Do On-Site Family Planning and HIV Services Increase Client Loads in Ethiopia?

Heather Bradley[1], Getnet Mitike[2], Amy Tsui[1]

[1]Population and Family Health Sciences Department
Johns Hopkins Bloomberg School of Public Health
615 N. Wolfe Street
Baltimore, Maryland 21205-2179
T: 410-955-2232
F: 410-955-0792
E: hbradley@jhsph.edu, atsui@jhsph.edu

[2]Department of Community Health
Faculty of Medicine
AddisAbaba University P.O. Box 11950
Addis Ababa, Ethiopia
T: 251-922-8981
F: 251-151-7701
E: getnet_m@yahoo.com

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Abstract

Integrating reproductive health services is often endorsed as a means to increase clients' ease of use while maximizing scarce health care resources. We examine whether Ethiopian health facilities that offer higher levels of HIV and family planning service integration are more likely to generate higher HIV or family planning clients than facilities with lower levels of service integration. The analytic sample of 296 non-pharmacy health facilities were drawn from a probability sample of public and private health facilities in three regions of Ethiopia—Addis Ababa, Amhara and Oromiya—where three fifths of the country's population reside. After adjusting for region, facility type, numbers of staff and availability of other health services, the highest level of HIV and family planning service integration is associated with 436 additional HIV and 176.1 family planning clients per month. Having integrated providers on staff reduces monthly client loads by 70.4 for HIV and 2.3 for family planning, although the latter is not significant. The study's findings suggest that integration of HIV and family planning services at the same facility site can linearly increase both HIV and family planning client loads. They also suggest that, other things being equal, fixed constraints on integrated provider time and effort can limit the facility's overall service output. Understanding the operational context of service integration is important for designing and scaling up health care delivery.

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Rationale and Aims

Since the 1994 International Conference on Population and Development, reproductive health programs have increasingly focused on client-centered service delivery. Integrating reproductive health services is often endorsed as a means to increase clients' ease of use while maximizing scarce health care resources. HIV and family planning services have been identified as rational candidates for service integration, primarily because both interventions target sexual risk behavior, either to prevent unintended pregnancies or infection transmission. Although many governments and international entities have politically endorsed the integration of HIV and family planning services, there are very few data demonstrating the effectiveness of service integration on either increasing health facility productivity or improving access and quality of care for clients (Strachan 2004).

Operationally speaking, service integration can be realized administratively through central program management, financially through pooled budgetary resources, physically through same-site facilities or clinics, or care-wise through a common provider. Integrated programs often involve a combination of these and advantages and disadvantages have been identified for each level of system integration (Tsui et al., 1997). Public sector health systems seek to optimize coverage with existing, if limited, capacity of facilities, personnel, equipment and supplies and may or may not subsidize private health facilities and providers to supply basic services. In terms of client-oriented care, integration at the provider-level may be the most desirable, if that staff person has the attributes the client prefers for combined care. For example, a rural person seeking privacy when counseled about and tested for HIV may prefer a clinic

offering anonymity rather than obtaining these services from his or her provider for reproductive health services. On the other hand, young persons, who for the most part do not seek health information or services from formal clinical sites, may be equally comfortable receiving combined care from one site or provider, especially a youth-friendly one.

The Government of Ethiopia's HIV policy includes a particularly strong family planning component (Government of Ethiopia and Ministry of Health 2000). The 1997 policy is focused on improving access to and quality of HIV prevention and treatment services, addressing the needs of vulnerable populations, which include children, youth and mothers, and mainstreaming HIV prevention services into health, including reproductive health, programs, at the national, regional and local levels. In 2005 roughly 85 percent of the 77.4 million Ethiopians live in rural areas. Health care coverage is low, at approximately 60 percent of the population (Central Statistical Authority and ORC Macro 2001). The modest increases in health care funding over the past decade have not kept up with population growth, resulting in a health sector increasingly under pressure to provide more output with fewer resources. The escalating HIV crisis has diverted resources away from family planning and other reproductive health services, and unmet need for contraception is high, ranging from 19 to 43 percent of women aged 15 to 49 years, depending on geographic area (Birhan 2004). Contraceptive use is still relatively modest, with prevalence having risen from only 8% among childbearing aged women in union in 2000 to 15% in 2005 (Central Statistical Agency and ORC Macro, 2006). Approximately 4.4% of people aged 15 and older (1.5 million persons) are estimated to be infected with HIV (UNAIDS 2004).

In Ethiopia, as elsewhere, translating an integrated service delivery objective from policy into practice is difficult. Vertical program delivery predominates and financing is largely donor-driven. Local governments have organized accordingly, in order to respond to and manage bi-lateral assistance earmarked for specific purposes. In spite of implementation challenges, several factors argue for integrating family planning and HIV services. First, nearly half, if not more, of HIV infected persons worldwide are childbearing-aged females (UNAIDS 2004), who are evidently sexually active and also in need of contraceptive services. Second, offering family planning to voluntary counseling and testing (VCT) clients and people living with HIV/AIDS may help to slow the HIV epidemic by increasing contraceptive use and reducing sexual risk behavior among HIV-positive individuals (Best 2004, Kagaayi 2004, Sweat 2004). Third, providing clients seeking HIV services with contraception is a relatively efficient, low cost way to reach groups that are typically not targeted with family planning messages, particularly single and married men and women, as well as commercial sex workers. Fourth, individuals may be more likely to reduce sexual risk behavior when presented with dual benefits, i.e., prevention of both unwanted pregnancy and HIV infection (Askew 2003). Last, limited health manpower and facilities in low-resource settings make access to as much comprehensive and integrated care as possible a sensible and equitable approach.

One barrier to implementing integrated services is the perception that HIV and family planning interventions have disparate target audiences. Single men, commercial sex workers, truck drivers, gay men and injecting drug users are perceived as target groups for VCT and other HIV services, while married women are thought to be those most in need of family planning services. These target features belie the common and significant transmission risk for STD/HIV

infection that heterosexual individuals who have both main and multiple casual partners face. Integrating family planning into HIV service delivery, as opposed to integrating HIV services into family planning, may be the more efficient investment, as most target groups envisioned to be at risk for HIV are simultaneously at risk for unwanted pregnancy. At the same time, because married women still make up the core group seeking family planning services in most developing countries, they are also increasingly at risk for acquiring HIV if they or their partners engage in casual unprotected sex with any frequency. HIV-infected pregnant women obviously expose their newborns to further transmission risk.

In spite of relatively sound theoretical reasoning for integration of HIV and family planning services, there is very little research evidence to show whether integration yields benefits to either the health sector or to clients. Barriers to integration include the financial costs of cross-service training of staff, time constraints on staff, limited human resources, inadequate space and use in health facilities, and risk of not meeting the single-service needs of either family planning or VCT clients effectively or efficiently (Family Health International 2004, Kane 2005). Real integration across these two categorical programs will ultimately require fundamental changes in all levels of the health system, from donors to federal and local governments, to facilities and health providers. Evidence of effectiveness will be necessary to facilitate commitment of resources and development of implementation plans.

The aim of this analysis is to examine whether facilities that have higher levels of on-site HIV and family planning service integration are positively associated with higher HIV or family planning client volumes than facilities with lower levels of service integration. We measure

program performance with monthly HIV and family planning client loads separately, assuming these reflect health facility productivity. We tested the hypothesis that degree of on-site HIV and family planning service integration is positively associated with monthly client output for HIV and family planning at the facility, net of other facility-level covariates. We also test the hypothesis that presence of health facility providers who conduct both HIV and family planning care or only one of these will be related to high client loads of either type.

Methods

Data for this analysis are drawn from a 2004 sample survey of health facilities in Amhara, Oromiya and Addis Ababa regions of Ethiopia, where more than 60 percent of the population resides. In 2001 a multistage cluster sampling strategy was used to select health facilities from the public and private sectors. A random sample of registered public and private health facilities in Addis Ababa, a fully urban region, was selected. In Oromiya and Amhara regions, health facilities were sampled from urban and rural *woredas* (districts). At each selected facility, health staff offering family planning/reproductive health services were enumerated and those present on the day of the survey were interviewed. In 2004, the 2001 facilities were relocated and re-interviewed; new facilities operating in the same geographic areas were also selected into the sample. HIV-related questions were added to facility, provider and client instruments for the 2004 Ethiopia survey in order to examine the correlates of integrated service delivery.

Although 475 Ethiopian health facilities were surveyed in 2004, we have excluded pharmacies (n=161) and large hospitals (with more than 50 beds, n=17) for this analysis,

yielding a total sample of 296 facilities. Pharmacies were excluded because they are not eligible to offer the full range of family planning and HIV services, and large hospitals were excluded as family planning and VCT clinics may not be proximally located and could be located in different buildings of a hospital. One facility record was eliminated due to inconsistent reporting of HIV and family services and client loads.

The two outcome variables are number of monthly HIV clients and number of monthly family planning clients. We calculated the number of monthly clients for all available HIV and family planning services, excluding counseling in both categories, to obtain an overall monthly client load. To adjust for a non-normal distribution with strong negative skew, we used the square roots of both measures in the multivariate regression analyses. The square root transformation was chosen over a log transform after visual inspection of its variability with selected independent factors.

For the focal independent variable, which is facility-level integration, we first sum the number of HIV and family planning services available in each facility separately. Facility managers reported capacity to provide five family planning services: administering, procedures (e.g. inserting IUDs), dispensing, prescribing and counseling. Similarly, they reported on the facility's capacity to provide the following seven HIV services: informing/educating, counseling, testing, prescribing, medical/nursing care, referral and home-based care. An index measuring the degree of service integration was constructed from the counts of services offered in each category as follows: Level 1 (no HIV-no family planning) includes clinics offering neither family planning nor HIV services. Level 2 (some HIV-little family planning) includes facilities

offering more than one HIV service and only one family planning service. Level 3 (no HIV-some family planning) includes facilities offering no HIV services and at least one family planning service. Level 4 (some HIV-some family planning) includes facilities offering 1-3 HIV services and more than one family planning service. Level 5 (high HIV-high family planning) includes facilities offering 4-7 HIV services and more than one family planning service.

Table 1 shows the distribution of facilities' family planning and HIV service availability. The joint provision of HIV and family planning services is not linearly related. Of the 296 facilities, 37 have the highest extent of integration with more than 4 family planning and HIV services; another 33 have 2-3 family planning and 1-3 HIV services. Twenty-one facilities offer neither type of services, 166 offer only family planning services and seven offer only HIV services.

We measured provider-level integration by linking data from the provider interview to their base facility record. To assess provider-level integration, we constructed a dichotomous variable from providers' responses to questions about time spent offering HIV and family planning services and number of clients served. Providers are categorized as offering integrated care if they report either routinely serving *both* HIV and family planning clients, serving both HIV and family planning clients last week or spending time offering both HIV and family planning services last week. There were a total of 303 providers interviewed in the 296 sampled facilities. As there was on average just over one health provider interviewed per facility, we did not adjust for within-facility intra-class correlation of provider responses. Where more than one

provider was interviewed at a facility, we have taken the majority response and assigned it to the facility.

For each outcome, we estimate unadjusted and adjusted linear regression models to test whether facility and provider-level integration are significantly associated with HIV and family planning client load. Model I is unadjusted, regressing both facility- and provider-level integration measures on monthly HIV or family planning client load (square root). Model II regresses the dual integration measures on monthly HIV or family planning client load, while controlling for facility-level factors that may affect service output, i.e., region, facility type and total number of service providers (logged). Model III moves beyond Model II by controlling for the availability of other on-site reproductive and child health care services: antenatal care, safe delivery, postpartum care, child health, adolescent health, STI treatment and infertility treatment. This set of maternal and child health services may independently raise either or both HIV and family planning client loads as they also operationally represent same-site service integration.

Findings

Figure 1 shows the distribution of sample facilities by the year they began offering either family planning or HIV services. Generally, facilities began offering family planning before HIV services, suggesting that HIV services were introduced into health facilities with established family planning, as well as other types of health services. In this sample, the median year facilities began offering family planning services is 2001, while the median year facilities began

offering HIV services is 2002. The figure shows that in this sample, family planning services were introduced into the most number of clinics in 2000 and HIV in 2002.

As seen in Table 2, on average, health facilities serve nearly the same number of family planning and HIV clients in a month (227 and 223 respectively). They offer a mean of 3.1 (SD=1.6) out of 5 possible family planning services and 1.6 (SD=1.9) out of 7 possible HIV services. Less than 10 percent of facilities do not offer any family planning services, and 63 percent of facilities do not offer any HIV services. Table 2 also shows the availability of other health services in the sample. Three quarters of facilities offer child health services and two thirds offered antenatal care. Seventy percent offer STI treatment services and nearly 60 percent report offering adolescent health services. The mean number of staff is 4.5 persons (SD=7.4). The variable is logged in the regression analyses because of negative skew. On average the facilities have been in operation for 9.1 years (SD=10.4).

Table 3 shows mean (unlogged) values for monthly HIV and family planning client loads by the number of family planning and HIV services offered. The number of family planning services, not surprisingly, is positively associated with monthly family planning client load with means ranging from 100.7 clients to 312.6 across 1 to 5 services ($p=0.02$). This same trend is seen between the number of HIV services and corresponding client load ($p<0.001$). The mean monthly load of HIV clients is 550.0 where 1-3 services are offered and 661.9 if 4-7 types of HIV services are available. The number of HIV services is also positively associated with family planning client load ($p<0.001$), but the number of family planning services is not significantly associated with increased HIV client load. Full-service HIV facilities are associated with higher

family planning visit volume than full-service FP facilities are with HIV visit volume (averages of 562.7 versus 263.0).

Table 4 provides distribution information on the characteristics of the 303 providers in the 296 sample facilities. Two fifths are female, 43 percent are nurses and another 43 percent are nurse-practitioners. More report receiving FP than HIV training (59.1 versus 32.1 percent). The average numbers of years of overall health, family planning and HIV/AIDS care experience are 15.1, 7.6 and 1.4 respectively. Most providers work nearly 50 hours per week, with 17 hours on average for family planning and 11.2 hours for HIV/AIDS among those able to offer such care. The average numbers of FP and HIV/AIDS clients served last week were 61.9 and 4.6 respectively, with 3.2 clients receiving both types of care. Except for HIV/AIDS care, three fifths of providers report having adequate time for family planning counseling, referral or recordkeeping. Providers' positions vary significantly by integrated care status. Those providing integrated care are more likely to be nurses. Because of their engagement in HIV care, they also are more likely to report having enough time to counsel HIV patients, have more years of HIV/AIDS experience, and have more HIV/AIDS clients. However, they also have significantly more family planning clients than non-integrated providers (mean of 133.3 versus 43.9). Those who provide both types of care show an average of 15.9 clients in the past week. Overall one fifth of providers are classified as providing integrated services according to our measure, if they are among the 16.7 percent who report time spent on both HIV and family planning, or 11.9 percent who report routinely serving both HIV and family planning clients, or 6.3 percent who report serving both family planning and HIV/AIDS clients in the week before the survey.

The regression results in Table 5 show the association between the extent of same-site HIV and family planning services with the two types of client loads. Monthly HIV client load (square root) increases significantly with the level of integration for facilities offering HIV/AIDS care, compared with facilities offering neither family planning nor HIV services. In unadjusted model I, if the facility offers some HIV and little family planning services, the increase in HIV client load is 179.3 (13.39^2). Where the facility offers many HIV and some family planning services, the estimated increase is an additional 560 HIV clients (23.67^2). The estimated gains in family planning clients for these integration levels are 10.6 and 408.0 clients respectively. Interestingly, the association between integrated care offered by the facility's providers and the facility's HIV or family planning client load is negative. In Model I, integrated providers reduce the monthly HIV volume by nearly 56 clients (7.48^2) and family planning volume by 2.2 clients (1.48^2). This finding is discussed further below.

The coefficients for integration level decrease only slightly after controlling for region, facility type, number of staff (logged) and availability of other services, but the degree of integration remains significantly and positively associated with HIV client load in Models II and III. Provider-level integration remains negatively and significantly associated with HIV client load in all three models. In the fully adjusted model, integrated provider care reduces the monthly HIV client load by 70.4 clients.

Integration level is also positively associated with family planning client load, although the integration coefficients are smaller than in the models for HIV client load as the outcome

variable. In Model I, the highest level of integration is associated with a gain of 408 family planning versus 560 HIV clients as noted earlier. Adding the control variables decreases the magnitude of the integration coefficients, but they remain significant and family planning client load increases incrementally with each increased degree of HIV and family planning service integration. In Model III, offering some HIV and little family planning services yields a non-significant additional 0.94 FP client per month (0.97^2) while offering high HIV and some FP services is associated with a significant increase of 176.1 (13.27^2) family planning clients monthly. Also in Model III, the availability of postpartum care is also positively associated with family planning client volume, while the availability of infertility treatment services is negatively associated (-3.42 or 11.7 fewer family planning clients fewer per month). We also observe private sector facilities to have significantly fewer family planning clients than government facilities. Unlike for HIV client load, provider-level integration is not significantly associated with family planning client load in any of the three models.

Discussion

These multivariate regression models suggest that offering HIV and family planning services in the same health facility can raise both family planning and HIV client volumes. However, the data also suggest that having the same health provider administer both HIV and family planning services can lower HIV and family planning client load. While co-located services may attract more clients to a health facility, providers offering integrated services may be able to serve fewer HIV clients than those offering either HIV or family planning services only. Individual providers are constrained by fixed time and effort in terms of how many clients they can serve in a week.

Facility-level integration has a smaller association with family planning client load than on HIV client load. This difference in magnitude of the association may be a result of the much smaller number of facilities offering HIV services, and thus serving HIV clients. As seen in Figure 1, most facilities began offering family planning services before HIV services. If one infers from this finding that HIV services were generally added to facilities where family planning services were already established, the magnitude of the integration effect on HIV client load may be an artifact of having extant family planning services. Controlling for number of staff partially accounts for facility size, however, and thus does not explain away the positive and linear association of service integration level with family planning client load.

Adding HIV services to facilities with existing family planning services may increase both HIV and family planning client loads, and these data suggest that client load linearly changes with increased level of integration. In Ethiopia, HIV services were added later due to a chronologically more recent uptake of voluntary counseling and testing (VCT) and other HIV-related services. The extension of VCT services has expanded quickly to more sites in recent years. The association of service integration with increased output indicates that offering same-site family planning and HIV services can increase facility-level productivity by increasing the numbers of clients served. HIV and family planning service integration may provide one solution for health systems under pressure to respond to more clients' significant health care needs with limited resources. At the same time facilities with providers able to integrate HIV and family planning care to individual clients tend to have slightly lower monthly client loads of either type than those with single-purpose providers.

These findings imply that, in the short term, going to scale in expanding same-site integrated services has potential payoff in health facility productivity and care benefits for family planning and HIV clients. The fixed constraints on integrated provider time suggest that their base facilities may need to increase the number of trained staff capable of offering both types of care to avoid compromising overall client output levels. While not without limitations, this study offers empirical findings that service integration is multi-faceted and that further study of integration's linkages with client outcomes will be even more revealing of its advantages and disadvantages.

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Figure 1. Year family planning and HIV services first offered in health facilities

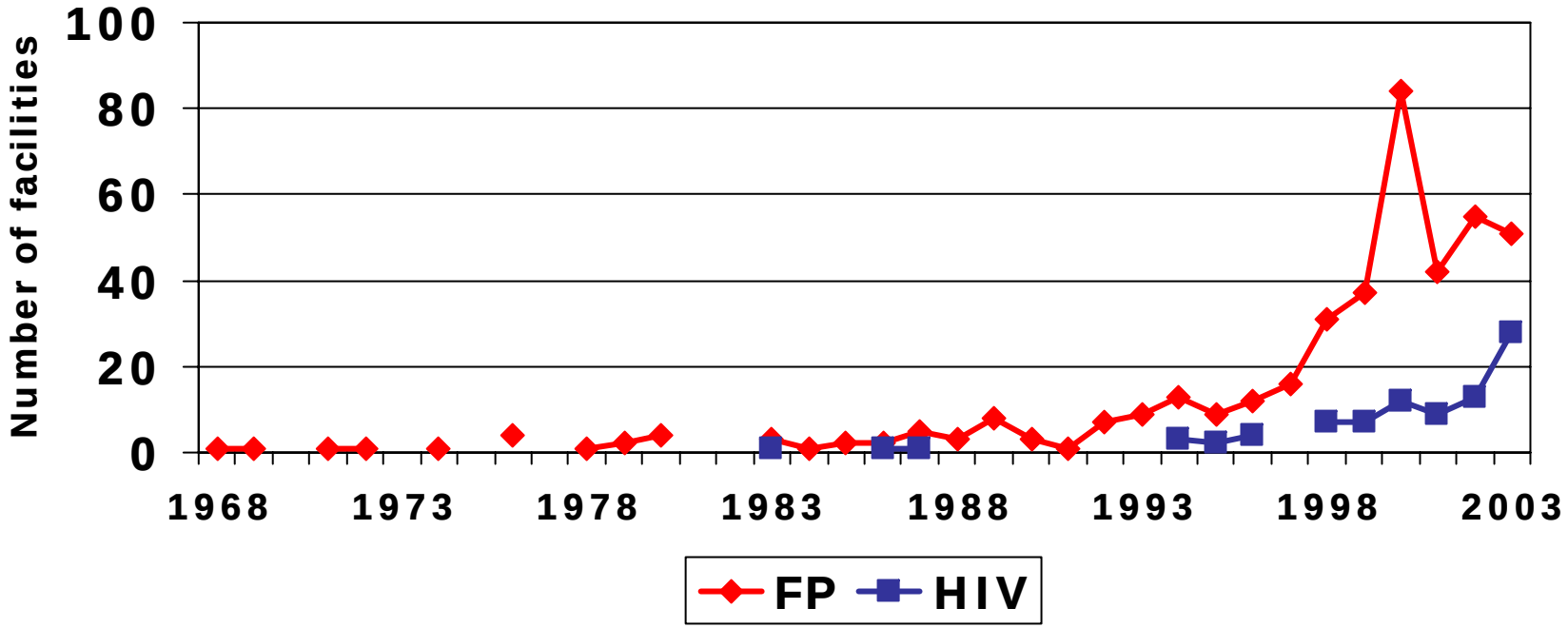

Table 1. Distribution of health facilities by number of family planning and HIV services: Three Ethiopian Regions, 2004

		# of Family Planning Services				
		None	1	2-3	4-5	Total
# of HIV services	None	21 77.8	13 86.6	79 63.7	74 56.9	187 63.0
	1-3	2 7.4	1 6.7	33 26.6	19 14.6	55 18.5
	4-7	5 14.8	1 6.7	12 9.7	37 28.5	54 18.5
	Total	27 100.0	15 100.0	124 100.0	130 100.0	296 100.0

Table 2. Summary statistics for health facilities in three Ethiopian regions, 2004

Variable	Mean	SD
N=296		
Family planning clients in past month	226.5	516.4
HIV clients in past month	222.9	685.0
Number of family planning services offered	3.1	1.6
Number of HIV services offered	1.2	1.9
Number of staff	4.5	7.4
Years of operation	9.1	10.4
	Percent	
Facility type		
Government	30.1	
NGO	10.5	
Private	59.4	
Region		
Addis Ababa	33.1	
Amhara	28.0	
Oromiya	38.9	
% reporting availability of other services		
Antenatal care	66.6	
Safe delivery	41.9	
Postpartum care	43.6	
Child health	75.3	
Adolescent health	59.8	
STI treatment	70.3	
Infertility treatment	16.2	

Table 3. Mean monthly family planning and HIV clients by number of family planning and HIV services offered at facilities

N=296	Mean monthly family planning clients	p	Mean monthly HIV clients	p
Number of family planning services offered				
0	0.0	0.02	93.6	ns
1	100.7		19.1	
2-3	200.8		233.8	
4-5	312.6		263.0	
Number of HIV services offered				
0	122.9	<.001	0.0	<0.001
1-3	248.7		550.0	
4-7	562.7		661.9	

Table 4. Characteristics of Health Facility Providers by Reported Provision of HIV and Family Planning Services: Three Regions of Ethiopia, 2004

Variable	Total (N=303)	Provides only FP or HIV services (N=242)	Provides both FP and HIV services (N=61)	*p*
% female	40.1	39.0	44.3	ns
Position				
% doctors	6.6	5.0	13.1	<0.0001
% nurses	42.9	39.3	57.4	
% nurse practitioners	42.9	47.9	23.0	
% community-based health workers	3.0	3.7	0.0	
% others	11.2	4.1	6.5	
Training				
% received training in FP	59.1	57.0	67.2	ns
% received training in HIV/AIDS	32.1	30.3	39.3	ns
Time				
% report having "enough time for FP counseling"	84.5	86.0	78.7	ns
% report having "enough time for HIV counseling"	46.6	42.0	64.4	0.002
% complete FP record-keeping for each client	78.8	77.6	83.6	ns
% refer clients elsewhere for FP services	62.3	63.5	57.4	ns
		Mean (SD)		
# years health care experience	15.1 (10.0)	15.4 (10.2)	14.1 (9.3)	ns
# years family planning experience	7.6 (6.7)	7.4 (6.6)	8.5 (7.0)	ns
# years HIV/AIDS experience (N=291)	1.4 (3.2)	0.85 (2.43)	3.70 (4.56)	<0.0001
# hours worked per week	49.5 (18.4)	49.4 (17.6)	49.8 (21.7)	ns
# hours per week spent providing family planning services (N=250)	17.0 (15.0)	16.7 (15.0)	18.3 (15.0)	ns
# hours per week spent providing HIV/AIDS services (N=60)	11.2 (13.8)	7.3 (9.0)	11.6 (14.3)	ns
# FP clients served last week	61.9 (159.0)	43.9 (91.7)	133.3 (295.2)	0.0001
# HIV/AIDS clients served last week	4.6 (20.8)	0.4 (4.5)	21.1 (41.8)	<0.0001
# FP and HIV/AIDS clients served last week	3.2 (24.5)	0.0 (0.0	15.9 (53.2)	<0.0001

Variable	Total (N=303)	Provides only FP or HIV services (N=242)	Provides both FP and HIV services (N=61)	*p*
% providers providing integrating services		20.0		
% providers spend time providing both FP and HIV/AIDS services		16.7		
% providers routinely serve both FP and HIV/AIDS clients		11.9		
% providers served both FP and HIV/AIDS clients last week		6.3		

Significance test of distribution differences based on chi-square value; significance test of group means based on F statistic.

Table 5. Results from multiple regression of HIV and family planning integration at facility and provider levels on facility HIV and family planning clients during past month, adjusted for location and facility factors: Three Ethiopian regions, 2004

Variable	HIV clients (square root)						Family planning clients (square root)					
	Model I		Model II		Model III		Model I		Model II		Model III	
	Coeff	p	Coeff	p	Coeff	p	Coeff	p	Coeff	p	Coeff	p
Facility Integration Levels												
No HIV-No FP	ref		ref		ref		ref		ref		ref	
Some HIV- Little FP	13.39	<0.001	12.77	0.001	12.63	0.001	3.26	ns	1.16	ns	0.97	ns
No HIV-Some FP	0.50	ns	-0.64	ns	-0.83	ns	9.28	<0.001	7.36	<0.001	6.97	0.001
Some HIV-Some FP	20.61	<0.001	19.13	<0.001	18.56	<0.001	12.20	<0.001	8.22	0.001	7.63	0.002
High HIV-Some FP	23.67	<0.001	21.53	<0.001	20.88	<0.001	20.22	<0.001	14.01	<0.001	13.27	<0.001
Provider-level integration	-7.48	<0.001	-8.65	<0.001	-8.39	<0.001	-1.48	ns	-1.66	ns	-1.52	ns
Region												
Addis Ababa			ref		ref				ref		ref	
Amhara			0.61	ns	0.46	ns			-1.05	ns	-1.54	ns
Oromiya			1.68	ns	1.65	ns			-2.47	0.056	-2.16	0.098
Facility Type												
Government			ref		ref				ref		ref	
NGO			5.60	0.005	6.34	0.008			2.02	ns	3.09	ns
Private			-2.15	ns	-1.73	ns			-9.44	<0.001	-8.08	<0.001
# Staff (logged)			1.07	0.074	0.95	ns			-0.19	ns	-0.33	ns
Other services offered												
Antenatal care					-0.90	ns					1.99	ns
Safe delivery					2.12	ns					-0.68	ns
Postpartum care					0.06	ns					2.99	0.04
Child health					0.02	ns					-2.58	ns
Adolescent health					0.50	ns					0.43	ns
STI treatment					-1.27	ns					1.30	ns
Infertility treatment					1.74	ns					-3.42	0.027
N=296												