WORKING PAPER

A Review of Family Planning Outcomes in Integrated Health Programs and Research Recommendations

Janine Barden-O'Fallon, Bridgit Adamou, Carolina Mejia, Chris Bernard Agala
MEASURE Evaluation

WP-17-176

February 2017

USAID FROM THE AMERICAN PEOPLE
MEASURE Evaluation

WORKING PAPER

Review of Family Planning Outcomes in Integrated Health Programs and Research Recommendations

Janine Barden-O'Fallon, PhD
Bridgit Adamou, MPH
Carolina Mejia, PhD, MPH
Chris Bernard Agala, BCom

MEASURE Evaluation
University of North Carolina at Chapel Hill
400 Meadowmont Village Circle, 3rd Floor
Chapel Hill, NC 27517 USA
Phone: +1 919-445-9350
measure@unc.edu
www.measureevaluation.org

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation cooperative agreement AID-OAA-L-14-00004. MEASURE Evaluation is implemented by the Carolina Population Center, University of North Carolina at Chapel Hill in partnership with ICF International; John Snow, Inc.; Management Sciences for Health; Palladium; and Tulane University. Views expressed are not necessarily those of USAID or the United States government. WP-17-176

USAID FROM THE AMERICAN PEOPLE

MEASURE Evaluation

ACKNOWLEDGMENTS

The authors thank Jennifer Mason, Senior Advisor for FP/HIV Integration, United States Agency for International Development (USAID)/Office of Population and Reproductive Health, and Amani Selim, Evaluation Technical Advisor, USAID/Office of Population and Reproductive Health, for their technical review of earlier drafts of the paper.

CONTENTS

FIGURES

TABLES

ABBREVIATIONS

FP	family planning
FSN	food security and nutrition programs
IPPF	International Planned Parenthood Federation
MNCH	maternal, neonatal, and child health
MNCHN	maternal, neonatal, and child health and nutrition
PHE	population-health-environment
PMTCT	prevention of mother-to-child transmission
PPFP	postpartum family planning
SPA	service provision assessments
VCT	voluntary counseling and testing
WASH	water, sanitation, and hygiene

EXECUTIVE SUMMARY

Introduction

Research on the integration of health services is abundant and has been undertaken to investigate the many assumptions related to service integration: namely, that integrated services are cost-effective, efficient, and lead to improved health outcomes. Most research on integration outcomes has focused on short-term outcomes; less is known about longer-term outcomes, particularly the health benefits of integration. Additionally, family planning (FP) outcomes are not always a focus of research and evaluations and are not routinely measured by programs. As a result, many questions on the specific outcomes and impacts of integration on FP programming remain.

The main objectives of this review are to assess the recent evidence base on the effects of integrated programming on FP services and outcomes, gather lessons learned for FP services in integrated programs, and provide recommendations for future research. Although the review builds on the evidence base on FP-integrated programs, the paper differs from previous reviews by focusing on questions relevant to FP program stakeholders.

Methods

An extensive review of recent peer-reviewed and gray literature on FP-integrated programs was undertaken. Articles were identified through databases and were included if they were written in English, had been published between January 2004 and September 2015, and reported on research from low- and middle-income countries. Relevant articles included an FP outcome and presented evaluation results, research findings, or summaries of research, program reviews, or meta-analyses. Information for the analysis was abstracted from 51 documents. Abstracted information was then used to address questions on FP integration quality, adherence, impact, best practices, and cost-effectiveness.

Results

Recent research evidence on integration is typically from the HIV/FP field, primarily from sub-Saharan Africa, and is produced from quasi-experimental and nonexperimental designs. The most common combination of FP service elements is education, counseling, and on-site provision of methods (with and without referrals). Some evidence suggests a positive impact of integration on FP service quality, though these assessments often rely on measures of provider and client satisfaction and acceptability. Approaches and models of integration are not consistently described in clear language. Adherence to integration models is not always assessed, and key FP health-related outcomes are not measured by all programs. Information on cost-effectiveness and cost efficiencies of integration continues to be a gap in the literature.

Discussion

The review assessed a large body of evidence, identified gaps in research and evaluation for FP-integrated programs, and offered potential areas for future research. Selected research recommendations are as follows:

- Future studies need to be clear on what elements of FP are being provided by programs; this may require that program materials are more explicit about their FP services.

- Quality assessment must go beyond measures of client and provider satisfaction and acceptability of integrated services. Quality is a critical element of service provision and a multifaceted concept; therefore, quality assessment should include numerous measures.
- Measures of adherence to the integration model need to be included in the research design. Adherence can be better measured if programs define their theory of change via logic models that make explicit the anticipated outcomes and the pathways for getting there. Measures of adherence thus resemble those found in routine program monitoring and process evaluations, underscoring the need for modified monitoring systems in integrated programs. Specific adherence measures will vary by approach and model but should cover all activities related to the integration. Examples may include the extent to which service providers are conducting information sessions as trained; the extent to which providers are offering FP services to potential clients, the extent to which eligible clients are receiving FP counseling; the extent to which referrals are being tracked; and whether all offered contraceptives are continually in stock.
- Evaluations of integrated programs that include the approach, implementation, and achieved vs. planned results are recommended to improve the ability to assess reported outcomes and make comparisons among programs.
- Research should include the most common short-term behavioral measure of FP program success: contraceptive use/uptake, disaggregated by number of new acceptors. Inclusion of this measure will facilitate comparisons across programs. Additional behavioral outcomes should continue to be measured as relevant to the program.
- Research should include health-level outcomes when possible. Specifically, recommended outcomes include incidence of unintended pregnancy and/or length of birth intervals, both of which require a study design with sufficient follow-up and sample size. These two health outcomes are common and easier to calculate and compare than others previously used, such as number of births averted or number of children ever born.
- Outcomes should be reported even when results are negative or nonsignificant. The reporting of negative results is essential to prevent the replication of ineffective interventions and the wasting of limited resources.
- Build the evidence base on costing and cost-effectiveness between different integration models. Make certain that common FP outcomes, such as those suggested above, are measured to ensure that it will be possible to conduct such an analysis. Collect and report information on total and marginal costs of integrating FP with other health services. Such costs may include provider training, monitoring system modification, additional supervision, facility renovations, and staff incentives.

INTRODUCTION

Interest in the integration of family planning (FP) with other healthcare services spans almost four decades (Cuca & Pierce, 1977; Simmons & Phillips, 1987). The resultant large body of research suggests that integration is feasible across a number of health interventions and can result in improved efficiency in healthcare delivery (Brickley, et al., 2011; Kennedy, Kennedy, Lindegren, & Brickley, 2011; Spaulding, et al., 2009; Wallace, Dietz, & Cairns, 2009). Developing country stakeholders are generally supportive of integrated health programs and understand them to be cost-effective and supportive of service sustainability (MEASURE Evaluation, 2014). Although many FP programs have remained "stand-alone," vertical programs throughout this time (for many reasons, including siloed funding streams), support for integrated services is widespread. This support is predicated on the potential to reach more people with FP services by expanding coverage to underserved populations, taking advantage of opportunistic visits with health personnel, and providing a continuum of care across the reproductive life course.

While a number of definitions of "integration" exist, it is generally understood to be the joining of different health and human services or operational programs, including referrals between services, in order to provide comprehensive care and ensure and maximize health outcomes (adapted from International Planned Parenthood Federation [IPPF]) (IPPF, et al., 2009). FP integration has been implemented in a variety of settings, including HIV-related services; maternal, neonatal, and child health (MNCH) services; food security and nutrition programs (FSN); population-health-environment (PHE) programs; and other health sector programs, such as water, sanitation, and hygiene (WASH). Integration has been effected through a number of models, as well, ranging from a "one-stop shop," where integrated services are delivered by the same provider in the same location, to a referral-based model, in which clients receive one service at one service delivery point and are referred to a second service delivery point for the integrated service (MEASURE Evaluation, 2014).

Research on integration has been abundant, especially since 2011. As a result, much has been learned about factors that facilitate or hinder the process of integration. For example, facilitating factors are stakeholder support and interest in integration; effective provider training, continuing education, and supervision; availability of a large selection of contraceptives and/or free contraceptives; and involvement of men and male endorsement of FP (Brickley, et al., 2011). Factors that hinder successful integration are high workloads, staff turnover, lack of coordination among providers, unequal resource allocation for integrated services, lack of privacy at facilities, and resistance to change (Brickley, et al., 2011; Wallace et al., 2009; Tawfik, Rahimzai, Ahmadzai, Clark, & Kamgang, 2014).

Research has also been undertaken to investigate the many assumptions related to service integration: namely, that integrated services are cost-effective, efficient, and lead to improved health outcomes. Most research on integration outcomes has focused on short-term outcomes, finding, for example, that clients are satisfied with the quality of integrated services, that efficiency in service delivery can be achieved, and that contraceptive uptake is increased; less is known about longer-term outcomes, particularly the health benefits of integration (Baumgartner, et al., 2014). Additionally, FP outcomes are not always a focus of research and evaluations and are not routinely measured by programs (Baumgartner, et al., 2014). As a result, many questions on the specific outcomes and impacts of integration on FP programming remain.

Objectives

The main objectives of this review are to assess the recent evidence base on the effects of integrated programming on FP services and outcomes, gather lessons learned for FP services in integrated programs, and provide recommendations for future research. The assessment is focused on addressing a list of specific questions on the implementation, quality, impact, and cost of integrated FP services. The questions addressed are:

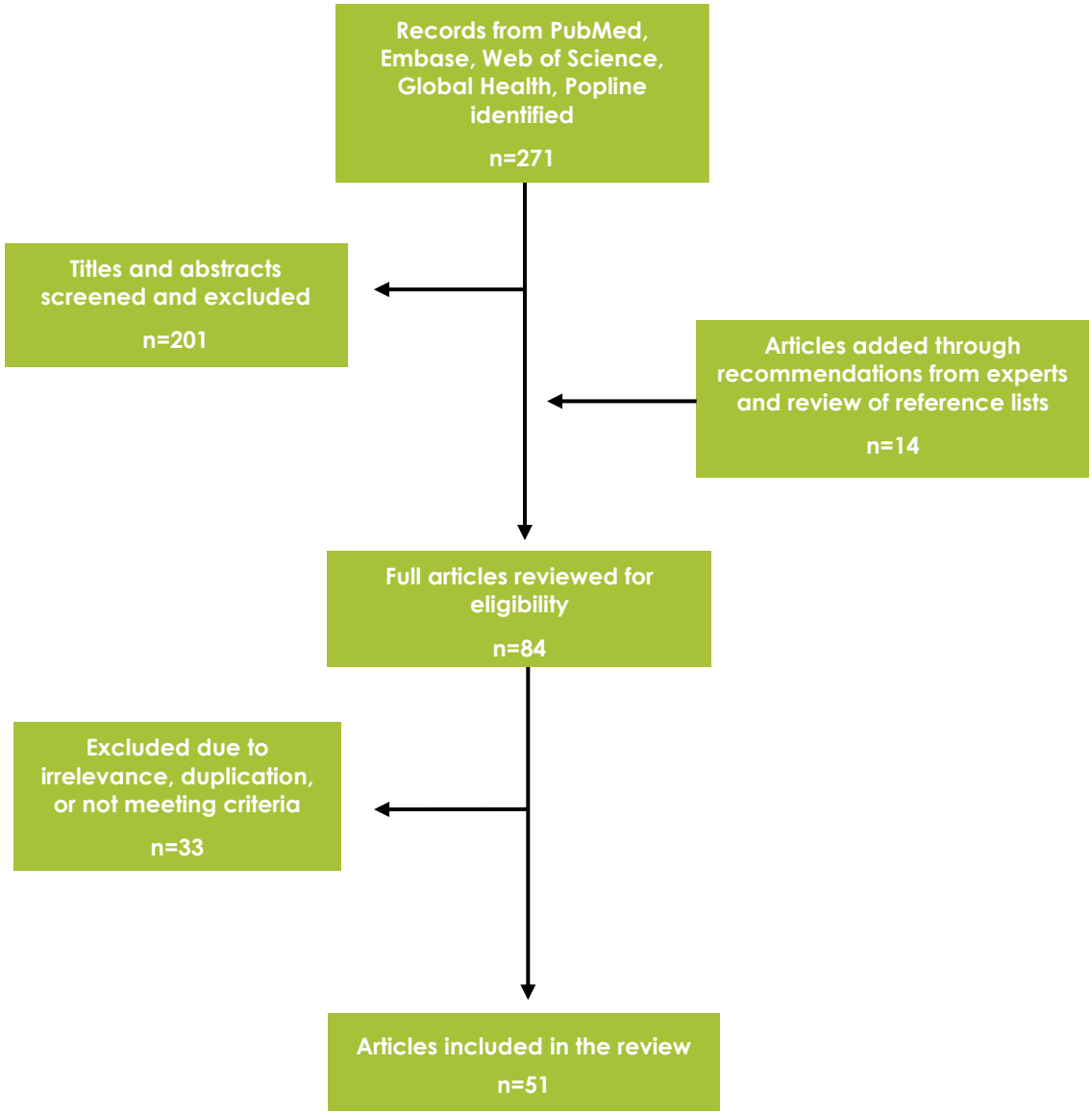
1) What is the evidence on the comprehensiveness and quality of FP services in integrated programs?
2) Are FP-integrated programs being implemented as planned?
3) What is known about FP outcomes in integrated programs?
4) What is the FP impact of different models of integration? Is there a "best model" for integration?
5) What evidence exists on the cost-effectiveness of integrated FP programs?

While the review builds on the evidence base on FP-integrated programs, the paper differs from previous reviews by focusing on questions relevant to FP program stakeholders.

METHODS

An extensive document review of recent published peer-reviewed and gray literature on FP-integrated programs was undertaken to meet these objectives. Gray literature was included in the review with the acknowledgment that contributions to the knowledge base on integration are being made by projects and organizations that do not always publish their findings in peer-reviewed journals. Documents were identified through a literature search that included articles written in English, published between January 2004 and September 2015, and that reported on research from low- and middle-income countries. Articles could be either peer-reviewed journal publications or gray literature (reports, working papers, white papers), but did not include conference abstracts or posters, webinars, PowerPoint presentations, infographics, or any non-text material. Databases searched included PubMed, Embase, Web of Science, Global Health, and Popline. The search terms used included "integrating family planning"; "integrated family planning"; "introducing family planning"; "integration of family planning"; "family planning integration"; "PHE and family planning"; and "population health environment." With these terms, an initial 271 articles were identified. Two members of the four-member research team reviewed the titles separately to determine relevance. Discrepancies were discussed between the two researchers and articles that were agreed to be irrelevant were removed from the list. At the same time, relevant articles from reference lists and contacted experts that were not identified in the search were added to the list, resulting in 84 documents for closer review. Each of the 84 articles was next reviewed by two of the researchers, who determined whether the article presented evaluation or research findings, summaries of research, literature reviews, or meta-analyses. Research articles were not included if findings related only to the feasibility, readiness, or potential acceptability of integrated programs and not the outcomes of integration. Research was excluded if no identifiable FP outcome was assessed. Duplicate articles reporting the same findings from the same study were excluded. Systematic reviews and meta-analyses were included in the assessment; some of these included articles published prior to 2004. The review process resulted in 51 documents included in the study. A flowchart for the identification of review documents is shown in Figure 1. The appendix lists the documents included in the review.

Figure 1. Flowchart for literature search



Next, two researchers reviewed each article, using a data abstraction form. Information abstracted from each article included the country (or countries) where the research was based; the type of integrated program and description of the approach; FP service elements included in the integrated program; FP outcomes assessed by the research; whether FP outcomes of the integrated program were compared to non-integrated FP programs and if so, the main findings; whether adherence to the integration model was assessed, and if so, the main findings; whether quality of FP service provision was assessed, and if so, indicators used to assess quality and the main findings; findings related to cost-efficiency or cost-benefits; research methods used; and research gaps noted by authors.

After the articles were reviewed, the team members met to discuss the abstractions, resolve differences, and agree on a single data abstraction to be entered into the database. Once data were entered, they were cleaned and checked for internal consistency. The team then assessed the abstracted information to address the specific study questions, summarizing the research gaps and research recommendations in each of these areas.

RESULTS

Articles Included in the Review

Table 1 presents a summary of literature included in the review. The majority of articles describe FP-integrated programs in sub-Saharan Africa, particularly Kenya, and come from FP-HIV integrated programs. Literature or program reviews account for the most common type of research method, followed closely by quasi-experimental and nonexperimental/other quantitative methodologies. Almost three-quarters of the reviewed articles are published since 2010. Some programs produced more than one article included in the review: integration of FP in HIV care and treatment services in western Kenya (Grossman, et al., 2013; Onono, et al., 2015; Patel, et al., 2014; Shade, et al., 2013), integration of FP in HIV counseling and testing facilities in Ethiopia (Bradley, Gillespie, Kidanu, Bonnenfant, & Karklins, 2009; Gillespie, Bradley, Woldegiorgis, Kidanu, & Karklins, 2009) and integration of postpartum FP to a maternal and newborn health program in Bangladesh (Ahmed, et al., 2013; Ahmed, et al., 2015). These articles presented separate findings and were thus not considered duplicates.

Table 1. Number of articles included in the review by regional distribution, type of integrated program, type of research method, and publication year (N=51)

	Number of Articles (All)	Number of Articles (Excluding Review Articles)
Regional Distribution*		
Asia	5	5
Latin America & the Caribbean	1	1
North Africa/Middle East	2	2
Sub-Saharan Africa	26	25
Multiregional	17	--
Type of Integrated Program		
HIV-FP	26	18
MNCH-FP (including MNCHN, immunization)	12	8
PHE	7	5
FSN-FP	2	0
Other-FP (includes WASH, primary healthcare, any health service)	4	2
Type of Research Method		
Experimental with randomized control	3	3
Quasi-experimental	13	13
Nonexperimental/other quantitative**	12	12
Qualitative study	3	3
Literature or multiprogram review	18	--
Clinical records and modeling	2	2
Publication year		
2004–2009	14	8
2010–2015	37	25
Total	51	33

* Most common country = Kenya (20)

** Cross-sectional, longitudinal, cohort, or posttest only. One study in this category used mixed methods.

Question #1: What Is the Evidence on the Comprehensiveness and Quality of FP Services in Integrated Programs?

Integrated programs were assessed for how comprehensive the FP services were, as measured by the number and combination of FP service elements. These elements typically included education, counseling, and referrals and/or on-site provision of contraceptive methods. In some programs, advocacy was also included as a service element. The number and combination of service elements are shown in Table 2. The reviewed articles described programs with anywhere from two to five elements of FP services. Integrated programs were most commonly reported to include three or more of the elements. The most common combination of service elements, due mainly to their popularity among HIV-FP programs, were (1) education, counseling, on-site provision of methods, and referral; and (2) education, counseling, and on-site provision of methods.

Table 2. Family planning elements included in reviewed programs by type of integrated program (N=51)

	HIV	MCH, MNCHN, MNCHN/HIV	PHE	FSN	Other	Total
Program with 2 FP elements						
Education, referral		2				2
Education, provision			1			1
Counseling, provision	1					1
Program with 3 FP elements						
Education, counseling, provision	4	1	2			7
Education, counseling, referral		1				1
Education, counseling, "accompanied referral"	1					1
Education, provision, referral			1		2	3
Counseling, provision, referral	4	1				5
Program with 4 FP elements						
Education, counseling, provision, referral	8					8
Counseling, provision, referral, advocacy		2				2
Education, counseling, provision, advocacy		1				1
Program with 5 FP elements						
Education, counseling, provision, referral, advocacy			1			1
Review article	8	4	2	2	2	18
Total	26	12	7	2	4	51

With respect to including either education or counseling, it was not always clear if the elements were truly not a part of the program, or whether these service elements were not sufficiently described in the research articles. Education and counseling are not interchangeable elements; the provision of education can be anything from the distribution of pamphlets to a talk given in a group setting, whereas counseling requires an interpersonal exchange and is tailored to individual circumstances. A problem with articles not including adequate details of interventions has been noted elsewhere (Sonalkar, Modey, and Gaffield, 2014); this may also stem from a lack of detail in program documents. Only four of the 33 non-review articles described programs with fewer than three FP service elements: two of these programs integrated FP with immunization programs (Cooper, et al., 2015; Vance et al., 2014) and the other two involved community distribution of methods, with no clear indication of education/counseling or referrals (Khu, et al., 2013; Belachew, Sinaga, Mohammed, Teklu, & Stelljes, 2013). It is entirely possible that these programs, and other programs reviewed here, did include additional elements of FP services, but for reasons mentioned, resulted in the categorizations reflected below.

A concern within the FP field is whether integrated programs are "diluted" in terms of quality, which is difficult to assess with current evidence. There are a number of dimensions to service quality, traditionally defined as choice of methods, information given to clients, technical competence, interpersonal relations, continuity and follow-up, and appropriate constellation of services (Bruce, 1990). Some evidence does support a positive impact of integration on some of these aspects of quality. For example, a review of MNCH-FP programs found that 11 of 15 studies reviewed had a positive effect (using indicators such as client satisfaction, quality index scores, and proportion of clients receiving certain types of information), and none reported a decrease in quality (Brickley, et al., 2011). Spaulding, et al. (2009) found a general positive effect of HIV/FP integration on quality of care, particularly in interpersonal communication and counseling skills. An assessment of a postnatal care/FP package introduced in Kenya found that quality of care improved, especially for FP counseling (Mwangi, Warren, Koskei, & Blanchard, 2008). Client satisfaction from a community-based integrated FP and HIV testing and counseling strategy implemented in Uganda indicated no detriment to quality (FHI360 & Uganda Ministry of Health, 2014). Interventions designed to improve quality of services in integrated programs have had some success, such as the postpartum care/FP package introduced in hospitals in Kabul, Afghanistan (Tawfik, et al., 2014). This particular intervention was able to link the quality improvement to increases in FP uptake at discharge and a reduction in pregnancies at six and 12 months postpartum as compared to a control group (Tawfik, et al., 2014). The capacity to maintain high service quality can be affected by weaknesses within the health service environment and may present ongoing challenges to integrated programs (Church & Meyhew, 2009). We did not find reports on whether service quality was sustained in the long term, but some country programs are potentially able to assess this using data from multiple rounds of Service Provision Assessments (SPAs) (The DHS Program, 2015) or other such tools.

Assessments of the quality of integrated programs often rely on measures of provider and client satisfaction and acceptability (with mostly positive results); less common are evaluations of other dimensions of quality. Notwithstanding the above citations, some evidence suggests that when assessed, there are in fact quality concerns with service provision elements; Rutenberg and Baek (2005) report that little FP counseling appears to be provided in integrated prevention of mother-to-child transmission (PMTCT)/FP programs in ten countries. SPA data from five African countries suggest that gaps in provider training are more significant for those providing FP services than for those providing HIV services (Johnson, Varallyay, & Ametepi, 2012). Other indicators such as lack of privacy, human resources constraints, method stockouts, and extended wait times have also been reported as quality concerns (Cooper, et al., 2015).

Comparisons of the quality of integrated versus stand-alone programs are generally lacking. Such a comparison would ensure that the level of quality of FP service provided in integrated services is similar to, or higher than, the level of quality that is, or would be, offered through a stand-alone program. Without this type of information, drawing conclusions on service quality is difficult (Church & Meyhew, 2009).

Recommendations

Research recommendations are:

- Future studies need to be clear on what elements of FP are being provided by programs; this may require that program materials are more explicit about their FP services.

- Quality assessment must go beyond measures of client and provider satisfaction and acceptability of integrated services. Quality is a critical element of service provision and a multifaceted concept; therefore, quality assessment should include numerous measures.
- In contexts where it is difficult to identify the appropriate comparison for evaluations of FP service quality, comparisons of pre- and post-integration service-quality assessments may be possible (using data collected through SPA or the Quick Investigation of Quality (MEASURE Evaluation, 2016) for example); comparisons to high-quality integrated service environments (such as IPPF-affiliated services, for example) may be possible; or the degree of adherence to national guidelines for FP services may be assessed.

Question #2: Are FP-integrated Programs Being Implemented as Planned?

The degree of adherence, or how well an integrated program is implemented as planned, can have a significant impact on service quality and reproductive and behavioral health outcomes. Adherence to the planned integration model is easier to monitor and assess when the program is a pilot intervention or relatively small-scale, as programs have the ability to closely monitor the implementation and make real-time corrections. Examples of recent studies reporting on adherence to the integrated model come from Baumgartner, et al. (2014), reporting on the fidelity to a facilitated referral model for HIV/FP care and treatment centers in Tanzania, and Cooper, et al. (2015), assessing whether the implementation of an FP/immunization program in Liberia was being implemented as planned through ongoing supervision. Final assessments of program adherence can uncover areas where there was incomplete implementation, as was the case in an FP/immunization intervention in Ghana and Zambia (Vance, et al., 2014), which may explain negative or nonsignificant results. Suboptimal integration of services was also identified by Baumgartner, et al. (2012) as a likely explanation for results showing no association between service characteristics (such as screening for unintended pregnancy and counseling on contraception) and contraceptive behavior.

In contrast to these recent examples, research on integrated programs does not often include assessments of how well the program was implemented; thus, the ability to determine the extent to which outcomes were affected by issues related to adherence to the planned integration model is not well-documented. Adaptations to monitoring systems are often necessary to collect the data needed for such documentation, but these systems are not always modified to do so. Studies in which adherence was assessed indicate that it is indeed a common problem for integrated programs, for a wide variety of reasons, and that routine monitoring can help ensure that programs make the necessary adjustments for full implementation of the program model. As programs scale up, increased attention on adherence to the piloted model is essential in order to achieve and maintain positive outcomes (Wilcher, Hoke, Adamchak, & Cates, 2013).

Recommendations

Research recommendations are:

- Include measures on adherence to the integration model in the research design. Adherence can be measured better if programs define their theory of change using logic models that make explicit the anticipated outcomes that define success and the pathways for getting there. Measures for adherence thus resemble those found in routine program monitoring and process evaluations, underscoring the

need for modified monitoring systems in integrated programs. Specific adherence measures will vary by approach and model but should cover all activities related to the integration. Examples may include the extent to which service providers are conducting information sessions as trained; the extent to which providers are offering FP services to potential clients; the extent to which eligible clients are receiving FP counseling; the extent to which referrals are being tracked; and whether all offered contraceptives are continually in stock.

- Evaluations of integrated programs that include the approach, implementation, and achieved vs. planned results are recommended to improve the ability to assess reported outcomes and make comparisons among programs.

Question #3: What Is Known about FP Outcomes in Integrated Programs?

To address this question, we first examined the types of FP outcomes reported by the studies in our review. Because the report of FP outcomes was a selection criterion of this review, all articles contained at least one FP-related outcome. Table 3 presents the list of FP outcomes assessed in these studies. The outcomes have been categorized as those related to health outcomes associated with use of FP, those related to behavioral changes, and those related to knowledge or awareness of FP methods and/or issues. Outcomes related to the process of integration, such as the number of referrals provided, as well as outcomes related to other health areas, are not included in the table. Outcomes related to cost and quality, which were specific areas of interest for this assessment, are discussed in other sections. Some articles contained more than one category of outcome; review articles often contained multiple categories. Only three articles did not report on any of these categories. One focused on FP policy gaps related to integrated programs (Strachan, Kwateng-Addo, Hardee, Subramaniam, Judice, & Agarwal, 2004); one reported on FP quality of care (FHI360 & Uganda Ministry of Health, 2014); and one assessed provision of FP services (Johnson, et al., 2012). At the bottom of Table 3, we present the number of non-review articles that included outcomes from each of these categories, as some of these same articles are included in the systematic reviews and meta-analyses.

Table 3. FP outcomes included in reviewed articles (N=51)

FP Outcomes Reported		
Health	**Behavioral**	**Knowledge, Attitudes**
Birth spacing/Birth intervals Births averted Children ever born Deaths averted Fertility rate Pregnancy Unintended pregnancy	Contraceptive continuation Contraceptive prevalence rate Couple communication Couple-years of protection Men's involvement Method mix Method use/uptake New users Unmet/met need Women's negotiation, decision making power	Awareness Knowledge Probability of adoption/ intention to use
6/33 (18%) Non-review articles	31/33 (94%) Non-review articles	8/33 (24%) Non-review articles

Our assessment indicates that behavioral outcomes, particularly method use or uptake, are the most often reported FP outcomes for integrated programs. In contrast, higher-level health outcomes are much less commonly assessed. This finding has been noted elsewhere. For example, reviews of HIV/FP and PHE programs also find behavioral outcomes, especially contraceptive use (or uptake), to be the most commonly measured FP outcomes (Wilcher, et al., 2013; Yavinsky, Lamere, Patterson, & Bremner, 2015). In fact, only three of 12 studies in the HIV/FP review measured pregnancy incidence as an outcome (Wilcher, et al., 2013). Community-based integrations also tend to report contraceptive use or prevalence outcomes more often than health outcomes (Kuhlmann, Gavin, & Galavotti, 2010).

A definitive determination of whether integration has had a net positive impact on beneficiaries is challenging because of the variety of integration models, the service elements included in the intervention, whether the integration model was implemented as planned, and the outcomes assessed. Therefore, and not surprisingly, evidence from review articles is mixed. A systematic review of maternal, neonatal, and child health and nutrition (MNCHN)/FP/HIV programs found that method use was the most commonly reported behavioral outcome. Of the 26 studies reporting this outcome, 19 found an increase in FP use as a result of the integrated intervention, while seven found a mixed effect or no effect (Kennedy, et al., 2011). In terms of health outcomes, which were reported less often, the most common was subsequent pregnancy: of the 10 studies reporting this outcome, four found a decrease in pregnancy as a result of the integrated intervention, whereas six found a mixed effect or no effect (Kennedy, et al., 2011). Finally, only four studies specifically measured unplanned pregnancies; two reported a decrease in unintended pregnancy and two reported a mixed effect or no effect (Kennedy, et al., 2011). Mixed results can also be found within the same study, depending on the outcomes assessed. For example, a recent study with an experimental design assessed the integration of FP services in HIV clinics in Kenya and found that a larger increase in the use of more effective methods was observed at the intervention sites (16.7% to 36.6%) as compared to the control sites

(21.1% to 29.8%) from baseline to end line, though there was no significant difference in the pregnancy rate per 100 clinic visits (1.5 for integrated sites; 1.7 for control sites) (Grossman, et al., 2013). A study from Cambodia of women living with HIV found improvements in FP knowledge but no significant change in contraceptive use (Thyda, et al., 2015). Mixed results were also observed from an assessment of integrated FP and PMTCT services in Zimbabwe; significant increases in knowledge and relationship/negotiation indicators were measured in the integration group as compared to the control group, but there were no significant differences in contraceptive uptake (Sarnquist, et al., 2014).

In other areas of integration, the impact on FP outcomes is also generally considered positive (Kuhlmann, et al., 2010). Improvement in some FP outcomes is often reported in PHE programs, especially in projects serving the most rural areas. A synthesis of evidence on PHE integration found that 23 of 35 reviewed projects reported increases in FP use; additionally, nine studies reported increases in men's support for or involvement in FP (Yavinsky, et al., 2015). Improved access and acceptance of FP by men and boys have been noted previously, and may be a particular benefit of PHE programming (Pielemeier, 2005). One article that used a quasi-experimental design to compare an integrated PHE program to stand-alone programs found no significant difference in the mean number of children ever born, though positive results were found in some of the attitude and behavioral outcomes (D'Agnes, D'Agnes, Schwartz, Amarillo, & Castro, 2010). Nevertheless, conclusions about the FP benefits of PHE programs are hindered by the lack of comparisons to (single-sector) stand-alone FP programs (Yavinsky, et al., 2015).

FP outcomes in FSN/FP-integrated programs are also generally, though not always, positive. For the most common model of FSN/FP programs, those integrating education, counseling, and commodity services (and/or referrals), the analyzed outcomes were positive for five of six programs reporting on modern contraceptive use, three of five programs reporting on changes in birth spacing, and four of four programs reporting on met need (Borwankar & Amieva, 2015).

Recommendations

Research recommendations are:

- Include the most common short-term behavioral measure of FP program success: contraceptive use/uptake, disaggregated by number of new acceptors. Inclusion of this measure will facilitate comparisons across programs. Additional behavioral outcomes should continue to be measured as relevant to the program.
- Include health-level outcomes when possible. Specifically, recommended outcomes include incidence of unintended pregnancy and/or length of birth intervals, both of which require a study design with sufficient follow-up and sample size. These two health outcomes are common and easier to calculate and compare than others previously used, such as number of births averted or number of children ever born.
- Report outcomes even when results are negative or nonsignificant. The reporting of negative results is essential to prevent the replication of ineffective interventions and the wasting of limited resources.

- Within any integration approach, identify and measure the program components related to positive FP outcomes. For example, referrals may be more suitable for achieving some FP outcomes than for achieving others.

Question #4: What Is the FP Impact of Different Models of Integration? Is There a "Best Model" for Integration?

Integration models have been described as "one-stop shopping," when all services are provided by the same provider in the same location (also referred to as "fully integrated"); "co-located" or "partially integrated," when services are located at the same service delivery point but offered by different providers; and "referral-based," when referrals are made from one service delivery point or provider to another. The reviewed research articles described interventions using all of these models of service delivery, as well as some variations. The review included FP integrated with voluntary counseling and testing (VCT) services, HIV care and treatment services, PMTCT programs, immunization services, antenatal/intrapartum/postnatal and well-child visits, facility- and community-based postpartum FP (PPFP), and nonhealth sectors (such as WASH programs and coastal management programs). While facility-based service integration is often part of the HIV/FP approach, community-based service integration is also common for integrated programs, especially for PHE programs, MNCH/FP, and FSN/FP programs that employ outreach and/or community health workers. Where and how the integration occurs is thus a function of the goals for integration and the type of program with which FP is being integrated, which in turn may determine the selection of integration model. Each approach and model has the potential to bring FP services to underserved populations and improve overall coverage.

Unfortunately, there is little consistency in the literature with regard to the concepts of "approach" and "model" in terms of how they are defined, explained, or put into context (Wallace, et al., 2009). Research on FP integration has thus been challenged by the variety of definitions, terminology, approaches, and models used by programs (Wallace, et al., 2009). Perhaps as a result, there is relatively little research comparing outcomes achieved by the different models of integration. One recently published study intended to fill this gap by comparing four models of HIV/FP integration in Swaziland (Church, et al., 2015). The results were influenced by the fact that the programs were not integrated as planned (underscoring the importance of adherence), and that systematic barriers across all models prevented successful provision of FP and reproductive health services (Church, et al., 2015).

A review of community-based nutrition and PPFP integration found no evidence to suggest that one model of integration was more effective than another (Alvesson & Mulder-Sibanda, 2013). No clear patterns in the efficacy of different models for HIV/FP integration were noted in reviews by Spaulding, et al. (2009) and Sweeney, et al. (2012). Likewise, the use of a wide variety of outcome indicators prevented Borwankar & Amieva (2015) from being able to determine which models of FSN/FP were most successful. In contrast, and perhaps because of the diversity of intervention types in the PHE sector, Pielemeier (2005) did not attempt to identify any particular model for effective PHE programs, but rather noted that a series of factors, such as leadership and acceptability of the project within the community, among others, are essential elements of program success.

A report by MEASURE Evaluation assessing health program integration in 10 countries found variation in integration models for the same interventions and within the same health areas (MEASURE Evaluation,

2014). However, key respondents from the 10 countries included in the assessment considered that the issue should not be framed as a matter of choosing one model over another, but rather multiple models and approaches should be implemented simultaneously in order to pursue a larger integration strategy (MEASURE Evaluation, 2014).

Recommendations

Research recommendations are:

- Use common language to clearly describe models and integration approaches. Descriptions of models should clearly state whether the integration is "fully-integrated," "partially integrated," or "referral-based." Descriptions can also state whether the integration is "facility-based," "community-based," or "a combination of facility- and community-based."
- Limit research attempting to identify a "best model" or "best approach" to integration. The purpose and goals for integration are varied, context-specific, and not "one-size-fits-all."
- Within any given approach—PHE, for example—some integration models will be more suitable than others. The health impacts, successes, and challenges of different models, or components of models, can be compared when common outcome and process indicators are measured. Results can be used to provide guidance on appropriate environments for implementation of different models.

Question #5: What Evidence Exists on the Cost-Effectiveness of Integrated FP Programs?

Integration of health services places new demands on the service delivery system. Incorporating an additional service usually entails staff training, increased mentoring, supervision, logistics and commodities, and updating or revamping records systems. Even so, integration is thought to offer cost savings—particularly when services are co-located—through shared staff, facilities, equipment, and other administrative and overhead costs.

However, there is a dearth of evidence on exactly what the cost savings are, as few studies report on the costs of integration. The lack of information on cost efficiencies related to integration is well-documented across all approaches for FP integration (Brickley et al., 2011; Kennedy, et al., 2011; Spaulding, et al., 2009; Wallace, et al., 2009; Sonalkar, et al., 2014; Church & Meyhew, 2009; Johnson, et al., 2012; Sweeney, et al., 2012). In this review, studies reporting costs consistently reported that adding FP to a service or vice versa yielded savings with a relatively low marginal cost. For example, in Ethiopia, it was found that the incremental cost of integrating FP in VCT services was modest, with regular monitoring being the only recurring cost (Gillespie, et al., 2009). A study in Kenya also found the average marginal costs of adding FP to HIV care and treatment centers to be low, at US$841 per site and US$48 per female patient (Shade, et al., 2013). A systematic review of four integrated HIV/FP programs came to the similar conclusion that HIV/FP integration can be highly cost-effective or cost-saving when costs are modeled at the national level (Sweeney, et al., 2012). Some research suggests that the cost-effectiveness of integration may be determined, at least in part, by the reproductive health needs of the target population (Gillespie, et al., 2009).

There are no recent articles comparing the costs of different integration models, and only one was identified that compared costs to deliver integrated FP services versus stand-alone services. This was from a PHE

program in the Philippines, which reported that implementing the integrated approach cost less than the combined cost of the two independent interventions (D'Agnes, et al., 2010).

Though generally showing support for the cost-effectiveness of integrated programs, this type of research remains rare (Sweeney, et al., 2012), and the extent of cost savings from integrated FP programs compared to stand-alone programs or comparative cost savings from different integration models is largely unknown. Questions such as, "Is it more cost-effective for one provider to offer a full range of services, for clients to be referred to a more specialized provider within the same facility, or for clients to be referred to a more specialized facility?" (Church & Meyhew, 2009) continue to be unanswered.

Recommendations

Research recommendations are:

- Build the evidence base on costing and cost-effectiveness between different integration models. Make certain that common FP outcomes, such as those suggested above, are measured to ensure that it will be possible to conduct such an analysis.
- Collect and report information on total and marginal costs of integrating FP with other health services. Such costs may include provider training, monitoring system modification, additional supervision, facility renovations, and staff incentives.
- Define cost items that qualify for inclusion in calculating the cost of a particular model or approach.

DISCUSSION

The objective of this review was to assess the recent evidence base on the effects of integrated programming on FP services and outcomes and to provide suggestions for future research. The review of relevant literature produced a number of findings and research recommendations. Our recommendations underscore the need for program planners to better define their program goals, the processes for achieving their goals, and the systems needed to monitor progress toward their goals. Recommendations also call for a harmonization of select FP behavioral and health outcome measures across programs to support comparative research. Finally, we recommend that program descriptions, both in program documents as well as research publications, clearly define the integration models, the elements of FP included in the model, and how well the integration program was implemented.

A main strength of this review is that it includes all types of integration approaches, though we note that the majority of research in this area comes from HIV/FP approaches. We assessed a large number of recent articles, including meta-analyses, program review articles, and gray literature, in our effort to update and expand on what is known about FP-integrated programs. An additional strength is that we took a focused look at a specific set of questions relevant to FP donors, program planners, and implementers on the degree to which the consequences of integrating FP services with other health areas is known and documented. However, the narrowed focus on FP outcomes meant that other health outcomes were not assessed, which is a limitation of the work.

Another limitation of this review is that the search may have missed relevant documents. This could be the case for those in which FP services were described as part of broad health programs and not mentioned specifically in the titles and abstracts, such as would be the case for integrated "reproductive health services." We also did not review articles on integration in general if no FP outcomes were reported. In addition, our search was limited to articles written in English. We selected a search period of 2004–2015 to collect a decade of recent published/disseminated research, and recognize that earlier relevant work dating back decades may therefore not be represented. We also focused on the term "integration" and its various forms; though "linkages" also appeared in the literature, we did not include it as a search term. The review of cited references helped identify appropriate articles missed in the literature search, but the authors recognize that the review is not exhaustive.

Another potential limitation is that we did not include services in which FP is offered as an essential element of the service package, such as is the case for postabortion care. We acknowledge that in practice, essential elements are not always provided, and that sometimes the work of ensuring the delivery of the full package of services is similar to the work of integrating separate services.

Finally, we did not attempt to rate the quality of evidence of the included studies. In part, this is because other published research addresses study quality and gaps in research methods for integration research (see for example, Kennedy, et al., 2011, and Wilcher, et al., 2013). We agree with previous assessments that evidence is strongest when (randomized or quasi-) experimental designs with pre-intervention and post-intervention data are implemented. However, evidence from a range of research designs contributes to what is known about FP-integrated programs and when considered as a group can provide sufficient evidence for programmatic decision making. For this review, it was also important to include summary articles, literature reviews, project reviews, and meta-analyses, which represent an important source of information on integration and cannot be assessed on study rigor in the same way.

CONCLUSION

This review assessed a large body of evidence, identified gaps in research and evaluation for FP-integrated programs, and offered recommendations for future research and program monitoring and evaluation. These recommendations can be used to answer important questions on the impact of integration on FP service quality and reproductive health outcomes.

REFERENCES

Ahmed, S., Ahmed, S., McKaig, C., Begum, N., Mungia, J., Norton, M., & Baqui, A.H. (2015). The effect of integrating family planning with a maternal and newborn health program on postpartum contraceptive use and optimal birth spacing in rural Bangladesh. *Studies in Family Planning*, *46*(3), 297–312.

Ahmed, S., Norton, M., Williams, E., Ahmed, S., Shah, R., Begum, N.,…Baqui, A.H. (2013). Operations research to add postpartum family planning to maternal and neonatal health to improve birth spacing in Sylhet District, Bangladesh. *Global Health: Science and Practice*, *1*(2).

Alvesson, H.M., & Mulder-Sibanda, M. (2013). The potential for integrating community-based nutrition and postpartum family planning: Review of evidence and experience in low-income settings. *Health, Nutrition, and Population Discussion Paper*. Washington, DC: The World Bank.

Baumgartner, J.N., Green, M., Weaver, M.A., Mpangile, G., Kohi, T.W., Mujaya, S.N., & Lasway, C. (2014). Integrating family planning services into HIV care and treatment clinics in Tanzania: evaluation of a facilitated referral model. *Health Policy and Planning*, *29*, 570–579.

Baumgartner, J.N., Otieno-Masaba, R., Weaver, M.A., Grey, T.W., & Reynolds, H.W. (2012). Service delivery characteristics associated with contraceptive use among youth clients in integrated voluntary counseling and HIV testing clinics in Kenya. *AIDS Care*, *24*(10), 1290–1301.

Belachew, T., Sinaga, M., Mohammed, A., Teklu, N., & Stelljes, K. (2013). *Effectiveness of the PHE approach for achieving family planning and fertility outcomes in Ethiopia: A comparative study in the Gurage Zone*. Addis Ababa, Ethiopia: PHE Ethiopia Consortium.

Borwankar, R., & Amieva, S. (2015). *Desk review of programs integrating family planning with food security and nutrition*. Washington, DC: FHI 360/FANTA.

Bradley, H., Gillespie, D., Kidanu, A., Bonnenfant, Y-T., & Karklins, S. (2009). Providing family planning in Ethiopian voluntary HIV counseling and testing facilities: client, counselor and facility-level considerations. *AIDS*, *23*(suppl 1), S105–S114.

Brickley, D.B., Chibber, K., Spaulding, A., Azman, H., Lindegren, M.L., Kennedy, C., & Kennedy, G. (2011). *Systematic review of integration between maternal, neonatal, and child health and nutrition and family planning: Executive Summary*. Washington, DC: Global Health Technical Assistance Project.

Bruce, J. (1990). Fundamental elements of the quality of care: A simple framework. *Studies in Family Planning*, *21*(2), 61–91.

Church, K., & Meyhew, S.H. (2009). Integration of STI and HIV prevention, care, and treatment into family planning services: A review of the literature. *Studies in Family Planning*, *40*(3), 171–186.

Church, K., Wringe, A., Lewin, S., Ploubidis, G.B., Fakudze, P., & Mayhew, S.H. (2015). Exploring the feasibility of service integration in a low-resource setting: A mixed methods investigation into different models of reproductive health and HIV care in Swaziland. *PLOS One*, *10*(5), e0126144.

Cooper, C.M., Fields, R., Mazzeo, C.I., Taylor, N., Pfitzer, A., Momolu, M., & Jabbeh-Howe, C. (2015). Successful proof of concept of family planning and immunization integration in Liberia. *Global Health: Science and Practice*, *3*(1), 71–84.

Cuca, R., & Pierce, C.S. (1977). *Experiments in family planning: Lessons from the developing world*. A World Bank Research Publication. Baltimore, MD and London, U.K.: The Johns Hopkins University Press.

D'Agnes, L., D'Agnes, H., Schwartz, J.B., Amarillo, M.L., & Castro, J. (2010). Integrated management of coastal resources and human health yields added value: a comparative study in Palawan (Philippines). *Environmental Conservation*, *37*(4), 398–409.

The DHS Program. (2015, December 10). The Service provision assessment. Retrieved from http://dhsprogram.com/What-We-Do/Survey-Types/SPA.cfm

FHI 360, & Uganda Ministry of Health. (2014). *Delivery of integrated family planning and HIV testing and counseling services by Village Health Teams*. Durham, NC and Kampala, Uganda: FHI 360.

Gillespie, D., Bradley, H., Woldegiorgis, M., Kidanu, A., Karklins, S. (2009). Integrating family planning into Ethiopian voluntary testing and counseling programmes. *Bulletin of the World Health Organization*, *87*, 866-870.

Grossman, D., Onono, M., Newmann, S.J., Blat, C., Bukusi, E.A., Shade, S.B.,…Cohen, C.R. (2013). Integration of family planning services into HIV care and treatment in Kenya: a cluster-randomized trial. *AIDS*, *27*(Suppl 1), S77–S85.

IPPF, UNFPA, WHO, UNAIDS, GNP+, ICW, & Young Positives. (2009). *Rapid assessment tool for sexual and reproductive health and HIV linkages: A generic guide*. London, UK.

Johnson, K., Varallyay, I., & Ametepi, P. (2012). Integration of HIV and Family Planning Health Services in Sub-Saharan Africa: A Review of the Literature, Current Recommendations, and Evidence from the Service Provision Assessment Health Facility Surveys. *DHS Analytical Studies No. 30*. Calverton, Maryland, USA: ICF International.

Kennedy, G., Kennedy, C., Lindegren, M.L., & Brickley, D. (2011). *Systematic review of integration of maternal, neonatal and child health and nutrition, family planning and HIV: Executive summary*. Washington, DC: Global Health Technical Assistance Project.

Khu, N.H., Vwalika, B., Karita, E., Kilembe, W., Bayingana, R.A., Sitrin, D.,…Allen, S. (2013). Fertility goal-based counseling increases contraceptive implant and IUD use in HIV discordant couples in Rwanda and Zambia. *Contraception*, *88*(1), 74–82.

Kuhlmann, A.S., Gavin, L., & Galavotti, C. (2010). The integration of family planning with other health services: A literature review. *International Perspectives on Sexual and Reproductive Health*, *36*(4), 189-196.

MEASURE Evaluation. (2014). *Findings from a multi-country assessment of integrated health programs*. Chapel Hill, NC: MEASURE Evaluation, University of North Carolina.

MEASURE Evaluation. (2016). *Quick investigation of quality (QIQ): a user's guide for monitoring quality of care in family planning (2nd ed.)*. Chapel Hill, NC: MEASURE Evaluation, University of North Carolina.

Mwangi, A., Warren, C., Koskei, N., & Blanchard, H. (2008). *Strengthening postnatal care services including postpartum family planning in Kenya*. Frontiers in Reproductive Health. Washington, DC: Population Council and ACCESS-FP.

Onono, M., Guzé, M.A., Grossman, D., Steinfeld, R., Bukusi, E.A., Shade, S.,…Newmann, S.J. (2015). Integrating family planning and HIV services in western Kenya: the impact on HIV-infected patient's knowledge of family planning and male attitudes toward family planning. *AIDS Care: Psychological and Socio-medical aspects of AIDS/HIV*, *27*(6), 743–752.

Patel, R., Baum, S., Grossman, D., Steinfeld, R., Onono, M., Cohen, C.,…Newmann, S. (2014). HIV-positive men's experiences with integrated family planning and HIV services in western Kenya: Integration fosters male involvement. *AIDS Patient Care and STDs*, *28*(8).

Pielemeier, J. (2005). Review of population-health programs supported by the Packard Foundation and USAID.

Rutenberg, N., & Baek, C. (2005). Field experiences integrating family planning into programs to prevent mother-to-child transmission of HIV. *Studies in Family Planning*, *36*(3), 235–245.

Sarnquist, C.C., Moyo, P., Stranix-Chibanda, L., Chipato, T., Kang, J.L., & Maldonado, Y.A. (2014). Integrating family planning and prevention of mother to child HIV transmission in Zimbabwe. *Contraception*, *89*(3), 209–214.

Shade, S.B., Kevany, S., Onono, M., Ochieng, G., Steinfeld, R.L., Grossman, D.,…Cohen, C.R. (2013). Cost, cost-efficiency and cost-effectiveness of integrated family planning and HIV services. *AIDS*, *27*(Suppl 1), S87–S92.

Simmons, R., & Phillips, J.F. (1987). Chapter 8: The integration of family planning with health and development. In Lapham, R.J., & Simmons, G.B. (Eds.), *Organizing for effective family planning programs* (pp.185-211). Washington, D.C.: National Academy Press.

Sonalkar, S., Mody, S., & Gaffield, M.E. (2014). Outreach and integration programs to promote family planning in the extended postpartum period. *International Journal of Gynecology & Obstetrics*, *124*(3), 193–197.

Spaulding, A.B., Brickley, D.B., Kennedy, C., Almers, L., Packel, L., Mirjahangir, J.,…Mbizvo, M. (2009). Linking family planning with HIV/AIDS interventions: a systematic review of the evidence. *AIDS*, *23*(suppl 1), S79–S88.

Strachan, M., Kwateng-Addo, A., Hardee, K., Subramaniam, S., Judice, N., & Agarwal, K. (2004). An analysis of family planning content in HIV/AIDS, VCT, and PMTCT policies in 16 countries. *POLICY Working Paper Series No. 9*. Washington, DC: POLICY Project.

Sweeney, S., Obure, C.D., Maier, C.B., Greener, R., Dehne, K., & Vassall, A. (2012). Costs and efficiency of integrating HIV/AIDS services with other health services: a systematic review of evidence and experience. *Sexually Transmitted Infections*, *88*, 85–99.

Tawfik, Y., Rahimzai, M., Ahmadzai, M., Clark, P.A., & Kamgang, E. (2014). Integrating family planning into postpartum care through modern quality improvement: Experience from Afghanistan. *Global Health: Science and Practice*, *2*(2), 226–233.

Thyda, L., Sineng, S., Delvaux, T., Srean, C., Mary, S., Vuochnea, P.,…Ferradini, L. (2015). Integration of family planning services in a peer-managed HIV care clinic serving most-at-risk populations in Phnom Penh, Cambodia. *Journal of Acquired Immune Deficiency Syndromes*, *69*(4), e120–e126.

Vance, G., Janowitz, B., Chen, M., Boyer, B., Kasonde, P., Asare, G.,…Stanback, J. (2014). Integrating family planning messages into immunization services: A cluster-randomized trial in Ghana and Zambia. *Health Policy and Planning*, *29*, 359–366.

Wallace, A., Dietz, V., & Cairns, K.L. (2009). Integration of immunization services with other health interventions in the developing world: What works and why? Systematic literature review. *Tropical Medicine and International Health*, *14*(1), 11–19.

Wilcher, R., Hoke, T., Adamchak, S.E., & Cates, W. (2013). Integration of family planning into HIV services: a synthesis of recent evidence. *AIDS*, *27*(suppl 1), S65–S75.

Yavinsky, R.W., Lamere, C., Patterson, K.P., & Bremner, J. (2015). The Impact of Population, Health, and Environment Projects: A Synthesis of Evidence. *Working Paper*. Washington, DC: Population Council, The Evidence Project.

APPENDIX. DOCUMENTS INCLUDED IN THE REVIEW

Documents Reviewed	Cited in Text
Peer-Reviewed Journal Articles	
Ahmed S et al., Operations research to add postpartum family planning to maternal and neonatal health to improve birth spacing in Sylhet District, Bangladesh, *Global Health: Science and Practice*, 2013, 1(2).	X
Ahmed S et al., The effect of integrating family planning with a maternal and newborn health program on postpartum contraceptive use and optimal birth spacing in rural Bangladesh, *Studies in Family Planning*, 2015, 46(3):297–312.	X
Baumgartner JN et al., Service delivery characteristics associated with contraceptive use among youth clients in integrated voluntary counseling and HIV testing clinics in Kenya, *AIDS Care*, 2012, 24(10):1290–1301.	X
Baumgartner JN et al., Integrating family planning services into HIV care and treatment clinics in Tanzania: evaluation of a facilitated referral model, *Health Policy and Planning*, 2014, 29:570–579.	X
Bradley H et al., Providing family planning in Ethiopian voluntary HIV counseling and testing facilities: client, counselor and facility-level considerations, *AIDS*, 2009, 23(suppl 1):S105–S114.	X
Chibwesa CJ et al., Modern contraceptive use and dual method use among HIV-infected women in Lusaka, Zambia, *Infectious Diseases in Obstetrics and Gynecology*, 2011, Article ID 261453.	
Church K and Meyhew SH, Integration of STI and HIV prevention, care, and treatment into family planning services: A review of the literature, *Studies in Family Planning*, 2009, 40(3):171–186.	X
Church K et al., Exploring the feasibility of service integration in a low-resource setting: A mixed methods investigation into different models of reproductive health and HIV care in Swaziland, *PLOS One*, 2015, 10(5): e0126144.	X
Cooper CM et al., Successful proof of concept of family planning and immunization integration in Liberia, *Global Health: Science and Practice*, 2015, 3(1):71–84.	X
D'Agnes L et al., Integrated management of coastal resources and human health yields added value: a comparative study in Palawan (Philippines), *Environmental Conservation*, 2010, 37(4):398–409.	X
Dhont N et al., Improved access increases postpartum uptake of contraceptive implants among HIV-positive women in Rwanda, *The European Journal of Contraception and Reproductive Health Care*, 2009, 14(6):420–425.	
Douthwaite M and Ward P, Increasing contraceptive use in rural Pakistan: an evaluation of the Lady Health Worker Programme, *Health Policy and Planning*, 2005, 20(2):117–123.	
Gillespie D et al., Integrating family planning into Ethiopian voluntary testing and counseling programmes, *Bulletin of the World Health Organization*, 2009, 87:866–870.	X
Grossman D et al., Integration of family planning services into HIV care and treatment in Kenya: a cluster-randomized trial, *AIDS*, 2013, 27(Suppl 1): S77–S85.	X

Hahn S, Anandaraja N and D'Agnes L, Linking population, health, and the environment: An overview of integrated programs and a case study in Nepal, *Mount Sinai Journal of Medicine*, 2011, 78:394–405.	
Harris A et al., Integrating family planning service provision into community-based marine conservation, *Oryx*, 46(2):179–186.	
Kennedy CE, Linking sexual and reproductive health and HIV interventions: a systematic review, *Journal of the International AIDS Society*, 2010, 13:26.	
Khu NH et al., Fertility goal-based counseling increases contraceptive implant and IUD use in HIV discordant couples in Rwanda and Zambia, *Contraception*, 2013, 88(1): 74–82.	X
Kuhlmann AS, Gavin L and Galavotti C, The integration of family planning with other health services: A literature review, *International Perspectives on Sexual and Reproductive Health*, 2010, 36(4):189–196.	X
Lungren RI et al., Cultivating men's interest in family planning in rural El Salvador, *Studies in Family Planning*, 2005, 36(3):173–188.	
Ngure K et al., Successful increase in contraceptive uptake among Kenyan HIV-1-serodiscordant couples enrolled in an HIV-1 prevention trial, *AIDS*, 2009, 23(suppl 1):S89–S95.	
Onono M et al., Integrating family planning and HIV services in western Kenya: the impact on HIV-infected patient's knowledge of family planning and male attitudes toward family planning, *AIDS Care: Psychological and Socio-medical aspects of AIDS/HIV*, 2015, 27(6):743–752.	X
Patel R et al., HIV-positive men's experiences with integrated family planning and HIV services in western Kenya: Integration fosters male involvement, *AIDS Patient Care and STDs*, 2014, 28(8).	X
Pfitzer A et al., A facility birth can be the time to start family planning: Postpartum intrauterine device experiences from six countries, *International Journal of Gynaecology and Obstetrics*, 2015, 130(suppl 2):S54–61.	
Rhoda KW et al., Fertility desires and unmet need for family planning among HIV infected individuals in two HIV clinics with differing models of family planning service delivery, *BMC Women's Health*, 2015, 15:5.	
Rutenberg N and Baek C, Field experiences integrating family planning into programs to prevent mother-to-child transmission of HIV, *Studies in Family Planning*, 2005, 36(3):235–245.	X
Sarnquist CC et al., Integrating family planning and prevention of mother to child HIV transmission in Zimbabwe, *Contraception*, 2014, 89(3):209–214.	X
Shade SB et al., Cost, cost-efficiency and cost-effectiveness of integrated family planning and HIV services, *AIDS*, 2013, 27(Suppl 1):S87–S92.	X
Sonalkar S, Mody S and Gaffield ME, Outreach and integration programs to promote family planning in the extended postpartum period, *International Journal of Gynecology & Obstetrics*, 2014, 124(3):193–197.	X
Spaulding AB et al., Linking family planning with HIV/AIDS interventions: a systematic review of the evidence, *AIDS*, 2009, 23(suppl 1):S79–S88.	X
Sweeney S et al., Costs and efficiency of integrating HIV/AIDS services with other health services: a systematic review of evidence and experience, *Sexually Transmitted Infections*, 2012, 88:85–99.	X

Tawfik Y et al., Integrating family planning into postpartum care through modern quality improvement: Experience from Afghanistan, *Global Health: Science and Practice*, 2014, 2(2):226–233.	X
Thyda L, et al., Integration of family planning services in a peer-managed HIV care clinic serving most-at-risk populations in Phnom Penh, Cambodia, *Journal of Acquired Immune Deficiency Syndromes*, 2015, 69(4):e120–e126.	X
Vance G et al., Integrating family planning messages into immunization services: A cluster-randomized trial in Ghana and Zambia, *Health Policy and Planning*, 2014, 29:359–366.	X
Wallace A, Dietz V and Cairns KL, Integration of immunization services with other health interventions in the developing world: What works and why? Systematic literature review, *Tropical Medicine and International Health*, 2009, 14(1):11–19.	X
Wilcher R et al., Integration of family planning into HIV services: a synthesis of recent evidence, *AIDS*, 2013, 27(suppl 1):S65–S75.	X
Gray Literature	
Alvesson HM and Mulder-Sibanda M, *The potential for integrating community-based nutrition and postpartum family planning: Review of evidence and experience in low-income settings*, Health, Nutrition, and Population Discussion Paper, Washington, DC: The World Bank, 2013.	X
Belachew T et al., *Effectiveness of the PHE approach for achieving family planning and fertility outcomes in Ethiopia: A comparative study in the Gurage Zone*, Addis Ababa, Ethiopia: PHE Ethiopia Consortium, 2013.	X
Borwankar R and Amieva S, *Desk review of programs integrating family planning with food security and nutrition*, Washington, DC: FHI 360/FANTA, 2015.	X
Brickley DB et al., *Systematic review of integration between maternal, neonatal, and child health and nutrition and family planning: Executive Summary*, Washington, DC: Global Health Technical Assistance Project, 2011.	X
FHI 360 and Uganda Ministry of Health, *Delivery of integrated family planning and HIV testing and counseling services by Village Health Teams*, Durham, NC and Kampala, Uganda: FHI 360, 2014.	X
FHI 360, Research findings: Integration of postpartum family planning with child immunization services in Rwanda, Research Triangle Park, NC: FHI 360, 2013.	
FHI 360/PROGRESS Project, *Integrating family planning into other development sectors*, Durham, NC: FHI 360, 2013.	
Johnson K, Varallyay I and Ametepi P, *Integration of HIV and Family Planning Health Services in Sub-Saharan Africa: A Review of the Literature, Current Recommendations, and Evidence from the Service Provision Assessment Health Facility Surveys*, *DHS Analytical Studies No. 30*, Calverton, Maryland, USA: ICF International, 2012.	X
Kennedy G et al., *Systematic review of integration of maternal, neonatal and child health and nutrition, family planning and HIV: Executive summary*, Washington DC: Global Health Technical Assistance Project, 2011.	X
Kleinau E, Randriamananjara O and Rosensweig F, *Healthy people in a health environment: Impact of an integrated population, health, and environment program in Madagascar*, Washington, D.C./USAID: Environmental Health Project, 2005.	

Mwangi A et al., *Strengthening postnatal care services including postpartum family planning in Kenya*, Frontiers in Reproductive Health, Washington, DC: Population Council and ACCESS-FP, 2008.	X
Ogutu A, *Integrating maternal, infant, and young child nutrition and family planning services in Bondo Sub-county*, Kenya, Baltimore, MD: Jhpiego, 2015.	
Pielemeier J, *Review of population-health programs supported by the Packard Foundation and USAID*, 2005.	X
Strachan M et al., *An analysis of family planning content in HIV/AIDS, VCT, and PMTCT policies in 16 countries*, POLICY Working Paper Series No. 9, Washington, DC: POLICY Project, 2004.	X
Yavinsky RW et al., *The Impact of Population, Health, and Environment Projects: A Synthesis of Evidence*, Working Paper, Washington, DC: Population Council, The Evidence Project, 2015.	X

WORKING PAPER

This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation cooperative agreement AID-OAA-L-14-00004. MEASURE Evaluation is implemented by the Carolina Population Center, University of North Carolina at Chapel Hill in partnership with ICF International; John Snow, Inc.; Management Sciences for Health; Palladium; and Tulane University. Views expressed are not necessarily those of USAID or the United States government. WP-17-176