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Test and Treat in Uganda: Perspectives from An Implementing/Academic Partner

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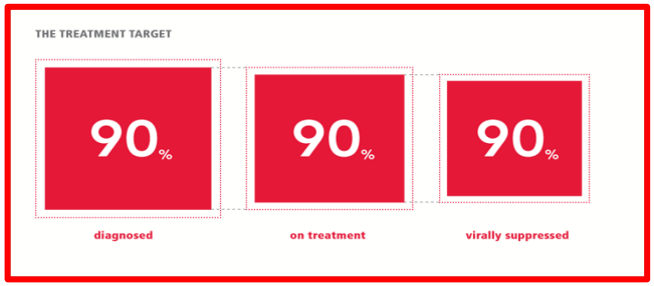
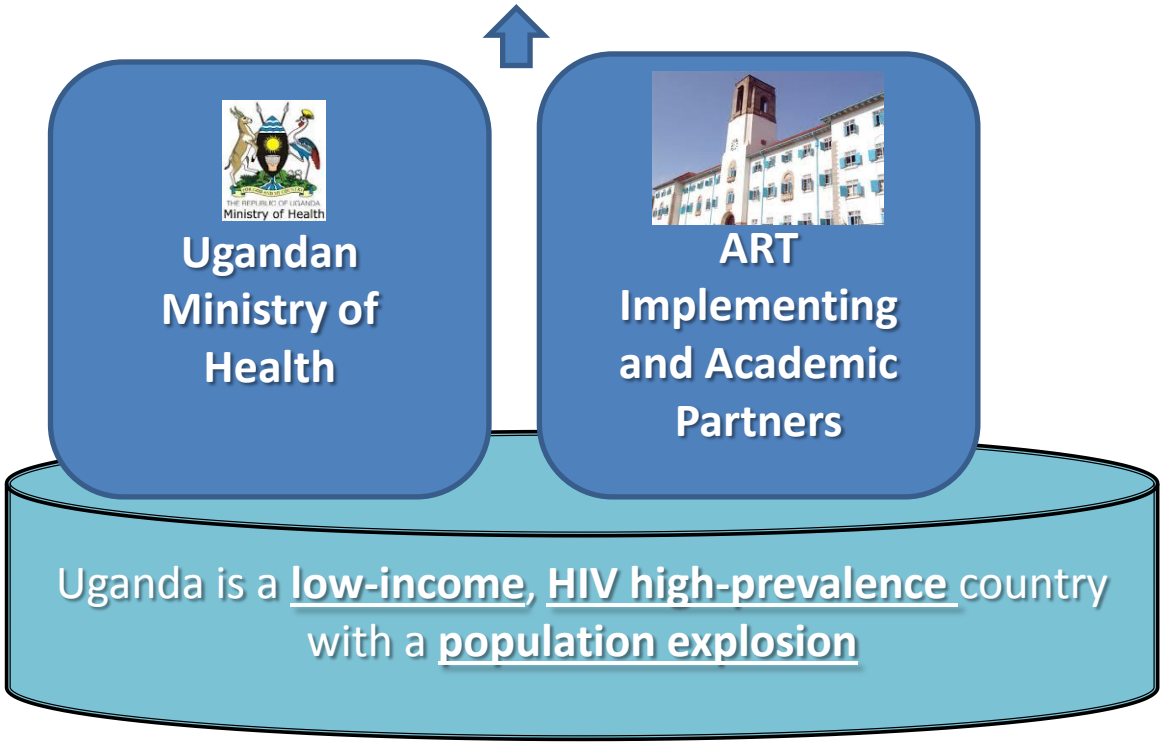
The "Schema" of the Talk





Uganda: By the Numbers

34.6 Million

Country Population (2014)

58

Life Expectancy, Years (2014)

5.8

Children per Woman

$ 571.96

Gross Domestic Product Per Capita (2014)

53

Infant deaths per 1000 live births

SOURCES: Uganda Bureau of Statistics (UBOS) 2014 Census , World Bank Report 2015

Uganda HIV/AIDS: Key Statistics

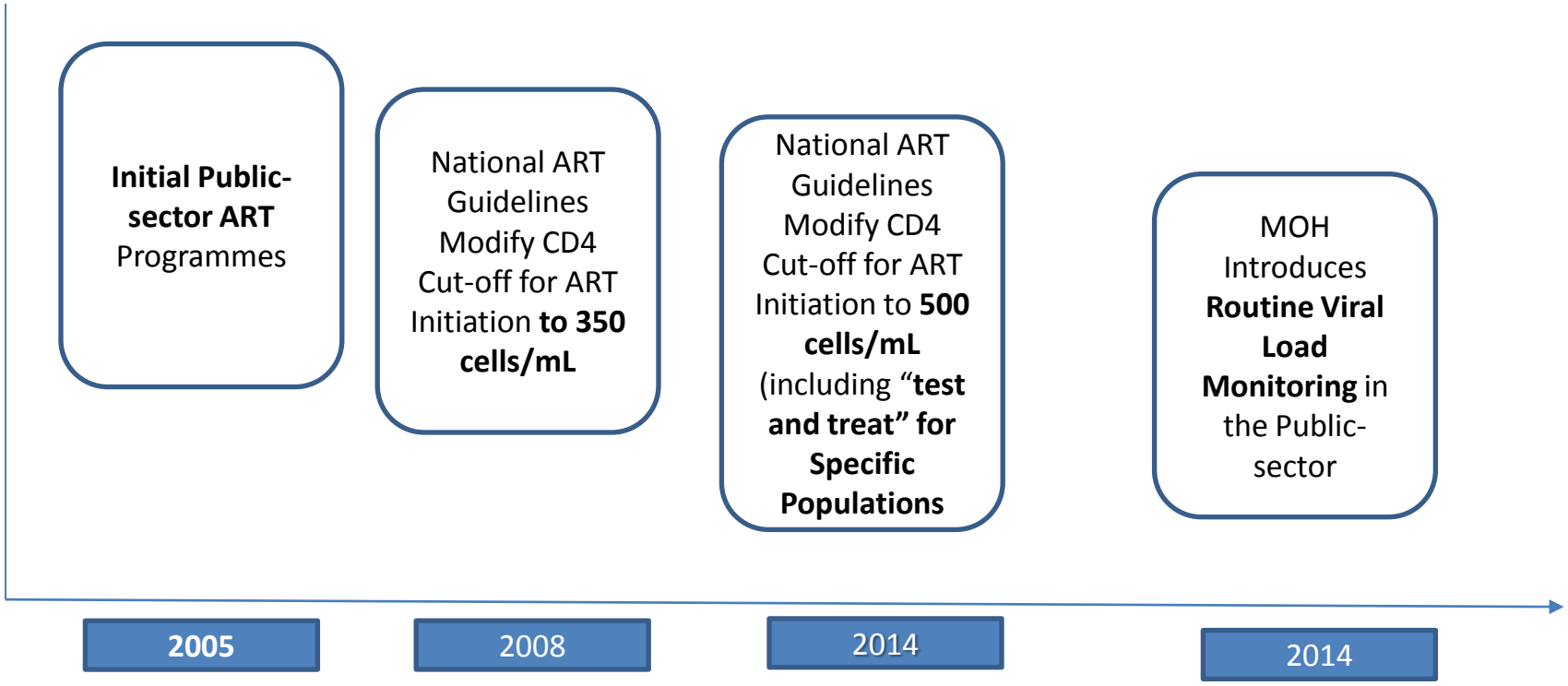
National HIV Prevalence
7.3%

Persons Living with HIV
1.28 Million

Number Accessing Antiretroviral Therapy
834,931

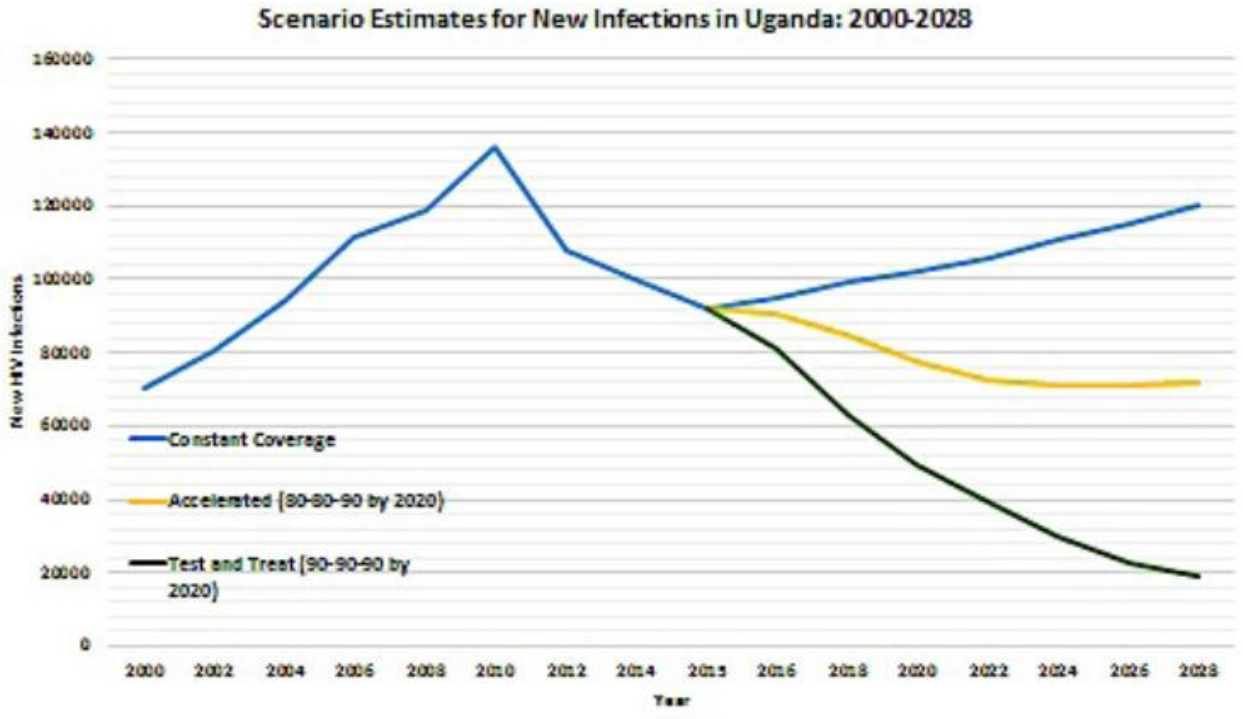
SOURCE: Ministry of Health, Uganda Programme Update 2016

Key Milestones in the Evolution of the National Programme



SOURCE: Ministry of Health Uganda Programme Report

The Ugandan Case for Test and Treat



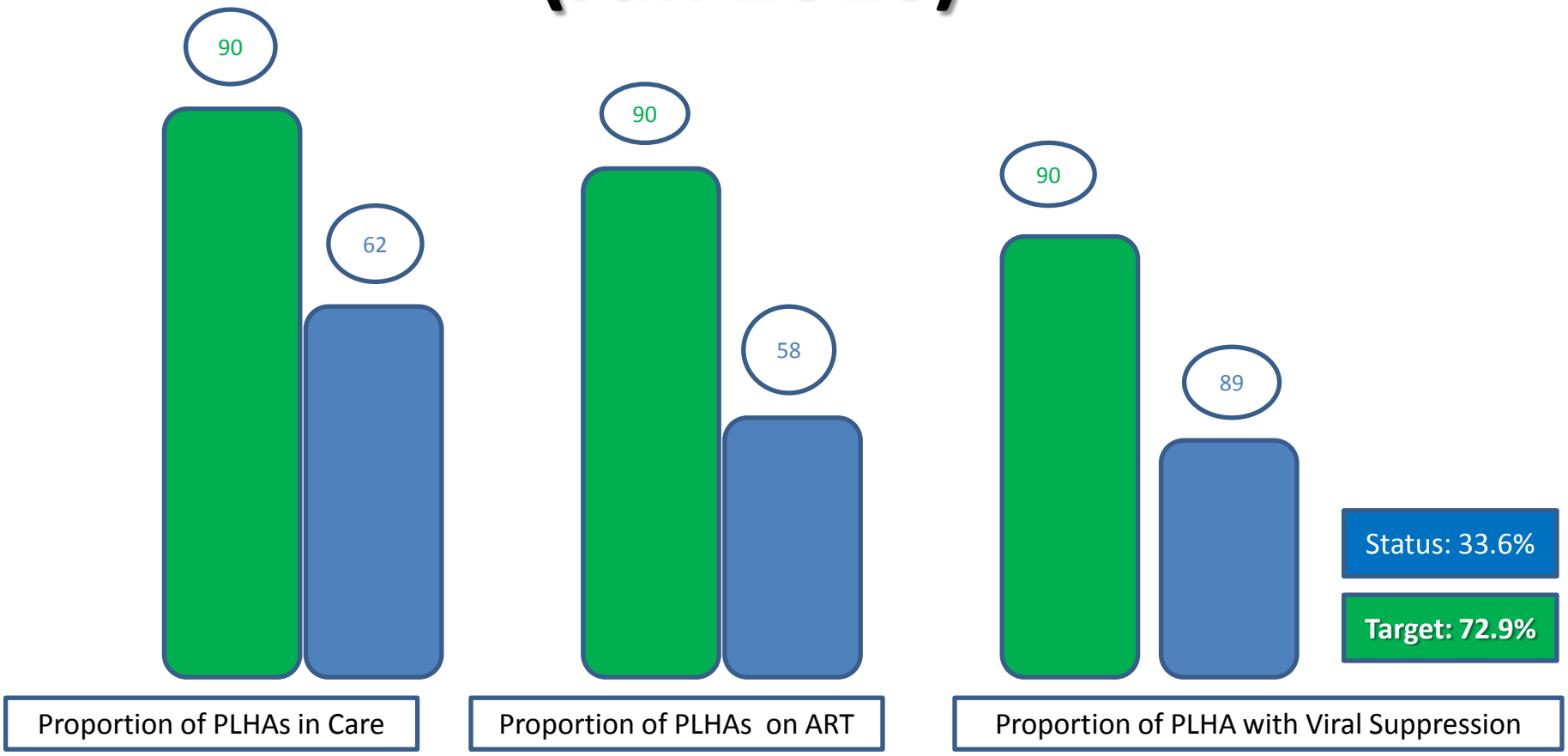
SOURCE: http://www.pepfar.gov/documents/organization/252263.pdf

Test and Treat in Uganda: Cost Effectiveness Analysis

	South Africa	Nigeria	Uganda	India
Incremental Cost	-$389	-$502	-$182	-$95
DALYs Averted	1.41	1.42	1.44	1.41
Cost/DALY Averted (ICER)[a]	-$275	-$353	-$126	-$68
Cost/DALY Averted, (ICER) 95% CI	-$717[a] to $787	-$613[a] to $234	-$367[a] to $445	-$232[a] to $366
Probability ICER<0 (dominant)	75.76%	91.37%	72.22%	68.54%
Probability ICER<1 x per capita GDP	100.00%	100.00%	99.21%	99.95%
RRR Transmission Threshold[b]	68.3%	49.4%	73.4%	75.7%

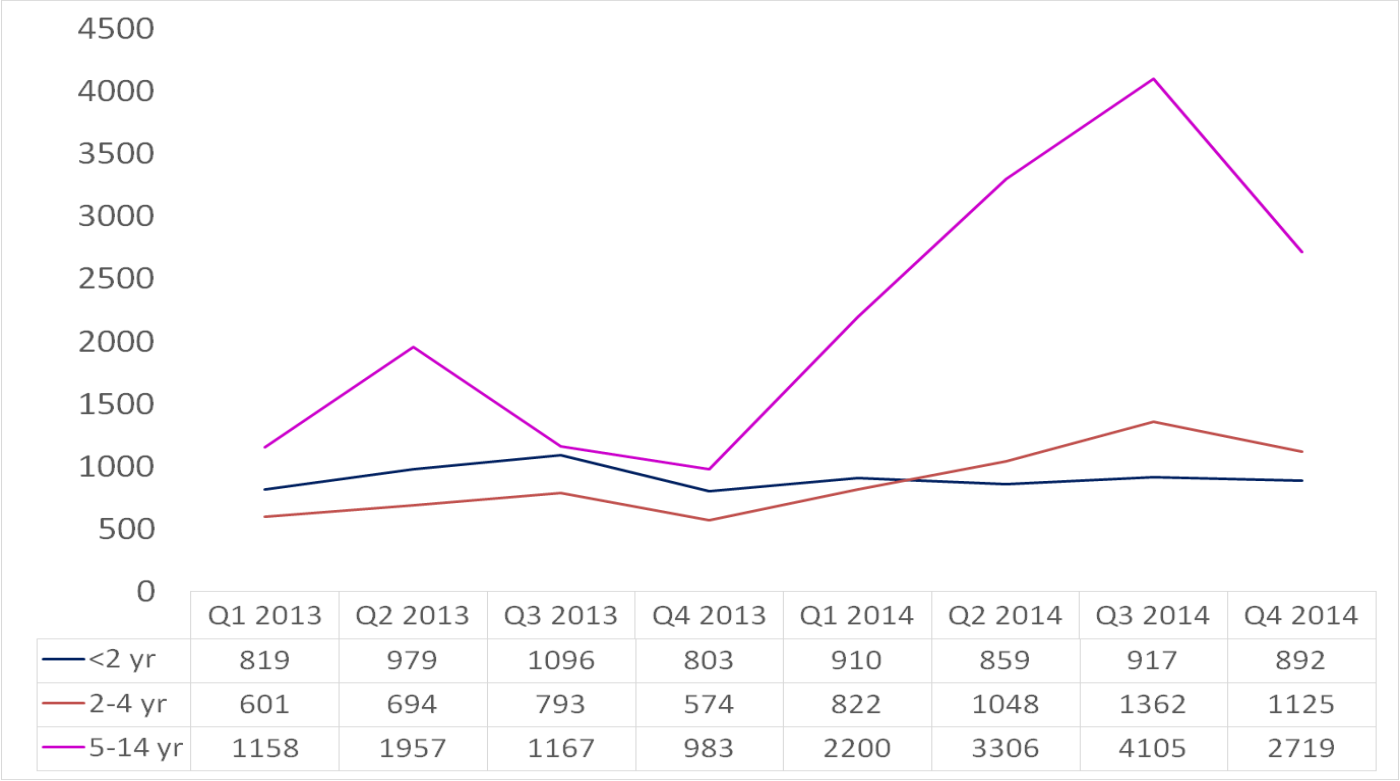
SOURCE: Kuznic A et al *Manuscript under review*

Progress on 90-90-90 Targets (Jan 2016)



SOURCE: MOH Programme UPDATE 2016

Increased enrollment of children < 15 yrs on ART



	Q1 2013	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014
<2 yr	819	979	1096	803	910	859	917	892
2-4 yr	601	694	793	574	822	1048	1362	1125
5-14 yr	1158	1957	1167	983	2200	3306	4105	2719

SOURCE: Ministry of Health, Uganda Programme Update 2016

Test and Treat in Ugandan Children: The Baylor Uganda Experience CROI 2016

- Retrospective Evaluation of Test and Treat
- 500 Children enrolled between 2014 – 2015
- 76% of participants were initiated > CD4 500 (median CD4 745 cell/mL)
- Retention at 12 months was 99% in high CD group compared to 85% in standard group

SOURCE: Atugonza R et al CROI 2016 Abstract # 842

eMTCT Cascade in Uganda

- eMTCT is championed by Ugandan First Lady

- MTCT infections from 26,000 in 2011 to less than 9000 in 2014; 69% reduction in MTCT[1]
- Current MTCT rate is 2% at 6wks and 7% at 18months[1]
- IDI has submitted an R21 (NIH) grant to optimize the eMTCT cascade by doing formative research to analyze key barriers and test pilot interventions

SOURCE: 1- Ministry of Health, Uganda Programme Update 2016

HIV Testing: Experiences and Approach

Routine (conventional) HCT approach may not result in substantial identification of PLHAs[1]

Study (Testing Approach)	Country	Community-Based HTC				Facility-Based HTC			
		Number Positive	Number Tested	Positivity Rate	Number Needed to Screen	Number Positive	Number Tested	Positivity Rate	Number Needed to Screen
Ahmed (mobile) [27]	Nigeria	1,049	9,409	0.11	9	2,104	16,587	0.13	8
Corbett (workplace) [22]	Zimbabwe	673	3,395	0.20	5	560	3045	0.18	5
Gonzalez (door-to-door) [62]	Mozambique	270	718	0.38	3	155	660	0.23	4
Hood (mobile) [119]	Botswana	2,493	21,237	0.12	9	3,743	26,653	0.14	7
Lahuerta (mobile) [108]	Guatemala	6	513	0.01	86	91	1,233	0.07	14
Lugada (index) [43]	Uganda	189	2,678	0.07	14	45	260	0.17	6
McCoy (mobile) [120]	US	9	243	0.04	27	16	2,471	0.01	154
Menzies (index) [29]	Uganda	121	2,011	0.06	17	1,834	9,579	0.19	5
Menzies (door-to-door) [29]	Uganda	2,502	49,470	0.05	20	6,108	22,482	0.27	4
Sweat (mobile) [23]	Tanzania	86	2,341	0.04	27	40	579	0.07	14
Sweat (mobile) [23]	Zimbabwe	693	5,437	0.13	8	132	602	0.22	5
Sweat (mobile) [23]	Thailand	173	9,361	0.02	54	92	2,721	0.03	30
van Schaik (mobile) [121]	South Africa	147	2,499	0.06	17	273	1,321	0.21	5

The Henry-Reid et al. [87] study was excluded since it did not find any people with HIV among the 20 school participants screened.
doi:10.1371/journal.pmed.1001496.t003

- Male Testing focus

SOURCE: 1- Plos Medicine 2- http://www.pepfar.gov/documents/organization/252263.pdf

Linkage to Care: Experiences and Approach

Sphere of Influence	Motivators for intra-facility linkage	Hindrances to intra-facility Linkage
Health worker factors	• Health workers' competence in counseling clients to enroll into the PMTCT and chronic care programs	• Limited time available to provide post-test counseling for enrollment into HIV chronic care programs in addition to PMTCT care.
Perceived Client factors	• Availability of HIV counseling and testing, PMTCT, EID and HIV chronic care services at the facilities	• Mothers' fear to disclose HIV positive status to partners
	• Benefits of PMTCT program, for example early HIV diagnosis for infants and HIV negative infants	• Mothers' stigma
		• Low rates of health worker-attended deliveries
Health system factors	• Availability of private rooms to counsel patients to enroll into chronic HIV care	• Lack of protocols that address linkage between HIV care points at the facilities
	• Availability of free HIV care services	• Long waiting times at ART clinics and EID care points
Access to services	• Availability of immunization and EID services on the same day to encourage enrollment of babies	• Long distances to the health units with limited public transportation
	• Provision of infant feeding and nutrition services to motivate mothers' adherence to EID care	• MCH, HIV care and EID services provided in different areas of the health facility
	• Point of care CD4 testing available at the urban sites motivated mothers to enroll into chronic care	• MCH, HIV care and EID services offered on different days of the week
Social support structure	• Availability of peer mothers at urban sites to escort clients, provide peer counseling and support was a motivator for linkage	• Low male partner involvement and support

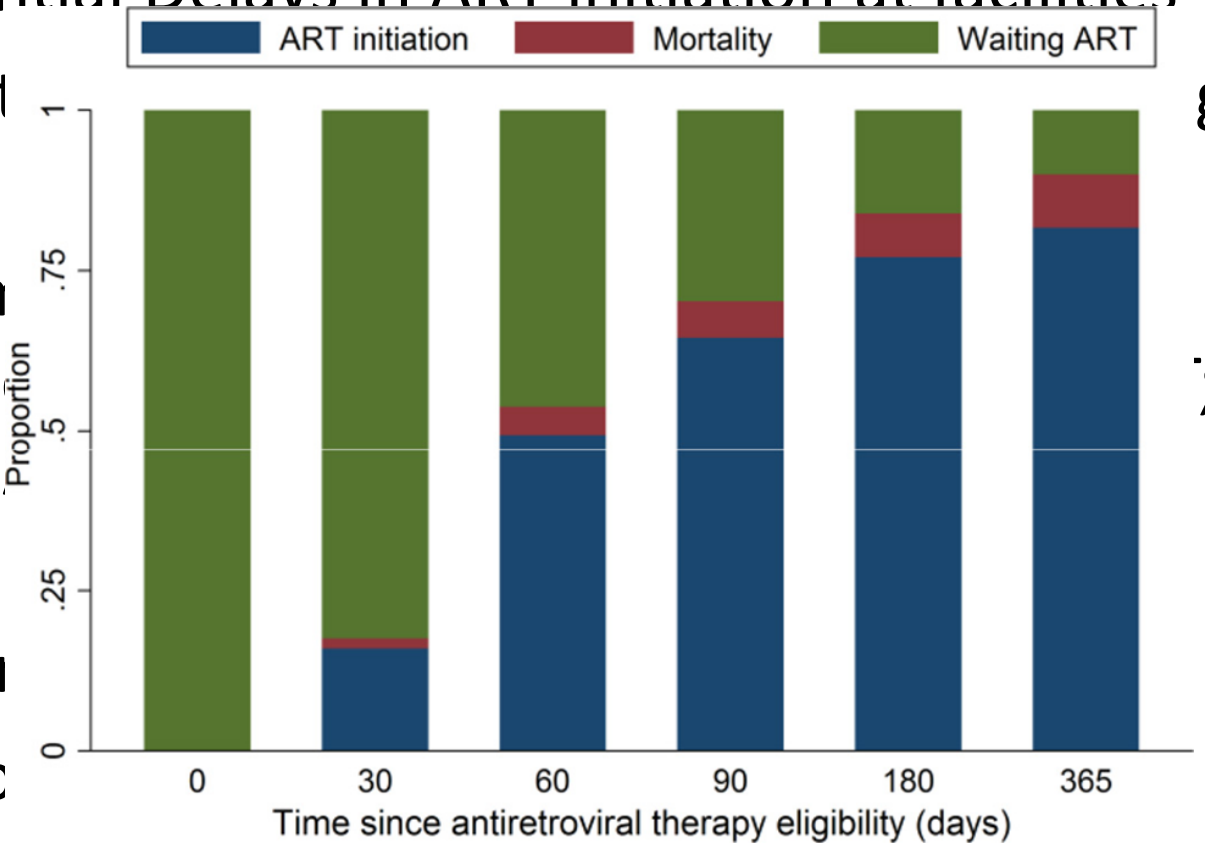
PMTCT- prevention of maternal-to-child transmission of HIV, EID-early infant diagnosis of HIV, MCH- maternal child health.

doi:10.1371/journal.pone.0115171.t004

SOURCE: Mugasha C Plos One 2014 9 (12) ; e115171

ART Initiation: Experiences and Approach

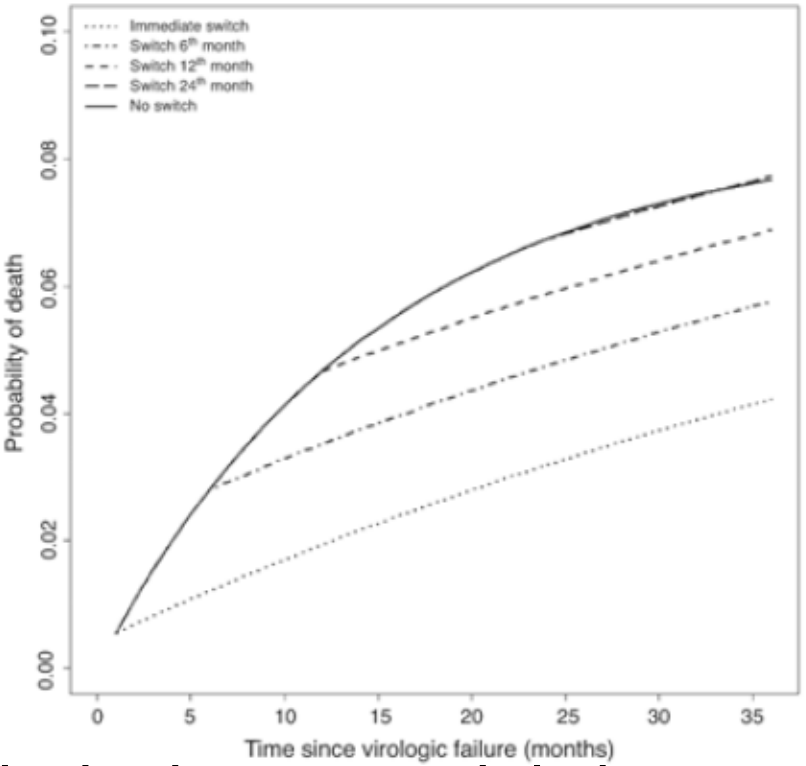
- Substantial Delays in ART initiation at facilities
- Key bot g policy
- IDI is in ; nurse-l The SH
  - RCT Ugai
  - Enrc
  - End-point is VL suppression at 48 and 96 weeks



SOURCE: Geng EH JAIDS 2013: (63) ; e64-e71

Achieving Viral Suppression: Experiences and Approach

- Uganda has [illegible] monitoring
- A hub-syste [illegible] ublic Health Lab a
- Both plamsa [illegible] are utilized
- Clinician ed [illegible] l even where VLM
- Opportunity to test new models (e.g use of POC VL testing to enhance rates of viral load suppression



SOURCE: Petersen ML AIDS 2014: 28 (14); 2097-2107

Key Conclusions

- Uganda is a **high burden country** and a **fast-growing population**
- The Ugandan **public-sector ART programme** is **supported by implementing/academic partners**
- The current ART guidelines support **test and treat for specified populations**
- There are **key bottlenecks at each step in the HIV treatment cascade** leading to **suboptimal results** towards achieving the UNAIDS 90-90-90
- Test and Treat strategy for all is a **cost-effective strategy** from an HIV prevention perspective
- There are **in-country efforts by implementing and academic partners** to support the Uganda MOH towards the 90-90-90

Acknowledgements

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