Toward elimination of mother-to-child transmission of HIV: The impact of a Rapid Results Initiative in Nyanza Province, Kenya

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Background

Despite extensive scale-up of Prevention of Mother-to-Child Transmission (PMTCT) services in Kenya, many HIV-infected women and exposed infants are not receiving comprehensive preventive services. Novel approaches are needed to improve PMTCT provision.

Nyanza Province, Kenya

Population:
5.5 million

Reproductive age women:
1.3 million

Annual pregnancies:
0.3 million

HIV prevalence in antenatal care:
16%

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Methods

Rapid Results Initiative: A Rapid Results Initiative (RRI) was designed and implemented by Family AIDS Care and Education Services (FACES) and the Kenyan Ministries of Health to address key challenges including CD4 testing, highly active antiretroviral therapy (HAART) initiation for pregnant women and infants, male involvement, and early infant diagnosis (EID).

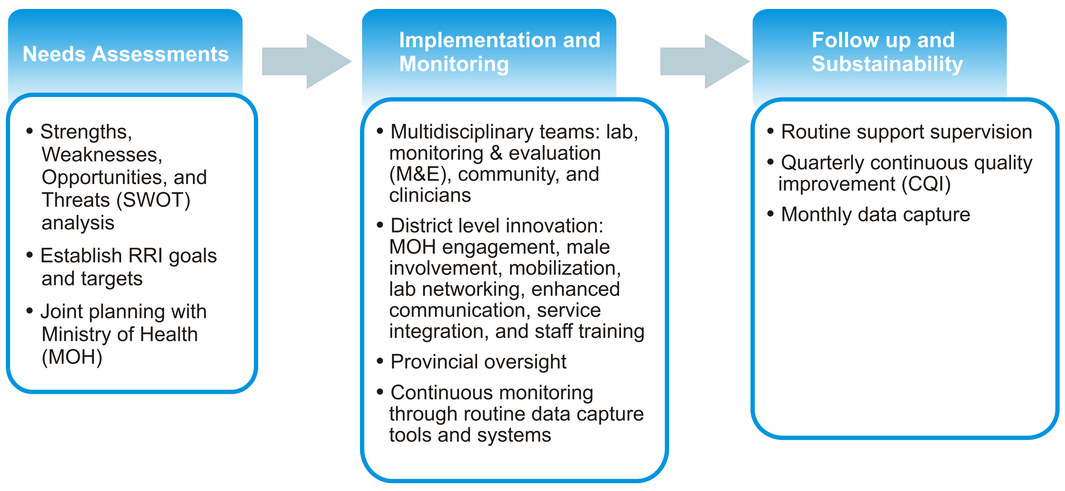

Figure 1. Rapid Results Initiative (RRI) Approach

Setting: This RRI intervention and evaluation was carried out at 119 FACES-supported health clinics in 5 districts in Nyanza Province, including: 6 district hospitals, 5 sub-district hospitals, 26 health centers, and 82 dispensaries.

Measurement: Site-level data were captured using routine monthly reports during the following 12-week timeframes:

Timeframe	Start	End
Baseline	October 2010	January 2011*
During the RRI intervention	April 2011	June 2011
Post RRI intervention	September 2011	July 2011

*Note: Dec. 2011 omitted due to the short work month

Analysis: Data obtained during the baseline, RRI and post-RRI periods were compared to assess whether there were significant changes during the three periods using pre-post cohort analysis using STATA 10. The risks, risk difference and risk ratios (95% Confidence Intervals) were reported for each indicator with the RRI baseline period as the reference point.

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Results

CD4 testing: CD4 testing uptake among HIV-infected pregnant women increased by 13% (RR=1.1, 95% CI=1.1-1.2) during RRI and remained elevated post-RRI (RR=1.07, 95%CI 1.02-1.1) compared to baseline.

Maternal HAART initiation: The relative proportion of HAART initiation improved from 13.7% to 19.7% among pregnant HIV-infected women (RR=1.4, 95% CI=1.2-1.7) during the RRI and to 21.7% (RR=1.6, 95% CI=1.4-1.8) post-RRI.

EID uptake: Uptake of EID among exposed infants increased by 30% during RRI (RR=1.3, 95% CI=1.2-1.4) and by 90% post-RRI (RR=1.9, 95% CI=1.8-2.0).

Infant HAART initiation: Infants initiated on HAART increased from 54.8% to 60.1% (RR=1.1, 95% CI=0.9-1.4) during RRI and to 69.0% post-RRI (RR=1.3, 95% CI=1.0-1.6).

Male partner engagement: Male partner testing increased from 7.7% at baseline to 16.4% during the RRI (RR=2.1, 95% CI=2.0-2.3). In the post-RRI period male partner testing decreased to 11.5% but remained 1.5 times above baseline figures (RR 1.5, 95%CI 1.4-1.7).

Table 1: Summary of Key Outcomes

	Baseline Period Oct 2010 - Jan 2011*	RRI Period Apr - Jun 2011		Post - RRI Period Jul - Sep 2011	
	N/%	N/%	Risk Ratio (95%CI)+	N/%	Risk Ratio (95% CI)+
Maternal outcomes					
HIV testing	8591	9123		8068	
positive	1662	1890		1526	
CD4 testing	59.0%	**66.6%**	**1.1 (1.1-1.2)**	63.3%	1.1 (1.0 - 1.1)
HAART initiation	13.7%	**19.7%**	**1.4 (1.2 - 1.7)**	**21.7%**	**1.58 (1.4 - 1.8)**
HIV - exposed infant outcomes					
PCR testing	46.2%	**60.8%**	**1.3 (1.2 - 1.4)**	**87.0%**	**1.9 (1.8 - 2.0)**
PCR positive	12.1%	13.8%	1.1 (0.9 - 1.4)	11.5%	0.9 (0.7 - 1.2)
HAART initiation	54.8%	60.1%	1.1 (0.9 - 1.4)	69.0%	1.3 (1.0 - 1.6)
Male partner engagement outcome					
HIV testing	7.7%	16.3%	**2.1 (2.0 -** 2.3)	**11.6%**	**1.5 (1.4 - 1.7)**

*December 2010 data excluded
+Results compared to baseline survey period
Bold - Statistically significant

Conclusions

Significant and sustained improvement in PMTCT services can be achieved using an RRI intervention. Similar strategies should be employed country-wide to work toward eliminating vertical transmission.

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