

SYSTEMATIC REVIEW OF INTEGRATION OF MATERNAL, NEONATAL AND CHILD HEALTH AND NUTRITION, FAMILY PLANNING AND HIV EXECUTIVE SUMMARY

MAY 2011

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EXECUTIVE SUMMARY

In announcing his Global Health Initiative in May 2009, President Barack Obama declared the following: "We will not be successful in our efforts to end deaths from AIDS, malaria, and tuberculosis unless we do more to improve health systems around the world, focus our efforts on child and maternal health, and ensure that best practices drive the funding for these programs." Integrating the delivery of health services may be an efficient and effective way to improve health and reduce health care costs globally. Today, more than 15 million women and two million children live with HIV infection; nearly three-quarters of pregnant women living in low- and middle-income countries are not tested for HIV; and more than 400,000 babies are born with the infection each year (WHO/UNAIDS/UNICEF, 2010). Thus, it is essential to find better ways to deliver health services to women and children.

One approach to reducing maternal and child mortality and to controlling the HIV/AIDS epidemic is to integrate HIV/AIDS prevention, treatment and care services with maternal, neonatal and child health and nutrition services, including family planning services (MNCHN-FP-HIV). However, it is not yet clear whether such strategies are effective. To compile and assess the evidence that would guide policymakers, public health workers and clinicians in their decision-making, this paper presents a Cochrane systematic review of the scientific literature to evaluate the effectiveness of integrating HIV/AIDS services with MNCHN/FP services. This review also aims to identify factors that promote and inhibit program effectiveness as well as "lessons learned" from the experiences of integrated programs.

This review identifies 20 studies—published between 1990–2010—in the peer-reviewed scientific literature. These studies evaluate programs that integrated HIV/AIDS and MNCHN/FP service delivery. All of the relevant data were extracted from these studies in order to obtain information on each study's characteristics and reported outcomes—such as changes in health, behavior, uptake and quality of services. This review also identifies an additional 14 reports from unpublished and non-peer reviewed sources—such as from the Websites of major international agencies). Data from these unpublished sources are also summarized.

Overall, the data show that integration of HIV/AIDS and MNCHN/FP services is feasible and effective. This holds true across a variety of integration models, settings and target populations. Of the studies that measured changes in health behavior, all reported increased contraceptive use and most reported improvements in other health behaviors relevant to HIV/AIDS and MNCHN/FP. Although only three studies measured actual changes in health status—such as percentage of unplanned pregnancies or recovery from malnutrition—all health outcomes for women and children improved with integrated services.

In the five studies that reported on uptake and coverage of health services, improvements were generally noted when services were integrated. Service quality mostly improved with integrated service models, although the means of measuring quality differed widely across studies. One study found that staff workload was higher in clinics that provided integrated services; this was the only potentially negative outcome identified.

The unpublished reports show promising practices that include innovative integration approaches such as the addition of pediatric HIV/AIDS care and treatment in clinics for mothers who have recently given birth, and the provision of HIV prevention, testing and treatment referral within a community-based reproductive health and commodity-distribution program.

Across the published and unpublished research, several factors emerged that either promoted or inhibited program success. For example, community and staff support—along with local

community support—as well as adequate investment in staff training and supervision was important in success. The review found that simple and inexpensive interventions, added to existing services, were more likely to succeed.

This review identifies several gaps in the field of HIV/AIDS and MNCHN/FP research. Most of the reviewed studies were not conducted with rigorous methods, so the estimates of effect may not be very precise. None of the studies measured the rate of new cases of HIV or other sexually transmitted infections (STI), nor did any of them report on whether there were changes in levels of stigma or gender-based violence. None of the studies reported on costs or whether integrated programs are cost-effective.

The findings in this paper’s systematic review show that integrated HIV/AIDS and MNCHN/FP services are feasible to implement and can improve a variety of health and behavioral outcomes. There is an urgent call for rigorously designed studies with direct comparisons of integrated versus non-integrated services. There is also an urgent need for studies that address cost and cost-effectiveness of integrated services and health outcomes such as HIV and STI incidence, morbidity and mortality.

I. BACKGROUND

In announcing his Global Health Initiative in May 2009, President Barack Obama declared the following: "We will not be successful in our efforts to end deaths from AIDS, malaria, and tuberculosis unless we do more to improve health systems around the world, focus our efforts on child and maternal health, and ensure that best practices drive the funding for these programs."

The PEPFAR Re-authorization Act of 2008 and the Global Health Initiative of 2010 both place a strong emphasis on (1) the integration and linkages of programs to address broad development challenges, and (2) the provision of a comprehensive package of services for the populations served (PEPFAR, GHI, 2010). At the international level, the importance of integrating maternal, neonatal and child health and nutrition (MNCHN), including family planning (FP), with HIV is well recognized as a key strategy to meeting Millennium Development Goals 4 and 5 to reduce maternal mortality by three-quarters and child mortality by two-thirds by 2015 (UN General Assembly, 2000), while also contributing to the prevention and control of HIV. Today, more than 15 million women and two million children live with HIV infection; nearly three-quarters of pregnant women living in low- and middle-income countries are not tested for HIV; and more than 400,000 babies are born with the infection each year (WHO/UNAIDS/UNICEF, 2010). Thus, it is essential to find better ways to deliver health services to women and children.

Rigorous evidence for the effects of integration is needed to guide policy and program efforts. In 2007, a Cochrane systematic review was commissioned to assess the evidence of integrated or linked service delivery between sexual and reproductive health (SRH) and HIV with a final report completed in 2009 (WHO, IPPF, UNAIDS, UNFPA, UCSF, 2009). In order to capture the most current evidence since 2007, USAID commissioned the Cochrane group to update and expand upon one component of the previous review—MNCHN and FP services—integrated with HIV services. This review examines the evidence for MNCHN-FP-HIV integration, reviews factors that promote and inhibit program effectiveness, and discusses lessons learned.

KEY RESEARCH QUESTIONS

Several key research questions were identified *a priori* to guide the review process. Answering these questions will help program planners, funders and policy-makers understand the state of the evidence of integrated MNCHN-FP-HIV service delivery and what additional gaps remain in the literature. Questions include:

- What are the **study characteristics** and key **integration models** in the literature?
- What is the **methodological quality** of these evaluations?
- What are the **key outcomes** from the identified studies?
- What **integration models** were effective?
- What are emerging **promising practices** and **lessons learned** from the literature?
- What are the **research gaps**?

REVIEW METHODS

Standard Cochrane systematic review methods were utilized for this review. Studies were included in the review if they met the following inclusion criteria:

- Studies were published in a peer-reviewed journal between January 1990 and April 2010.
- Studies used one of the following evaluation designs: compared before and after the intervention strategy was introduced (pre-post), or compared different models of integrating MNCHN and HIV service delivery (comparison group).
- Studies evaluated an organizational or management strategy, organizational changes, process modifications, or the introduction of technologies aimed at integrating MNCHN and HIV service delivery, or of different models of integrating MNCHN and HIV service delivery.

The study team conducted database and hand searches for peer-reviewed journal articles. Relevant data from included studies were extracted to obtain information on each study's characteristics and reported outcomes, such as changes in health, behavior, uptake and quality of services. In order to quantify the outcomes across studies, studies were classified as having a positive, negative, mixed, or no effect on outcomes. A positive effect meant that the intervention was associated with an improvement in the outcome. A mixed effect meant that there were multiple measures of an outcome that showed inconsistent results. No effect meant that there was no statistically significant difference in the outcome associated with the intervention. A negative effect meant the integrated intervention was associated with a worse outcome.

In order to capture the most recent and innovative program models, Websites of international HIV and MNCHN agencies were screened for relevant reports and experts in the field were contacted. Selected characteristics and findings from these unpublished studies and program reports were summarized. Data on promoting and inhibiting factors related to integrated service delivery were summarized across all identified studies and reports.

The methodological rigor of the study design was assessed on a 9-point scale, with studies receiving one point for meeting each of nine criteria: (i) prospective cohort; (ii) control or comparison group; (iii) pre-/post-intervention data; (iv) random assignment of participants to the intervention; (v) random selection of subjects for assessment, or assessment of all subjects who participated in the intervention; (vi) follow-up rate of 75% or more; (vii) comparison groups equivalent on socio-demographic measures; (viii) comparison groups equivalent at baseline on outcome measures; and (ix) control for potential confounders.

Of the more than 10,000 citations that were identified and screened for inclusion, most did not meet inclusion criteria for the review. A total of 20 peer-reviewed articles representing 19 interventions were included and coded in the review. An additional 22 unpublished reports representing 14 interventions were identified for summarizing from the unpublished program reports.

II. FINDINGS: STUDY CHARACTERISTICS AND INTEGRATION MODELS OF INCLUDED STUDIES

Table I. Matrix of MNCHN-FP and HIV Integration Models

		HIV Interventions			
		HIV counseling and testing	Prevention of secondary HIV transmission	HIV care and treatment	Psychosocial and other services
MNCHN Interventions	Family Planning	11	3	4	5
	Antenatal Services	5	3	5	0
	Post-abortion Services	1	0	0	0
	Intrapartum/Childbirth Services	2	0	1	1
	Postnatal/Postpartum Services	1	0	0	0
	Infant/Child Services	2	0	2	0
	Nutrition Services	1	0	1	0

The number in each box represents the number of studies that fall into each category (studies can fall into more than one category).

*These included only PMTCT services integrated with FP services, and PMTCT programs in ANC settings which integrated antiretroviral therapy (ART) for pregnant women's own health were included. Studies that examined prevention of mother-to-child transmission (PMTCT) of HIV in antenatal care (ANC), specifically HIV testing and short-course treatment with Nevirapine or other antiretroviral drugs to prevent vertical transmission of HIV to infants, were not included unless they studied the effect of PMTCT integration on ANC outcomes; otherwise, PMTCT integrated into ANC was assumed to be the normal model for PMTCT delivery

There was heterogeneity among the 20 studies in terms of study objectives, models of interventions, study designs, locations, and reported outcomes (see Appendix I for a brief overview of all included studies). Interventions were most commonly conducted in sub-Saharan Africa (n=15), followed by one study each in Haiti, Ukraine, the United States and the United Kingdom. Almost all studies were conducted in clinic or hospital settings (N=17). All interventions targeted women, but seven also targeted men or couples. The most common type of linkage was HIV counseling and testing linked with family planning. Nearly half of the studies integrated MNCHN/FP services into existing HIV programs (n=7), while the other half integrated HIV services into existing MNCHN/FP programs (n=10). The remaining two studies integrated in both directions (n=1) or integrated simultaneously (n=1).

FINDINGS: METHODOLOGICAL QUALITY OF STUDIES

In general, the rigor of the study designs was low, with an average rigor score of 2.7 out of 9 (range 1-7). There were no randomized trials and only one cluster randomized trial (a step-wedge design). Most studies used less rigorous designs such as cross-sectional, serial cross-sectional, pre-post, or non-randomized trial designs.

FINDINGS: KEY OUTCOMES

Integrating MNCHN-FP and HIV services was shown to be feasible across a variety of integration models, settings, and target populations. Most studies reported that integration had a positive impact on reported outcomes; however, several studies also reported mixed effects or no effect. Only one study reported negative outcomes due to providing integrated services, although this could be the result of publication bias, as studies are more likely to be published if they have positive results. See below for outcomes in the broad categories of health, behavior and process.

Health Outcomes

- Only a few studies reported on change in health outcomes, specifically pregnancy and recovery from malnutrition related to integrated services, and all showed improvements in these outcomes.
- Two studies that reported pregnancy outcomes found the number of pregnancies decreased after integrated FP-HIV services were introduced.
- No studies reported on mortality, or HIV or STI incidence.

Behavioral Outcomes

- The most commonly reported behavioral outcome was contraceptive uptake and use. All seven studies that reported on contraceptive use showed positive results.
- Two studies reported on ART initiation; both showed positive results. One study showed an increased proportion of treatment-eligible women initiating ART during pregnancy after integration, although there was no effect on 90-day retention rates. The other study showed reduced time to treatment initiation.
- Five studies examined HIV testing uptake; four found positive effects and one showed mixed/no effects because the differences in the effect sizes were small and the significance of the difference was not reported.
- No studies reported on bed net use.

Process Outcomes

- The impact of integration on quality of HIV or MNCHN services was generally positive, with five of seven studies showing improvements on a variety of diverse quality measures. One study showed mixed effects and one study had a potentially negative effect of integration on quality.
- Of the six studies that reported on uptake or coverage of HIV or MNCHN services, five showed a positive effect, and one showed mixed/no effect because there was no statistically significant difference in client volume between groups.
- One study reported a potentially negative effect of integration on quality of services, and showed that average staff workload was higher in clinics that provided both reproductive and child health (RCH) services and PMTCT services when compared to those that provided RCH services alone (Simba, 2010). However the significance of this difference was not reported and there was a wide range in staff workload across clinics.
- No studies reported on the cost or cost-effectiveness, stigma, or women's empowerment of providing integrated services.

FINDINGS: KEY INTEGRATION MODELS

In addition to reporting key findings by types of outcome, studies were broadly classified into six models of integration and analyzed by the following integration models. See Appendix 2 for a detailed analysis and case studies highlighted from each model.

- ANC services adding ART delivery for eligible pregnant women (N=3 studies)
- PMTCT integrated into ANC services (N=3 studies)
- HIV treatment/secondary prevention adding FP services (N=4 studies)
- HIV counseling and testing adding FP services (N=7 studies)
- Child malnutrition services adding HIV testing (N=1 study)
- Post-abortion care adding HIV testing (N=1 study)

FINDINGS: UNPUBLISHED PROGRAM REPORTS

A total of 14 reports (from 22 publications) met the inclusion criteria, but were not published in peer-reviewed journals. These reports were not fully coded as the studies above. While many of these reports reviewed integration approaches that were also covered in published articles, such as FP integrated with HIV testing, other reports looked at more novel models of linkages that were less frequently seen in published studies. These emerging and promising practices are summarized below:

- In Mozambique, an At Risk Child Consultation Clinic (ARCC), including services for HIV-exposed infants, was integrated into MCH as part of PMTCT. This increased the number of HIV-exposed infants who receive follow-up care and treatment.
- In Lesotho, a model of care integrating HIV care and treatment within ANC was created using task-shifting and restructuring of ANC services. After the integration, the average time for ART initiation decreased from four to eight weeks to 10–14 days from diagnosis. And the number of pregnant women initiated on ART monthly more than doubled.
- In Lesotho and Swaziland, an improved postpartum care package was designed to strengthen linkages with existing PMTCT follow-up services, HIV services and FP services. The intervention increased the utilization of services among postpartum women and their infants, including postnatal care and HIV testing, as well as improved quality of all aspects of care across both countries.
- In Zimbabwe, a community-based distribution program was strengthened to provide more comprehensive reproductive health services, including HIV prevention and referral for testing and care. Although rates for many key indicators were similar across control and intervention groups after the program, there were improvements in awareness of HIV risk factors, HIV testing history and HIV testing referrals.

FINDINGS: FACTORS THAT PROMOTE OR INHIBIT EFFECTIVE INTEGRATION

The success of an integrated program is dependent on a wide variety of factors; below is a summary of the factors that help or hinder effective integration as evidenced in the research.

Promoting Factors:

- Stakeholder support and interest in integration, including country-level support.
- Staff personality, experience, and buy-in.

- Substantial training, supervision, and investment.
- Transferability of training to different domains.
- Relatively simple and inexpensive interventions added to existing services.
- Integrated electronic patient record systems and notes across services .
- Male partner involvement.
- Avoid inconvenience of crowded ART clinics and high visit burden.
- Community involvement.

Inhibiting Factors:

- Limited financial resources.
- HIV-infected women's perception that staff were not supporting of pregnancies.
- Clients' fears about breach of confidentiality.
- Male partner permission needed for women to access services.
- Low level of HIV risk among clients of FP services, so less need for HIV testing.
- High staff turnover.
- Staff unwillingness to engage in discussions about sexuality with clients.
- Extra responsibility by supervisors was seen as uncompensated additional work.
- Late presentation for care leading to difficulty in offering linked services.
- Additional waiting times and user cost fees for contraceptives.

GAPS IN MNCHN-FP AND HIV INTEGRATION RESEARCH

The field of integrated service delivery continues to expand with rigorously designed evaluation studies and novel approaches captured as promising practices. But this emerging field is lacking in research that will clearly determine the most effective models of integrated service delivery among MNCH-FP and HIV services. Some findings of research gaps include:

- Studies that specifically compare integrated MNCHN and HIV services to the same services offered separately; only one study compared on-site integrated services to referrals.
- Evidence on the impact of integration on existing services.
- Rigorous study design for evaluation. Only one study was a cluster-randomized trial.
- Studies that examine comparative cost data for different models of integration.
- Sufficient follow-up to measure the long-term effects of the interventions.
- A wide sample population. Most studies targeted women; fewer included men or couples and none targeted adolescents.
- Interventions that are community-based or use community health workers or a lower cadre of health care workers to deliver care, including through referral.
- Studies that evaluate integration of HIV and child health services; only one study evaluated post-abortion care and HIV services, and only one study evaluated nutrition and HIV services.
- Several key outcomes were not reported in any studies: (1) HIV incidence; (2) STI incidence; (3) unintended pregnancy; (4) bed net use; (5) stigma; and (6) women's empowerment.

III. RECOMMENDATIONS FOR FUTURE RESEARCH

The rigor score criteria used in this review can provide a guide for improving the quality of future evaluations of integrated MNCHN-FP-HIV services. Using these techniques will allow a basis of comparison for post-intervention evaluation data and will also reduce bias and confounding. Three techniques offer a basis of comparison: (1) following a cohort of subjects over time; (2) collecting pre-intervention data to compare with post-intervention data; and (3) including a control or a comparison group.

A number of techniques can be used to reduce bias and confounding in evaluation studies, including randomly assigning participants to the intervention group; randomly selecting subjects or including all subjects participating in the intervention for assessment; retaining as many subjects in the evaluation over time as possible; having comparison groups that are equivalent at baseline on socio-demographic and outcome measures; and using data analytic techniques that control for potential confounders. Although it is not always possible to use all of these techniques, employing as many as feasible will improve the quality of the evaluation and make the results more reliable.

IV. CONCLUSIONS

MNCHN-FP and HIV/AIDS service delivery integration shows promise in improving various outcomes. However, significant evidence gaps remain. Rigorous research comparing outcomes of integrated with non-integrated services—including cost, mortality and pregnancy-related outcomes—is greatly needed to inform programs and policy.

ANNEX I. STATEMENT OF WORK

**Global Health Technical Assistance Project, Task Order No. 1
GH Tech, Contract No. GHS-I-00-05-00005-00**

SCOPE OF WORK

(Revised: 12-13-2010)

TITLE:

Evidence Review and Development of Report on Best Practices, Promising Approaches and Policy/ Program Considerations for FP, MNCH, Nutrition and HIV Integration

Activity: Consultants will review and summarize the evidence (peer reviewed and grey literature) on FP, MNCH, Nutrition and HIV integration to (1) highlight best practices, promising approaches and key considerations for policy action and field programming and (2) summarize available evidence on integration models that increase use of family planning and health services.

Contract: Global Health Technical Assistance Project (GH Tech), Task Order No. 01

PERFORMANCE PERIOD

The performance period for this consultancy will begin in December 2009 and continue through the end of February 2011.

FUNDING SOURCE

Funds will come from the Office of HIV/AIDS (GHA1 funds), the Office of Population and Reproductive Health (population funds) and GH/HIDN through GH Tech.

OBJECTIVES AND PURPOSE OF THE ASSIGNMENT

The objective of this scope of work is to review the literature on FP, MNCH, HIV integration to identify and provide answers to key questions related to the following:

- What are the key linkages/ integration models that are available in the literature and have been evaluated?
- What are the key outcomes from these integration approaches?
- Based on the evidence, to what extent does FP, MNCH, Nutrition, and HIV integration increase or hinder use of family planning and health services?
- What are the emerging best practices and what type of linkages are effective in what context? Are there specific practices in FP, MNCH, Nutrition and HIV for youth?
- What are some of the research gaps?
- How can policies and programs be strengthened?
- What are some of the key recommendations for policy makers, programs, and service delivery?

There has been a resurging interest in the concept of integration, and its role in contributing to the sustainability and efficiency of development efforts. The recent Global Health Initiative launched by President Obama¹, highlights Integration as a major focus.

While the concept of Integration is far reaching and can be explored across a whole range of interventions, the specific focus of this review is to address the questions above in the context of integration of Maternal, Newborn and Child Health. USAID defines maternal child health interventions broadly as those high impact interventions that contribute to the reduction of child and maternal mortality.

Child health high impact interventions include Immunization, Vitamin A and Micronutrient supplementation, infant and young child feeding, prevention and treatment of diarrheal disease, prevention and treatment of malaria and pneumonia case management.

A key strategy that may appear in the literature for child health is the **IMCI- Integrated Management of Childhood Illnesses**, that was initiated by the UN in the early 1990s. IMCI brings together a package of interventions for child survival i.e. management of diarrhea, ARI (acute respiratory infections, malaria, malnutrition and immunization). While it started out as primarily a facility based approach and package of services, it has now expanded to include community and household practices that promote child survival.

Key Interventions that constitute maternal and newborn care include -Improving birth preparedness,-focused antenatal care (including education and counseling for healthy timing and spacing of pregnancy); tetanus toxoid immunization; promoting skilled attendants for birth and improving skills of providers; clean delivery and infection control; appropriate household- and community-based strategies including referral; management of obstetric complications, including active management of third stage of labor; postnatal (mother and newborn) care and appropriate postnatal massages (e.g. education and counseling for healthy timing and spacing of pregnancy); essential newborn care practices (thermal care, cord care, and immediate and exclusive breastfeeding) and sick newborn care (identification and treatment of neonatal infection and complications, resuscitation, and special care of premature and low birth weight infants.)

A second objective of the SOW is to update the SRH and HIV Linkages Cochrane Review completed in December 2007. Therefore interventions in FP, MNCH, and HIV/AIDS will be fully addressed. As part of this SOW, the consultants should review and update two other prior reviews: an FP, MNCH review prepared by Marge Koblinsky in 2004 (very few evidence-based FP and MNCH integration models were identified); and an FP-MNCH literature review currently being prepared for the GH FP and MNCH Working Group by Julie Soto. It is GH's hope that the consultants can update these reviews up to December 2009.

A final list of interventions included under the umbrella of "maternal, neonatal, child health interventions" for the purposes of this review will be developed in collaboration between USAID and Cochrane during the creation of the study protocol.

BACKGROUND

The PEPFAR Re-authorization Act of 2008 and the Global Health Initiative, both place a strong emphasis on integration and linkages of programs to address broad development challenges, and also respond effectively in providing a comprehensive package of services for the populations served. At the international level, the importance of integrating maternal and child health with nutrition, HIV and family planning is recognized as essential to meeting the Millennium

¹ <http://www.state.gov/s/dmr/remarks/2009/123023.htm>

Development Goals, particularly with respect to reducing maternal and child mortality, while also contributing to the prevention and control of HIV. Despite this clear mandate, there is limited information and evidence to guide policy action and program efforts on integration. There are questions on the evidence for improved outcomes, on the quality of that evidence and on how to effectively design and implement integrated programs.

This consultancy is expected to address some of these key questions and provide further guidance and direction for integration efforts.

SCOPE OF WORK

Tasks:

1. Review the evidence and draft a background document that will inform and guide FP, MNCH and HIV integration efforts. The review will include the following:
 - Update and summarize the evidence on FP, MNCH, Nutrition and HIV integration using the 2008 Cochrane on the same subject as a basis.
 - Explore and describe the evidence for bi-directional linkages between FP, MNCH, Nutrition and HIV and FP, MNCH and Nutrition.
 - Define some of the best practices and promising approaches and models of integration.
 - Identify the main benefits and challenges to integration.
 - Describe the main outcomes (key findings) of the integration efforts.
2. Develop key documents that present the main findings and results of the reviews, following the format of the Cochrane Review. These Papers will include key recommendations for policy, program considerations and recommendations for future research.
3. Prepare final reports in consultation with USAID.

The timeline for the SOW would be by the end of January 2011.

METHODOLOGY

The consultant team selected for this activity has already undertaken a comprehensive Cochrane Review on SRH/HIV integration (in 2008) - and is therefore familiar with the content and methodology of the process. Using and drawing from the compilation of research, studies and literature of that initial review, this team will conduct a further analysis with special focus on FP, MNCH, Nutrition and HIV integration.

TEAM COMPOSITION, SKILLS AND LEVEL OF EFFORT

The consultant group will comprise of most of the members of the same COCHRANE Review Group that completed the 2008 review (IPPF/UNFPA/UNAIDS/USCF).

Specific skill sets required:

- Research skills
- Global programmatic and technical experiences
- Writing and editing

Table of Level of Effort (LOE)

Activity	Team Member(s)	Total Team Days	Period of Performance
Conduct the evidence review and develop key documentation (reports and briefing paper) that highlight the key findings	Consultant team	150 days of LOE	December 2009—TBD

LOGISTICS

Two members of the consultant group, along with the PI, will travel to DC to present/discuss the findings of the search, present/discuss approaches and methodology, and discuss the final report. GH Tech will be responsible for providing travel to DC for three consultants to travel to/from DC, lodging and M&IE in DC, and other related logistics for up to 2 trips each.

DELIVERABLES AND PRODUCTS

Various deliverables are expected at different stages from this scope of work-and will include the following:

1. First deliverable: Initial Research Protocols that specify the time frame and search terms that will be used to compile the evidence on FP, MNCH, HIV, and Nutrition integration for both the FP/MNCH/HIV/Nutrition report and the FP/MNCH/Nutrition report.
2. Second deliverable: Final list of included studies for both reports and coding of those studies complete. This will include:
 - Key Studies and promising approaches that are identified through the search
 - Coding of the studies
 - Summary of findings across studies by outcome
3. Third deliverable: Final 8 page reports for both the FP/MNCH/HIV/Nutrition review and the FP/MNCH/Nutrition review. The format of the 8 pager to include:
 - Background and methods of review
 - Summary of findings
 - Case studies
 - Recommendations

After receiving signoff from USAID, GH Tech will have these reports edited and formatted. GH Tech will provide 200 printed copies.

4. Fourth and final deliverable: Final report that summarizes findings and analysis of the evidence on FP, MNCH, HIV, and Nutrition integration and final report that summarizes the findings and analysis of the evidence on FP, MNCH, and Nutrition integration. The process for finalizing these reports will be as follows (exact dates TBD):
 - Consultants meet with USAID to discuss the final report (Dec 15th).
 - Draft report submitted to USAID for review by mid January.
 - USAID will have 10 working days following the submission of the draft report to respond and provide written comments and feedback.
 - The consultants will make revisions and the final unedited report will be provided to USAID 5 days after the comments are received.

- Once USAID signs off on the final unedited report, GH Tech will have the document edited, formatted, and printed (if desired). This process will take approximately 30 days. GH Tech will provide 3 CDs of the final report.

These reports will be public documents. The final reports should include a summary with key findings (2-4 pages), a full report (12 pages), annexes of the literature reviews (including coding sheets of all studies), an annotated bibliography of screened but not included studies, and a summary of the unpublished literature.

It is expected that this final report should be completed by latest TBD.

RELATIONSHIPS AND RESPONSIBILITIES

N/A

MISSION AND/OR WASHINGTON CONTACT PEOPLE/PERSON

Mary Ann Abeyta-Behnke, Maureen Norton, Troy Jacobs and Milly Kayongo- Sr. Advisors at USAID will be the main USAID/Washington points of contact.

COST ESTIMATE

REFERENCES

Specific documents sent by email; all have been acknowledged as received.

http://www.hivandsrh.org/newsletter/Integration_STI_HIV_into_FP_Review.pdf

ANNEX 2. REFERENCES

GENERAL REFERENCES

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ANNEX 3. KEY CHARACTERISTICS OF INCLUDED STUDIES

Study	Country	Intervention	Study Design	Sample Size	Key Outcomes	Description of Findings
Bahwere et al., 2008	Malawi	HIV testing and counseling (HTC) integrated into a program for children with severe malnutrition.	Retrospective and prospective cohorts	Total: 2008 Retrospective cohort: 1273 Prospective cohort: 735	<ul style="list-style-type: none"> - Recovery from malnutrition - HIV testing 	59.1% of HIV-positive children in the prospective cohort recovered to a satisfactory nutritional status using CTC protocols, suggesting that severe acute malnutrition can be managed in the community for many HIV-positive children. Although two-thirds of HIV-positive children remained adequately nourished at 15 months FU, this was significantly lower than the rate among HIV-negative children (83%). HIV-positive children had slower nutritional recovery than HIV-negative children. There were high rates of VCT uptake among children (94%) and adult caregivers (61%).
Bradley et al., 2009	Ethiopia	FP services integrated into VCT clinics.	Serial cross-sectional	Total: 8046 Before: 4019 After: 4027	<ul style="list-style-type: none"> - Contraceptive use - Quality of services 	Rates of contraceptive method acceptance increased from 0% to 6% after the intervention. Rates of discussion of contraceptive and HIV-related topics all increased following the intervention.
Brou et al., 2009	Cote d'Ivoire	FP services integrated into PMTCT clinics.	Time series	Baseline: 980	<ul style="list-style-type: none"> - Contraceptive use 	Modern contraceptive use was variable from baseline across several waves of follow-up for both HIV-positive and HIV-negative women. Couple-years of protection increased significantly post integration.
Chabikuli et al., 2009	Nigeria	Simultaneous integration of FP with HTC, ART and PMTCT in public clinics.	Before-after	Before: 44,589 After: 28,360 (FP clinics); 28,891 (HIV clinics)	<ul style="list-style-type: none"> - Contraceptive use - Uptake of services - Referrals to other services 	Mean attendance at FP clinics increased significantly from 67.6 (pre-integration) to 87.0 (post-integration) (P<.0001). Service ratio of referrals from each of the HIV clinics was low, but increased in the post-integration period. Service ratios were higher in PHC settings than in hospital settings. Attendance by men at FP clinics was significantly higher among clients referred from HIV clinics.
Coyne, Hawkins & Desmond, 2007	United Kingdom	FP services integrated into HIV clinic.	Serial cross-sectional	Total: 60 Before: 30 After: 30	<ul style="list-style-type: none"> - Condom use - Uptake of services - Coverage of services 	Improvement on all process outcomes: cervical cytology, recording of method of contraception, recording of sexual history, and offering of STI screen. The one behavioral outcome, the use of condoms only as contraception, declined. However, the authors interpret this positively as better provision of more reliable contraceptives.

Study	Country	Intervention	Study Design	Sample Size	Key Outcomes	Description of Findings
					– Quality of services	
Creanga et al., 2007	Ethiopia	Community-based reproductive health agents (CBRHA) providing FP, HIV education, referral to VCT, and home-based HIV care.	Cross-sectional	Total: 340 CBPRHAs Int: 162 Control: 178	– Uptake of services	There was no difference in number of clients served by CBRHA who provided integrated services compared to those who did not.
Delvaux et al., 2008*	Cote d'Ivoire	PMTCT integrated into ANC and delivery facilities.	Serial cross-sectional	ANC clients: Before: 606 After: 591 Delivery clients: Before: 229 After: 231 Providers Before: 102 After: 99	– HIV testing – Uptake of services – Quality of services	Offer and uptake of HIV testing was not done before the intervention, and increased to relatively high rates (63% and 42% respectively) after the intervention. Most women who tested HIV-positive were offered nevirapine after the intervention. Numerous measures were used for quality of services. For both antenatal care and delivery care, the overall quality summary scores increased following the intervention. For ANC, all measures of interpersonal communication and confidentiality improved or remained stable following the intervention.
Gamazina et al., 2009	Ukraine	HIV testing and clinical care referrals integrated into ANC and postnatal care services.	Serial cross-sectional	Providers Total: 69 Int: 37 Control: 32 Clients Baseline total: 65 Int: 35 Control: 30 Follow-up total: 69 Int: 37 Control: 32	– Quality of services – HIV testing	Providers who participated in the training intervention delivered counseling of consistently higher quality than providers who did not take the training. Exit interview data supported results from provider observations. Provision of a complete counseling experience was verified significantly more often by clients in the intervention group than the comparison group.

Study	Country	Intervention	Study Design	Sample Size	Key Outcomes	Description of Findings
Hoffman et al., 2008	Malawi	HIV testing integrated into FP services.	Prospective cohort	Baseline: 227 12 months: 200	<ul style="list-style-type: none"> - Condom use - Contraceptive use 	Contraceptive use increased after HIV testing. Condom use increased from baseline to one week and three months, but then declined at 12 months.
Killam et al., 2010*	Zambia	ART integrated into ANC clinics compared to referral.	Stepped-wedge cluster randomized trial	Int: 17,619 Control: 13,917 Treatment eligible patients Int: 846 Control: 716	<ul style="list-style-type: none"> - Initiation of ART - Timeliness of ART initiation - 90-day retention rate 	An integrated ART in ANC strategy doubled the proportion of treatment-eligible women enrolling into ART and initiating ART while pregnant (32.9% vs. 14.4%). The integrated ART in ANC strategy did not affect the timeliness of ART initiation, however the average length on ART in both intervention and control cohorts was 10 weeks. Despite improvements in service delivery integrating ART into ANC, over 60% of treatment eligible women did not initiate ART during pregnancy.
King et al., 1995	Rwanda	FP services integrated into VCT.	Before-after	Total: 502 Potential new contraceptive users: 408	<ul style="list-style-type: none"> - Pregnancy - Contraceptive use 	Overall, the percent of women using hormonal contraception increased after the intervention. The rate of incident pregnancies decreased, but was a greater reduction for HIV-negative women.
Kissinger et al., 1995	USA	Maternal-child program (including FP services) integrated into an HIV care outpatient program.	Non-randomized trial: individual	Total: 700 Int: 143 Control: 557	<ul style="list-style-type: none"> - Appointment adherence 	Before the intervention, women were as likely as men to attend at least 75% of their appointments, but after the intervention, women were significantly more likely than men to attend at least 75% of their appointments. This change was seen at both six months and one year after the intervention.
Liambila et al., 2009	Kenya	HTC integrated into FP services.	Before-after	Before: 538 After: 520	<ul style="list-style-type: none"> - Quality of services - Referrals to other services - HIV testing 	The proportion of consultations providing HIV prevention counseling and HIV testing increased significantly. The proportion of all clients being tested was significantly higher in the testing model compared to the referral model. Quality of care increased significantly post-intervention. Implementing the intervention added, on average, 2-3 minutes per consultation. There were significant differences in the referral model, with more clients taking a voucher for off-site testing vs. on-site testing.

Study	Country	Intervention	Study Design	Sample Size	Key Outcomes	Description of Findings
Ngure et al., 2009*	Kenya	FP services integrated into HIV treatment services.	Non-randomized trial-group	Int: 213 couples Control: 1216 couples	– Pregnancy – Contraceptive use	Substantial increase in dual-contraceptive use (condoms combined with a more effective method) among both HIV-positive and HIV-negative women in discordant partnerships. Pregnancy incidence declined, both compared to pre-intervention at the intervention site and compared with comparison sites. Reported condom use was high throughout the entire study follow-up period for both HIV-positive and HIV-negative women from all sites.
Peck et al., 2003	Haiti	Progressive integration of primary care services, including FP, prenatal services, post-rape services, and nutrition services, into VCT.	Serial cross-sectional	Total: 13,749	– HIV testing	Over the course of 15 years, the number of patients testing for HIV increased dramatically (62-fold). The percent of patients who tested HIV-positive declined dramatically, and the percent of patients tested who were symptom-free increased dramatically. The proportion of adolescents and females increased over time.
Potter et al., 2008	Zambia	PMTCT integrated into ANC services	Retrospective serial cross-sectional	Total: 5801 ANC clinic visits	– Quality of services	Documented RPR screening improved after PMTCT research and services were added to ANC; there was no change when PMTCT research alone was added; there was a decrease after PMTCT service alone was added. Documented syphilis treatment among RPR-positive screened women did not change after PMTCT research, service, or research and service were added to ANC.
Rasch, Yambesi & Massaw, 2006	Tanzania	HTC and FP services integrated into post-abortion care.	Cross-sectional	Total: 706 Int: 407 Control: 299	– Contraceptive use	Women who received VCT were twice as likely to use a condom and three times as likely to use a double method (the condom as well as a hormonal method) than women who did not receive VCT.
Simba et al., 2010	Tanzania	Reproductive and child health services added PMTCT.	Cross-sectional	60 health facilities Int: 43 Control: 17	– Quality of services	Average staff workload was higher in clinics that provided both RCH and PMTCT services compared to those that provided RCH services alone; however the significance of this difference was not reported.

Study	Country	Intervention	Study Design	Sample Size	Key Outcomes	Description of Findings
Van der Merwe et al., 2006	South Africa	HIV care and treatment, including ART, integrated into ANC.	Serial cross-sectional	NR	<ul style="list-style-type: none"> - Time to ART initiation - Uptake of services 	Strengthening linkages and integrating key aspects of ART within ANC reduced delays between HIV diagnosis and treatment initiation for pregnant women eligible for ART (median time to ART initiation reduced from 56 days to 37 days , p=0.041). Measuring CD4 counts at first ANC visits is particularly important in reducing delays; 75% of treatment eligible women initiated ART after intervention.

*Indicates articles that are highlighted as case studies in this report.

ANNEX 4. ANALYSIS OF INTERVENTIONS BY MODEL OF MNCHN-FP AND HIV SERVICES OFFERED

ANC Services Adding ART for Eligible Pregnant Women

Studies	3 peer-reviewed studies (Killam 2010; Van der Merwe 2006; Gamazina 2009).	
Locations	1 in South Africa. 1 in Zambia.	1 in Ukraine.
Interventions	<ul style="list-style-type: none"> Two interventions integrated CD4 testing in ANC at first ANC visit with results available within 2 weeks to identify treatment eligible HIV-infected pregnant women. One intervention trained the ANC staff to initiate ART in the ANC clinic according to same approach as in general ART clinics. The general and ANC-integrated ART clinics employed the same cadre of providers (a clinical officer, a nurse and a peer educator) and scheduled visits, lab evaluations, record systems and quality assurance systems were also similar across clinics. Nurses and clinical officers received Ministry of Health ART training. Women received ART in the ANC clinics until six weeks postpartum and then were referred to the general ART clinic. If the patient was late in gestation (34-36 weeks), ART initiation was usually recommended at enrollment visit. One intervention brought health workers from the ART clinic to the ANC clinic weekly to conduct treatment preparation, including adherence counseling for HIV-infected pregnant women with indications for ART during their second ANC visit, and then referral to the ART clinic, staffed by the same health workers in the general ART clinic at a separate site for ART initiation and follow-up. One intervention provided HIV testing in ANC and postnatal care, with referrals provided for HIV care and psychosocial support. 	
Study Design	1 Stepped-wedge cluster randomized trial (group randomized trial). 2 Serial cross-sectional.	
Reported Outcomes	<p><u>Behavioral outcomes:</u> % of treatment eligible pregnant women enrolling on ART care before delivery, % of treatment eligible pregnant women initiating ART during pregnancy, retention rate. VCT uptake.</p> <p><u>Process outcomes:</u> Mean gestational age of ART initiation; mean weeks of ART initiation before delivery; days from HIV diagnosis to ART initiation; days from HIV diagnosis to receiving CD4 cell count result; mean gestational age at first ANC among those initiating ART; quality of services.</p>	
Findings	<ul style="list-style-type: none"> Rigor of the three studies varied. Out of a possible 9 points, one study, using a stepped-wedge cluster randomized trial design had a rigor score of 7; the other two serial cross-sectional studies had scores of 4 and 2. Integrated services consistently resulted in increased uptake of ART among treatment eligible pregnant women. One study showed that providing ART in the ANC clinic doubled the percentage of treatment-eligible pregnant women initiating ART during pregnancy as compared to active referral to the ART clinic (32.9% vs. 14.4%; AOR 2.01, 95% CI 1.27-3.34). Another study showed reduced time to treatment initiation (from median of 56 days to 37 days, p=.041). Measuring CD4 counts at the first ANC visit is particularly important in reducing delays in ART initiation. This is also important as most women who initiate ART were asymptomatic. One study showed that the integrated strategy did not affect the timeliness of ART 	

Studies	3 peer-reviewed studies (Killam 2010; Van der Merwe 2006; Gamazina 2009).	
Locations	1 in South Africa. 1 in Zambia.	1 in Ukraine.
	<p>initiation (mean gestational age of ART initiation) or 90-day retention rate; however both groups received an average of 10 weeks of ART during pregnancy.</p> <ul style="list-style-type: none"> • While both studies showed improvements in service delivery integrating HIV treatment in ANC, 25% to 62% of eligible pregnant women did not initiate ART during pregnancy. Further improvements in service delivery or targeted strategies may be needed to optimize uptake. Loss to follow-up was a challenge. To improve retention, follow-up in the integrated clinic will be extended through about six months postpartum. • The study examining HIV testing and referral for care in ANC and postnatal care settings found an improvement in VCT uptake and a significant improvement in the quality of care with integrated services. • The cost or impact of integration on incidence of infant HIV infection or quality of MNCHN services was not measured. 	

Case Study: Zambia—Antiretroviral Therapy into Antenatal Care Clinics (Killam, 2010)

Although Zambia has scaled-up HIV testing for pregnant women as well as ARV prophylaxis to reduce MTCT, few women eligible for treatment initiate ART during pregnancy. To increase ART utilization among pregnant women, a program to provide the therapy was integrated into public sector ANC clinics in Lusaka. The study design was a stepped-wedge cluster randomized group trial. All participating clinics began collecting data at the same time with a standard of care intervention (referral to ART). Next, each clinic crossed over to the intervention, allowing all sites to participate and each clinic to act as its own control, while also controlling for time trends by comparing across clinics at fixed points in time. Integrated ART services in ANC were provided one to two days per week. Women with HIV had their CD4 cell counts taken, with results returned two weeks later. Women with CD4 <250 cells/μl were considered eligible for ART. The ANC staff was trained to initiate ART in the ANC clinic according to same approach as in general ART clinics. The general and ANC-integrated ART clinics employed the same cadre of providers (a clinical officer, a nurse and a peer educator) and scheduled visits, lab evaluations, record systems and quality assurance systems were also similar across clinics. Nurses and clinical officers received Ministry of Health ART training. Women received ART in the ANC clinics until six weeks postpartum—when infant DNA HIV testing and co-trimoxazole are recommended—and then were referred to the general ART clinic. During ART enrollment, a clinical officer performed a detailed history and physical; determined the stage of the HIV infection, following World Health Organization staging; and treated any opportunistic infections. A nurse midwife provided health education and ANC services. Peer educators provided counseling on ART and adherence. Patients began co-trimoxazole prophylaxis, multivitamins and iron and returned after two weeks for initiation of ART. When gestational age was 34–36 weeks, the clinician could initiate ART at enrollment. Women who did not meet criteria for ART were provided with ARV prophylaxis for PMTCT and a non-urgent appointment at an ART clinic for long-term care and follow-up.

This integrated approach was compared to the standard of care, in which women who are eligible for ART are referred urgently to the general ART clinic, located on the same premises as ANC but physically separate with a separate staff. The strategy to provide ART integrated in the ANC clinic doubled the percentage of treatment-eligible pregnant women initiating ART during pregnancy when compared to the strategy of active referral to the ART clinic (32.9% vs. 14.4%); (AOR 2.01, 95% CI 1.27-3.34).

However, the integrated strategy did not affect the timeliness of ART initiation—mean gestational age of ART initiation was 27.7 weeks in integrated model vs. 27.1 weeks in the referral model. Nor did it affect the 90-day retention rate—87.8% for integrated vs. 91.3% for referral. However, both groups received an average of 10 weeks of ART during pregnancy. The researchers concluded the provision of ART in ANC is feasible in resource-limited settings, although it may require greater investment in laboratory capacity, drugs and staff. To improve retention, it’s recommended that women in the integrated clinic stay until they wean their babies at approximately six months postpartum.

Effect of PMTCT* Integration on ANC Services

(*HIV testing and short-course treatment with Nevirapine or other ART drugs to prevent vertical transmission of HIV to infants.)

Studies	3 peer-reviewed articles (Delvaux 2008; Potter 2008; Simba 2010).	
Locations	1 in Côte d’Ivoire. 1 in Zambia.	1 in Tanzania.
Interventions	All interventions added PMTCT services to ANC and examined the effect on ANC and PMTCT services.	
Study Design	1 cross-sectional.	2 serial cross-sectional (including 1 retrospective chart review).
Reported Outcomes	<u>Behavioral outcomes:</u> HIV testing, Nevirapine use. <u>Process data/outcomes:</u> Quality of ANC care, documented RPR screening and syphilis treatment, staff workload.	
Findings	<ul style="list-style-type: none"> • The rigor score of these studies was low, with an average score of 1.3 and a range of 1–2 (out of 9). • One study showed that integrating PMTCT into ANC led to no change or improvements in quality of ANC care outcomes, while HIV testing and Nevirapine use both increased. • In one study, documented RPR screening improved when PMTCT and research were added to ANC; there was no change when PMTCT research alone was added, and there was a decrease after only PMTCT service was added. Documented syphilis treatment among RPR-positive-screened women did not change after PMTCT research, service or both were added to ANC. • One study showed that average staff workload was higher in clinics that provided PMTCT services compared to those that provided reproductive and child health services alone. However the significance of this difference was not reported and there was a wide range in staff workload across clinics (RCH and PMTCT services: average workload 50.5%, range: 8-147%; RCH services alone: average workload 37.8%, range: 11-82%). 	

Case Study: Côte d’Ivoire—Antenatal Care Integrating Prevention of Mother to Child Transmission (Delvaux, 2008)

Although many studies have addressed the scale-up of PMTCT, few have evaluated the impact of integration of PMTCT services on the quality of ANC. In Côte d’Ivoire, implementation of PMTCT in ANC and delivery facilities included renovating or constructing buildings, supplying equipment and training health staff. Training consisted of a three-day theoretical component and a six-week on-site component, followed by frequent visits for supervision. Theoretical training was provided to 63 health care workers (including all maternity care services staff) and covered strategies to prevent mother-to-child transmission; individual and group counseling techniques; safe obstetric practices; prevention of blood transmission of HIV; care of neonates and HIV positive women; and psychosocial support. On-site training consisted of experienced PMTCT staff offering day-to-day assistance, feedback and support for ANC and in the

laboratory. For both antenatal and delivery care, the overall quality summary scores increased following the intervention. For ANC, all measures of interpersonal communication and confidentiality improved or remained stable following the intervention. Introduction of comprehensive PMTCT services, including HIV counseling and testing, can lead to improved quality of antenatal and delivery care—and should be translated into enhanced collaboration between HIV and MCH programs. Some aspects of quality of services, such as infection prevention, need to be addressed. The PMTCT should be taken as an opportunity to strengthen overall maternity services.

Child Malnutrition Services Adding HIV Testing

Studies	1 peer-reviewed study (Bahwere 2008).
Locations	1 in Malawi.
Interventions	HIV testing and counseling was offered to caregivers and children enrolled in, or recently graduated from, a community-based therapeutic care program for malnutrition. Additionally, basic medical care (vitamin A, de-worming, anemia treatment, antibiotics for bacterial infections, and malaria prophylaxis) and community nutrition rehabilitation were provided to children with severe acute malnutrition (SAM).
Study Design	Prospective and retrospective cohorts.
Reported Outcomes	<u>Biological outcomes:</u> % Recovered from malnutrition (prospective cohort), % Defaulted (prospective cohort), and Survival status (prospective cohort). <u>Behavioral outcomes:</u> VCT uptake.
Findings	<ul style="list-style-type: none"> • Only one cohort study was identified with a rigor score of 4 out of 9. • 59.1% of HIV-infected children in the prospective cohort recovered to a satisfactory nutritional status using program protocols, suggesting that SAM can be managed in the community for many HIV-infected children. • Although two-thirds of HIV-infected children remained adequately nourished at the 15-month follow-up, this percentage was significantly lower than the rate among HIV-negative children. Further, HIV-positive children had slower nutritional recovery than HIV-negative children. • There were high rates (94.0%) of VCT uptake among children and adult caregivers (64%) in the study.

Post-abortion Care Adding HIV Testing

Studies	1 peer-reviewed study (Rasch 2006).
Locations	1 in Tanzania (Temeke Municipal Hospital).
Interventions	Women needing medical care for an incomplete abortion were counseled on unsafe abortions; those who underwent an illegal, unsafe abortion were provided with contraception and HIV/STI counseling and offered HIV testing. They were also offered contraceptives (injection Depo-Provera, oral contraceptives, and condoms) and asked to return for HIV testing, counseling and contraceptive services.
Study Design	Cross-sectional
Reported Outcomes	<u>Behavioral outcomes:</u> VCT uptake, contraceptive choice, condom use.
Findings	<ul style="list-style-type: none"> • Only one cross-sectional study was identified with a rigor score of 2 out of 9. • 58% of women who underwent an unsafe abortion accepted VCT when offered. • Among women who accepted VCT, 73% said they would use a condom alone or in combination with hormonal contraception after receiving contraceptive

Interventions	<p>counseling. Women who accepted VCT were twice as likely to use a condom and three times as likely to use a double method (condoms as well as a hormonal method) than women who did not accept VCT.</p> <ul style="list-style-type: none"> • Only 30% of HIV-infected women returned for follow-up. This may be the result of a combination of two sensitive issues of post-abortion care and HIV testing and having post-abortion status simultaneously. • Additional research is needed for additional strategies in this vulnerable population.
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HIV Treatment/Secondary Prevention Adding FP Services

Studies	4 peer-reviewed studies (Ngure 2009; Chabikuli 2009; Coyne 2007; Kissinger 1995).	
Locations	1 in the United Kingdom. 1 in the United States.	1 in Kenya. 1 in Nigeria.
Interventions	<ul style="list-style-type: none"> • All interventions integrated HIV treatment and FP services. • Interventions took place at health care delivery points (hospitals and HIV clinics); specifically, one study was a referral-based co-located FP-HIV integration model. • Two of the four studies added HIV services to existing MNCHN services; one intervention consisted of MNCHN services being added to an existing HIV service; and the remaining study simultaneously added HIV and MNCHN services to their package. • One study integrated male involvement as part of the routine couples counseling intervention. 	
Study Design	2 non-randomized trials. 1 pre-post.	1 serial cross-sectional.
Reported Outcomes	<p><u>Health outcomes:</u> Pregnancy incidence. <u>Behavioral outcomes:</u> Contraceptive use (condom and non-condom) and appointment adherence. <u>Process data/outcomes:</u> Uptake of HIV or MNCHN services; coverage of HIV or MNCHN services; and quality of HIV or MNCHN services.</p>	
Findings	<ul style="list-style-type: none"> • Out of a possible score of 9, two studies each had a rigor score of 6; one had a score of 2 and one study had a score of 1. • An overall increase in contraceptive use (both condom and non-condom methods) was reported across studies. • In a study that examined an intervention to improve MCH clinic attendance of HIV-infected women, adherence to appointments increased. This positive effect was sustained at both six- and 12-month follow-ups. • One study found that referrals to FP clinics from HIV clinics were low, but increased post-integration. • The number of pregnancies decreased in HIV-serodiscordant couples after the introduction of integrated FP-HIV services. • A number of factors that promoted the success of integrated services were identified, including on-site provision of contraception; flexibility of clinic in rescheduling appointments; ease of transitioning into an integrated service delivery clinic; staff training in FP methods for HIV-infected women; male involvement; and rapport between health providers and clients. • Additional referral waiting times and user cost fees were identified as inhibiting factors. 	

Case Study: Kenya—HIV Treatment/Secondary Prevention Adding Family Planning (Ngure 2009)

In serodiscordant couples (in which one partner is HIV-negative and the other is HIV-positive), dual contraceptive use is strongly encouraged as a method to decrease unintended pregnancy and to reduce the risk of HIV transmission. Within this context, researchers in Kenya undertook a comprehensive integrated service package that included staff training, couples family planning sessions, and free provision of hormonal contraception on-site. The study was designed as a non-randomized trial within a clinical setting. Study participants were either HIV-negative or HIV-positive and had partners with the opposite status. At all four study sites, contraceptive methods were available on-site or by referral, which is the standard method of care. At the intervention site, a more rigorous approach was taken. Staff received ongoing training on FP methods, including weekly meetings as a way to share counseling experiences and to improve messages of contraceptive promotion to participants. Contraceptive appointment cards with clear renewal dates for time-dependent methods were introduced, along with a “chart note checklist” to remind staff to discuss and provide contraceptive methods during study visits. In addition, one designated staff member monitored on-site contraceptive supplies (injections, oral contraceptives, intrauterine devices and implants) to ensure availability. Involvement of male partners was incorporated as a routine component of the couples counseling sessions. Finally, the researchers reviewed unintended pregnancies among HIV-infected women to identify why these pregnancies were not avoided. The intervention successfully increased dual contraceptive usage among HIV-positive and HIV-negative women in discordant relationships. Specifically, women from all four sites reported high condom use throughout the follow-up period of the study. Further, a before and after comparison showed that the number of pregnancies decreased in the intervention site. Similarly, the number of pregnancies in the intervention site was approximately half of the control sites during the intervention period. The researchers concluded that a comprehensive integrated FP-HIV approach is feasible and could be adapted from a research clinic setting to HIV service delivery settings.

HIV Counseling and Testing Adding FP Services

Studies	8 peer-reviewed articles from 7 studies (Bradley 2009; Brou 2009; Creanga 2007; Gillespie 2009; Hoffman 2008; King 1995; Liambila 2009; Peck 2003).	
Locations	1 in Haiti. 2 in Ethiopia. 1 in Côte d’Ivoire.	1 in Kenya. 1 in Rwanda. 1 in Malawi.
Interventions	<ul style="list-style-type: none"> • All interventions linked HIV services with FP services. • Two interventions integrated FP services into VCT, while a third progressively implemented FP and other services into VCT. • One intervention added FP to PMTCT. • One intervention integrated provider-initiated HIV testing into FP services. • One intervention offered HIV testing to women at an FP clinic, STD clinic, and VCT center; women who were HIV-positive and not pregnant were enrolled and received HIV care and access to FP. • One intervention had community-based reproductive health agents provide FP and HIV education, FP methods (including condoms), VCT referral, and home-based care for PLHIV. 	
Study Design	2 serial cross-sectional. 2 pre-post. 1 time series.	1 cross-sectional. 1 prospective cohort.
Reported Outcomes	<u>Health outcomes:</u> Pregnancy incidence. <u>Behavioral outcomes:</u> HIV testing, Nevirapine use, contraceptive method acceptance and use, condom use, dual method use.	

Studies	8 peer-reviewed articles from 7 studies (Bradley 2009; Brou 2009; Creanga 2007; Gillespie 2009; Hoffman 2008; King 1995; Liambila 2009; Peck 2003).	
Locations	1 in Haiti. 2 in Ethiopia. 1 in Côte d'Ivoire.	1 in Kenya. 1 in Rwanda. 1 in Malawi.
Findings	<p><u>Process data/outcomes:</u> Client volume, quality of care, provider discussion about various MNCH/HIV topics.</p> <ul style="list-style-type: none"> • The rigor score of these studies was generally low, with an average score of 1.9 and a range of 1 to 3 (out of 9). • After FP services were added to VCT, clients were more likely to receive contraceptive counseling, obtain contraceptives, and have fewer pregnancies. • Number of HIV tests conducted increased over time with the addition of FP and other services to a VCT clinic. • After adding FP to PMTCT services, modern contraceptive use was variable across several waves of follow-up for both HIV-positive and HIV-negative women. • Adding HIV testing into FP services improved quality of care and added two to three minutes to consultation time for each client. • After HIV testing in a variety of settings, contraceptive use increased and pregnancy incidence declined after HIV testing. Condom use increased from baseline to one week and three months, but then declined again at 12 months. Dual method use increased, but rates remained very low. Community-based reproductive health agents providing integrated services served the same number of clients as those not providing integrated services. 	

Case Study: Ethiopia—Voluntary Counseling and Testing Clinics Adding Family Planning (Gillespie 2009; Bradley 2009)

After Ethiopian government officials attended a meeting on international best practices in Uganda, sponsored by WHO, they developed a plan to introduce FP into HIV VCT programs in four focus regions. Administrative staff and health providers became sensitive to the importance of integrating FP into VCT services and VCT service providers underwent training on family planning benefits, methods and side effects. To account for frequent provider turnover, three separate five-day training courses were held. Counselors and nurse counselors within VCT clinics then provided counseling on FP and offered condoms and contraceptive pills to clients. Nurse counselors additionally provided injection contraceptives, while VCT counselors referred clients to on-site FP services for clinical FP methods. Monthly monitoring visits to clinics helped to ensure contraceptive availability and resolve problems faced by providers. The evaluation design was serial cross-sectional with interviews conducted with different clients before and after program implementation. Following the integration of FP services, there was a significant increase in the percent of VCT clients who received contraceptive counseling and obtained a contraceptive method. There was no significant increase in intention to use condoms; however, when the analysis controlled for client, facility and counselor characteristics, integration had a significant impact on condom use intent among men but not women. One unexpected finding was the low level of sexual activity and unmet need for contraception among VCT clients. After the intervention, 29% of female VCT clients reported having sex in the past 30 days and 74% of those women were already using contraceptives. The researchers concluded that integrating FP into VCT clinics is feasible, but policy-makers and program planners should carefully consider the characteristics and reproductive health needs of target populations when making decisions about service integration.

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