

Durability of Financial Incentives Effect on Viral Suppression and Continuity in Care

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BACKGROUND

- There is increased interest in use of financial incentives to achieve desired health outcomes, including HIV-related, behaviors.
- The HPTN 065 Study, a large study funded by NIAID, NIH and conducted by the HIV Prevention Trials Network (HPTN), examined the feasibility of a test, link-to-care, plus treat strategy for HIV prevention in the Bronx, NY and Washington, DC.
- As part of the HPTN 065 study, the effects of financial incentives on viral suppression in the Bronx, NY and Washington, DC were examined.
- Financial incentives were shown to be associated with a significant increase in viral suppression and with continuity in care at sites randomized to financial incentives compared to those randomized to standard of care.
- Financial incentives were associated with 3.8% [(0.7%-6.8%), p=0.014] higher viral load suppression and with 8.7% [(4.2%,13.2%), p=0.0001] higher continuity in care among patients at sites randomized to financial incentives versus standard of care in the study communities.
- Whether these effects are durable beyond withdrawal of financial incentives is unclear.
- We assessed viral suppression and continuity in care post-intervention withdrawal at financial incentive versus standard of care sites to determine the durability of financial incentives on these two outcomes.

METHODS

- A total of 37 (20 Bronx, NY/ 17 Washington, DC) HIV care sites with 51,782 patients in care (28,439 Bronx, NY/23,343 Washington, DC), were site-randomized to financial incentives or standard of care.
- At financial incentive sites, from February 2011 through January 2013, patients on ART could earn a \$70 gift card quarterly if they were virally suppressed.
- Laboratory data were reported to the US HIV Surveillance Database and these data were used to determine the following two outcomes at site-level:
 - Viral suppression: viral load defined as <400 copies/ml in engaged patients (≥2 visits in last 15 months)
 - Continuity in Care: CD4+ cell count or VL in 4 of prior 5 quarters.
- Post-intervention effects were assessed for the three quarters after discontinuation of financial incentives (April to December 2013).
- Generalized estimation equations (GEE) was used to compare financial incentive and standard of care site-level outcomes post-withdrawal of the intervention.

VIRAL SUPPRESSION

- Post-intervention, a trend remained for an increase in viral suppression by 2.7% (-0.3%, 5.6%, p=0.076) at financial incentive versus standard of care sites (Table 1).
- This difference in viral suppression between financial incentive and standard of care sites lessened from the 3.8% increase noted during the implementation of the intervention to 2.7% post intervention.
- Notably, in the subgroups of sites where financial incentives were associated with a significant increase in viral suppression during the intervention implementation, we found a reduced but durable effect post-intervention at financial incentive versus standard of care sites:
 - At DC sites (4.4% higher, p=0.057), at hospital-based sites (4.8% higher, p=0.003) and at sites with high baseline viral suppression (3.2% higher, p=0.066).

TABLE 1. Effects of Financial Incentives During and Post-Intervention on Viral Suppression and Continuity in Care * #

	Viral Suppression (VS)			Continuity in Care (CC)	
	Number of Sites	Intervention increase in percent with VS (95% CI), P Value	Post-intervention increase in percent with VS (95% CI), P Value	Intervention increase in percent of CC (95% CI), P Value	Post-intervention increase in percent of CC (95% CI), P Value
Overall	FI (N=17)	3.8% (0.7%, 6.8%)	2.7% (-0.3%, 5.6%)	8.7% (4.2%, 13.2%)	7.5% (2.0%, 12.9%)
	SOC (N=20)	p=0.014	<i>p=0.076</i>	p=0.0001	p=0.007
Bronx, NY	FI (N=10)	1.6% (-0.6%, 3.9%)	1.6% (-2.1%, 5.2%)	8.0% (4.1%, 11.9%)	5.9% (1.4%, 10.4%)
	SOC (N=10)	p=0.143	p=0.398	p<0.0001	p=0.010
Washington, DC	FI (N=7)	6.6% (1.9%, 11.3%)	4.4% (-0.1%, 9.0%)	10.1% (1.2%,19%)	9.4% (-1.9%, 20.7%)
	SOC (N=10)	p=0.006	<i>p=0.057</i>	p=0.026	p=0.1017
Hospital-based	FI (N=7)	4.9% (1.4%, 8.5%)	4.8% (1.6%, 7.9%)	8.7% (3.4%, 14%)	8.0% (1.3%, 14.6%)
	SOC (N=7)	p=0.007	p=0.003	p=0.001	p=0.019
Community-based	FI (N=10)	1.2% (-2.0%, 4.3%)	-0.1% (-3.9%, 3.6%)	9.4% (1.7%, 17.1%)	6.9% (-2.7%, 16.4%)
	SOC (N=13)	p=0.468	p=0.945	p=0.017	p=0.160
Smaller (<=196 at baseline)	FI (N=9)	11.8% (-0.1%, 23.7%)	11.5% (1.9%, 21.1%)	10.3% (1.5%, 19.2%)	6.9% (-1.5%, 15.3%)
	SOC (N=10)	<i>p=0.052</i>	p=0.019	p=0.022	p=0.108
Larger (>196 at baseline)	FI (N=8)	2.7% (-0.3%, 5.7%)	1.9% (-1.3%, 5.0%)	8.0% (2.4%,13.6%)	6.6% (-0.8%, 13.9%)
	SOC (N=10)	<i>p=0.076</i>	p=0.249	p=0.0053	<i>p=0.080</i>
Lower base VS (Baseline<=66%)	FI (N=11)	5.6% (0.0%, 11.3%)	2.2% (-2.6%, 7.1%)	5.7% (-4.4%, 15.8%)	1.5% (-10.1%, 13.1%)
	SOC (N=9)	p=0.049	p=0.372	p=0.27	p=0.7988
Higher base VS (Baseline>66%)	FI (N=6)	3.6% (0.3%,7.0%)	3.2% (-0.2%, 6.7%)	8.7% (3.6%,13.8%)	7.9% (1.6%, 14.2%)
	SOC (N=11)	p=0.034	p=0.0662	p=0.0008	p=0.014

*bold: p<=0.05; #italics: 0.05<p<=0.10

RESULTS

FIGURE 1. Effect of financial incentives post-intervention viral suppression and continuity care at standard of care and financial incentive sites

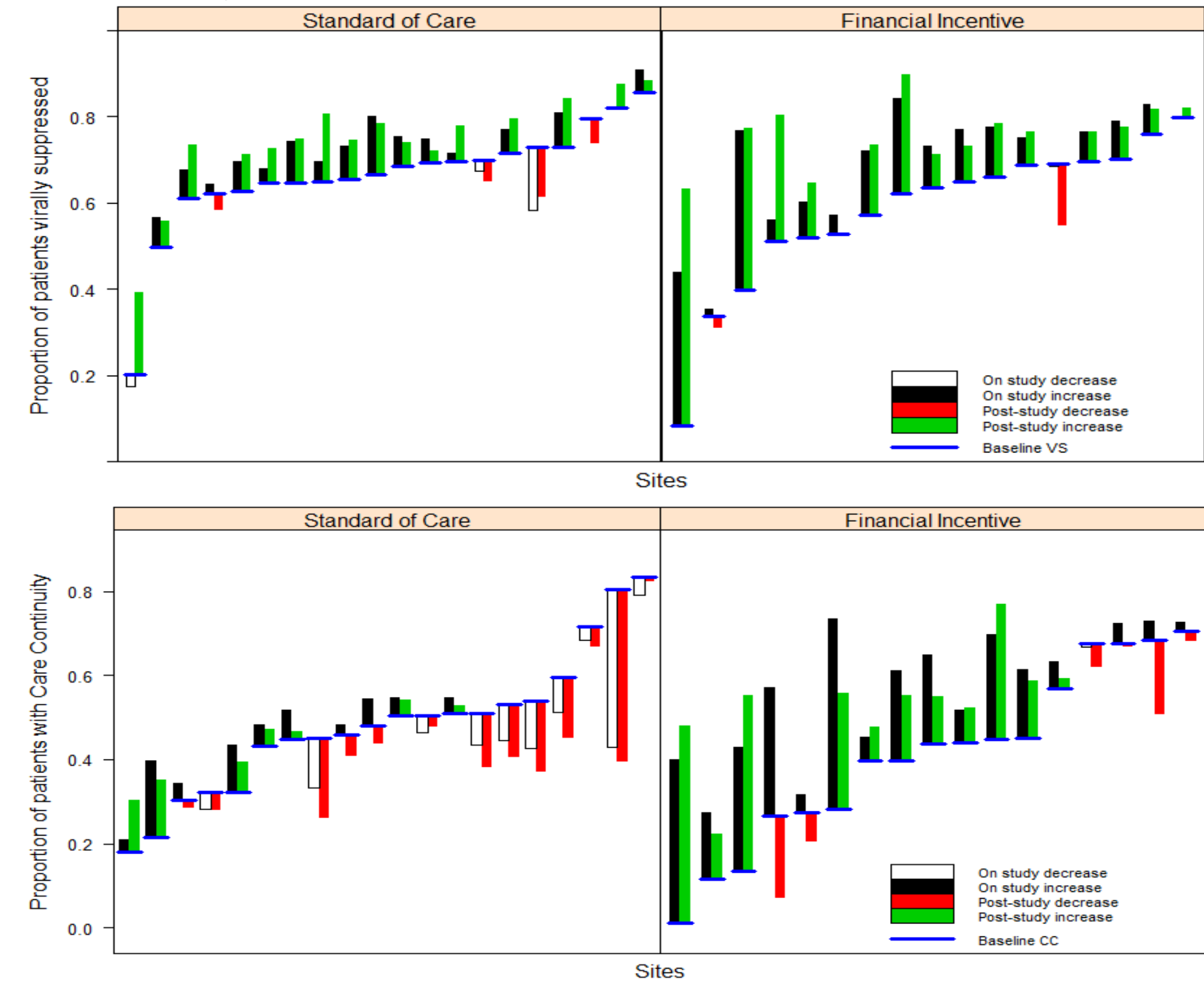
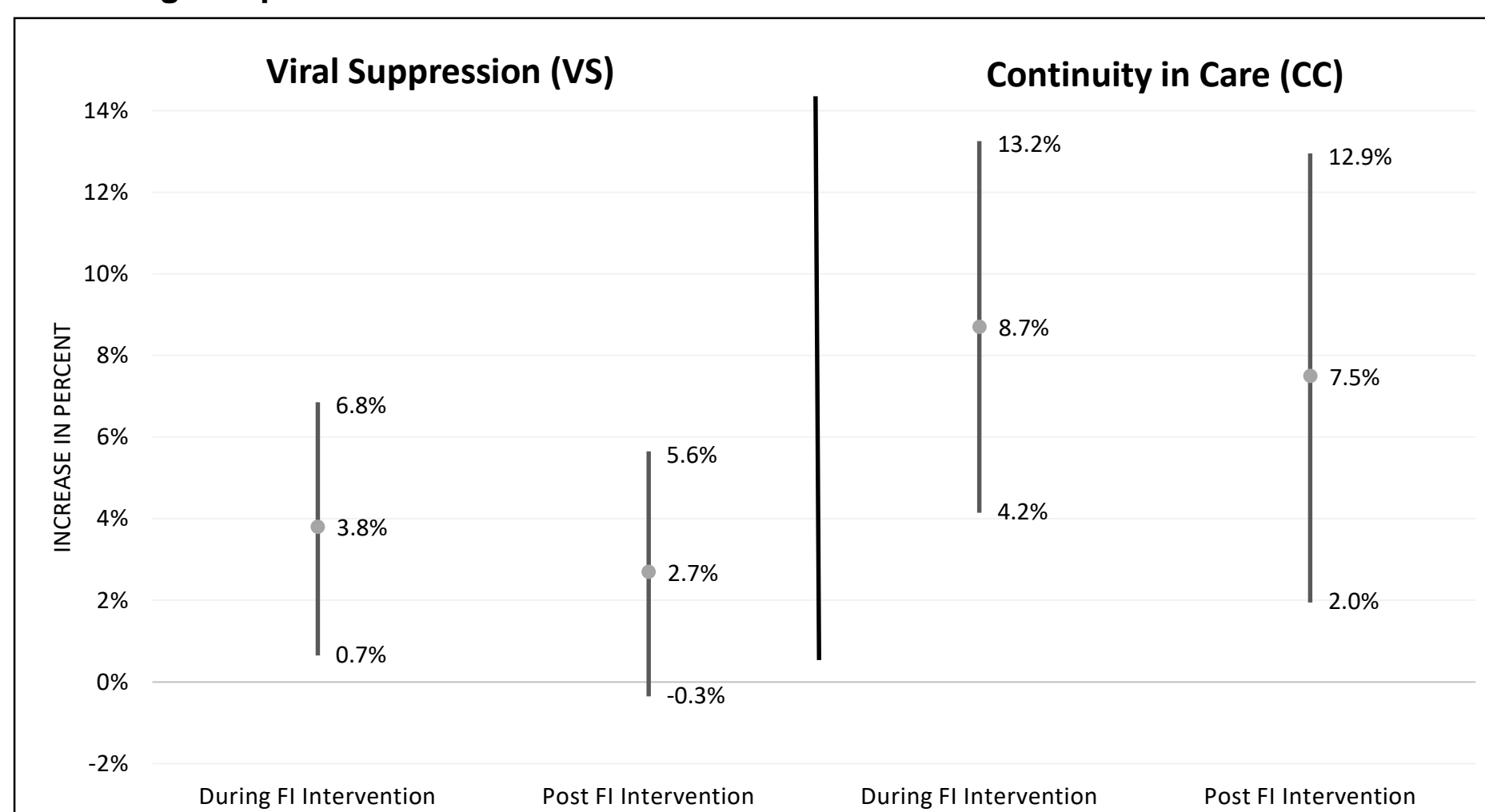


FIGURE 2. Change in percent increase in viral suppression and continuity in care during and post financial incentive intervention



CONTINUITY IN CARE

- The significant increase in continuity in care during the financial incentive intervention was sustained post-intervention with 7.5% (p=0.007) higher continuity in care at financial incentive versus standard of care sites.
- A durable significant effect of financial incentives post-intervention on continuity in care persisted at sites randomized to financial incentives versus standard of care in the Bronx, NY (p=0.010), at hospital-based sites (p=0.019) and at sites with higher baseline viral suppression (p=0.014).

CONCLUSION

- Post discontinuation of financial incentives, data from this large study showed evidence of durable effects of financial incentives, both on viral suppression and continuity in care.
- These findings suggest that behaviors motivated by financial incentives may last beyond the provision of the financial incentives, increasing the potential cost-effectiveness of this strategy.
- Research in the effects of financial incentives on behaviors should evaluate the durability of positive effects.

REFERENCES

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Figure 1. NEEDS LABEL

