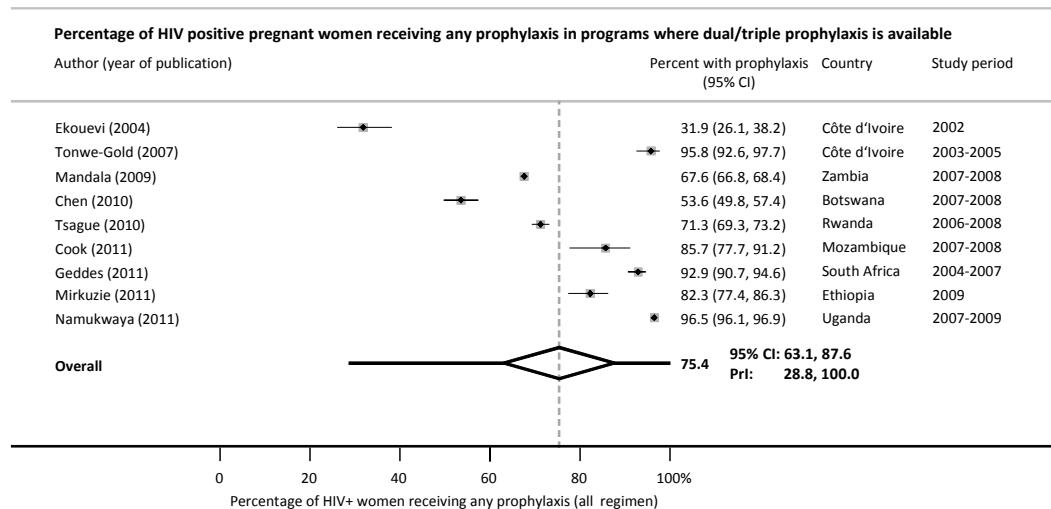


Figure S5: Original data of Figure 3 bottom panel 10 studies reporting on assessment and initiation of lifelong cART

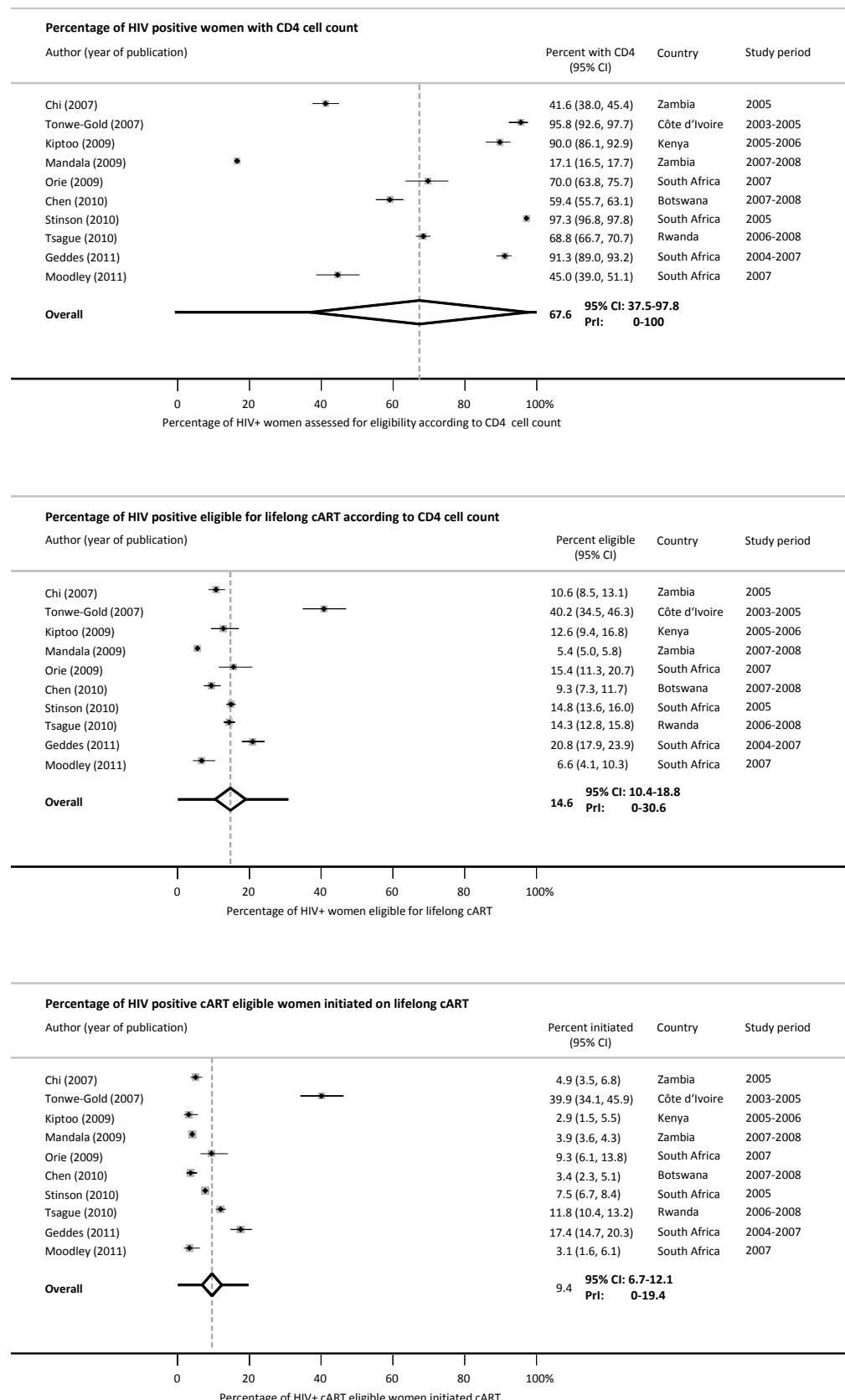


Figure S6: Meta-analyses from CD4 testing to start of antiretroviral therapy (cART)

