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MCSP Liberia Restoration of Health Services Project

Family Planning & Immunization Integration Report

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The Maternal and Child Survival Program (MCSP) is a global United States Agency for International Development (USAID) initiative to introduce and support high-impact health interventions in 27 priority countries to help prevent child and maternal deaths. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment. MCSP will tackle these issues through approaches that also focus on household and community mobilization, gender integration, and digital health, among others.

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MCSP management and technical team: Anne Fiedler, Country Director; Denise Brandt, Former Country Director; Birhanu Getahun, Technical Director; Lolade Oseni, Senior Technical Advisor, Monitoring and Evaluation

Expanded Program on Immunization-Family Planning Integration assessment investigator team: Chelsea Cooper, Allyson Nelson (In-Country Principal Investigator), Nyapu Taylor, Cefanee Kanneh-Kesselly, Topian Zikeh, Swaliho Kamara, Hannah Tappis (Headquarters Principal Investigator), Iqbal Hossain, Rebecca Fields, Anne Pfitzer

Expanded Program on Immunization-Family Planning qualitative assessment team (consultants):
Kou Gbaintor-Johnson, Harris Woniyou, Joanna Welwean, Teta Duo, Anthony Tamba

Acronym List

ANC	antenatal care
BCG	Bacillus Calmette–Guérin
CHT	county health team
EPI	Expanded Program on Immunization
FGD	focus group discussion
FP	family planning
HMIS	health management information system
IEC	information, education, and communication
IRB	institutional review board
KII	key informant interview
LAM	lactational amenorrhea method
MCHIP	Maternal and Child Health Integrated Program
MCSP	Maternal and Child Survival Program
MOH	Ministry of Health
PPFP	postpartum family planning
USAID	United States Agency for International Development

Executive Summary

Background

Given Liberia's overall modern contraceptive prevalence rate is low, at only 31%, it is important to take advantage of every contact with pregnant and postpartum women to offer them family planning (FP) counseling and services. Demographic and Health Survey data indicate that national coverage was only 68% for the third dose of pentavalent vaccine in infants under 1 year of age in 2016, down from 71% in 2013, which reflects concerning gaps in immunization coverage. "Offering FP information and services proactively to women in the extended postpartum period during routine child immunization contacts" has been recognized as a "promising" high-impact practice for FP by USAID, the United Nations Population Fund, and other partners.[1]

Integration efforts in Liberia supported by MCSP built on a successful pilot initiative implemented by the Maternal and Child Health Integrated Program (MCHIP) in collaboration with the government of Liberia/MOH.

The service integration model employed by MCSP and the MOH involved:

- For postpartum mothers bringing infants to health facilities for routine immunization services:
    - Vaccinator provides a few brief FP messages one-on-one and offers a referral for same-day, co-located FP services at the end of each routine infant immunization visit.
    - Vaccinator continues to provides regular immunization counseling messages, including with a reminder of when to return for the next vaccination.
    - Vaccinator provides mothers who accept the referral with a referral card, allowing them priority access to FP services avoiding long queues.
    - If the mother does not accept a same-day referral, the vaccinator provides her with a brochure on postpartum FP (PPFP), and encourages her to discuss it with her partner and return for FP.
    - FP provider receives and counsels mothers who have accepted a referral from the vaccinator on her FP options and, if desired, provides her with a method on the same day.
- For women coming to the facility directly for FP:
    - If a woman brings an infant with her to the facility, FP providers ask to see the child's health card. FP providers check the return date for next vaccination and remind the mother of the date to return. If the date already passed or is the same day, FP provider refers the mother and her infant to the vaccinator for a same-day vaccination.
    - For mothers who do not have either their child or their child's health card with them, FP providers reinforce the importance of vaccination, and encourage them to bring their children for all their vaccines and complete the immunization schedule in a timely manner.

MCSP implemented the integrated approach in approximately 50% of supported health facilities in three counties. A nested study was conducted to assess how integration of FP and immunization services affects service utilization and perceptions of quality at MCSP sites. The specific objectives of the study were to:

- Assess how integration affects both FP and immunization service provision/utilization.
- Assess how integration service delivery affects perceptions of FP and immunization service quality.

[1] High-Impact Practices in Family Planning. 2013. *Family Planning and Immunization Integration: Reaching postpartum women with family planning services*. Washington, DC: USAID.

- Assess how integration is affected by contextual factors within the service setting and community.

Methods

The intervention was introduced in 36 clinics, health centers, and hospitals in Grand Bassa, Lofa, and Nimba counties in 2016, representing half of MCSP's supported health facilities. MCSP monitored routine health management information system (HMIS) data for service delivery trends and introduced supplementary data collection to monitor the intrafacility referral process. MCSP conducted monthly supervision and mentoring visits to every facility to improve the integration process and collect data from intervention facilities.

The facilities in Lofa and Grand Bassa counties were included in a study with comparison sites. This study was designed as a mixed-methods process evaluation study. MCSP used a longitudinal, pair-matched design to monitor the effect of integrating immunization and FP services on utilization of FP and routine immunization services. In Lofa and Grand Bassa counties, 36 facilities were pair-matched to intervention and comparison sites based on predetermined criteria. After approximately 9 months of implementation, MCSP conducted a qualitative study employing key informant interviews (KIIs) and focus group discussions (FGDs) at intervention and comparison sites, and with district-, county-, and national-level MOH supervisors and managers. At the facility level, the study gathered information from service providers about their roles and responsibilities related to the integration process, perceptions of quality of services following integration of services, and the availability and provision of FP and immunization services and commodities.

Results

During the intervention period, there were 1,441, 797, and 269 same-day immunization to to FP referral acceptors in Nimba, Grand Bassa, and Lofa counties, respectively. Across all three counties, 12% of vaccinator-caregiver interactions resulted in a referral to FP on the same day. In Nimba County, 15% of caregivers accepted a same-day referral to the FP provider, whereas only 11% and 9% accepted in Grand Bassa and Lofa counties, respectively. Of those caregivers who accepted a same-day referral to an FP provider, 2,371 (96%) completed the referral and were counseled by an FP provider.
Of those that accepted the referral, 1,979 (83%) accepted a modern method on the same day.

Total FP users in the intervention and comparison facilities in Grand Bassa and Lofa counties increased slightly but did not change significantly, as observed by the service delivery data reported through the national health information system (DHIS2). However, there was a slight increase in the intervention facilities compared to the comparison facilities. In Nimba County, the total number of FP users increased significantly in intervention facilities following the introduction of the integrated approach.

The number of first and third doses of the pentavalent vaccine administered quarterly in intervention and comparison facilities remained steady during the intervention period in Lofa and Grand Bassa counties. In Nimba county, there was an increasing trend in the number of doses administered quarterly. There was no major difference in the dropout rate between the intervention and comparison facilities in Lofa and Grand Bassa. The interpretation is that the intervention neither increased nor decreased pentavalent vaccine dropout rate.

According to FP providers and vaccinators, integrated services provided impetus for frequent joint meetings to reconcile documentation before reporting. Most participants indicated they perceived the service integration as helpful because it saves them time and money. Most mothers expressed that they are encouraged to access both services on the same day. Service providers reported that the program has increased uptake of vaccines and FP commodities. A number of the vaccinators interviewed stated that they have seen increases in facility-based immunization and the timely completion of vaccination because they are providing fully immunized certificates to more mothers compared to when the program was not in place.

Providers noted some challenges to integrating the services, including increased workload due to more people coming for both services. Multiple managers, supervisors, vaccinators, and FP providers reported that the staff are overwhelmed with the workload because the increased awareness of PPFP has increased the inflow of clients. Staff also mentioned that one of the contributing factors hindering services integration success was staff attrition. The most reported barriers for completion of referrals from immunization to FP were privacy concerns and stigmatization by the community toward FP and PPFP use in particular. Challenges with commodity supply were also noted at some sites, as well as requests for women to take pregnancy tests before obtaining an FP method.

Discussion

This experience integrating FP and immunization services in Liberia demonstrated that despite stigmatization around PPFP and resultant privacy concerns, mothers appreciate receiving FP messages from their child's vaccinator. We found that by the end of the implementation period, many non-intervention sites (especially in Lofa) had already integrated the two services. This spillover was a result of turnover and transfer of staff from intervention sites to nonintervention sites, and clinical supervisors seeing value in the approach and promoting the integration across all supervision areas. Though unable to demonstrate significant impact on the total number of FP users attributable to the integration of the two services, there is evidence of an increase in acceptance and use of PPFP at comparison and intervention sites following the initiation of the approach in 2016. In addition, MCSP demonstrated that the intervention has no negative impact on immunization doses administered or dropout rates.

Implementation challenges included competing priorities at county level; turnover/transfer of staff from intervention sites to nonintervention sites; and community engagement around FP norms falling outside the scope of the project. MCSP was unable to use the 'new FP acceptor' indicator due to data quality concerns with conflicting definitions of the indicator across counties and sites. PPFP indicators are not captured in the HMIS, therefore the primary outcome for FP is broader than the intervention target population, making it difficult to characterize the true impact of the program. The small number of intervention sites and short intervention period were insufficient to generate findings that can be broadly generalized, and realization of significant changes attributed to the intervention. Finally, we found that same-day referral data do not capture the full impact of intervention, and further research should be conducted at community level to characterize the impact of the integration and messaging on behavior change and perceptions of PPFP.

For future programming, MCSP recommends:

- Including a community behavior change component with the facility-based integration intervention
- Adding PPFP indicator(s) to the HMIS
- Exploring whether to add an FP referral message to five key immunization messages
- Aiming to have at least two certified midwives and two vaccinators at health clinics and hospital outpatient departments to manage outreach and fixed services
- Ensuring separate rooms or privacy screens at immunization stations
- Ensuring constant availability of FP and immunization commodities

Conclusion

The integrated approach at 36 facilities in three MCSP-supported counties was a worthy undertaking. Though MCSP was not able to demonstrate significant change in total FP users in intervention sites compared to comparison sites due to lack of a PPFP-specific indicator and intervention spillover, both mothers and providers observed benefits of service integration, and there was no negative impact on routine immunization. Integration of FP and immunization services should be considered along with other efforts to integrate FP across the continuum of care.

Introduction

Background

In Liberia, many women in the extended postpartum period may want to delay or avoid future pregnancies, but they are not using a modern contraceptive method. Pregnancies spaced less than 18 to 24 months apart have been associated with an increased risk of preterm birth; low birthweight; fetal, early newborn, and infant death; and adverse maternal health outcomes.[2] Given Liberia's overall modern contraceptive prevalence rate is low, at only 31%,[3] it is important to take advantage of every contact with pregnant and postpartum women to offer them FP counseling and services. National coverage was only 68%[4] for the third dose of the pentavalent vaccine in infants under 1 year old in 2016, down from 71% in 2013,[5] which reflects concerning gaps in immunization coverage. Linking FP and infant immunization services can potentially reach mothers with FP and immunization services during the first year postpartum. In fact, "offering FP information and services proactively to women in the extended postpartum period during routine child immunization contacts" has been recognized as a "promising" high-impact practice for FP by USAID, the United Nations Population Fund, and other partners.[6] Efforts to integrate FP and immunization services to date have indicated no negative effect on immunization services, although limited evidence on immunization outcomes exists. The co-located, linked services approach has been shown to improve contraceptive use without negatively affecting immunization outcomes.[7,8] Integrated service delivery focuses on **deliberate** efforts to integrate the two services and potentially demonstrate improvements in FP and immunization uptake in the first year postpartum, with the aim of at least not negatively affecting immunization services.

Integration efforts in Liberia supported by MCSP built on a successful pilot initiative implemented by MCHIP, in collaboration with the government of Liberia/MOH, in 10 demonstration sites in Bong and Lofa counties. At these public primary care facilities, vaccinators offered referrals for same-day FP services at the completion of each immunization visit. Initial training, refresher training, supportive supervision, job aids, and information, education, and communication (IEC) materials were strategically designed to support the integration of services. The MCHIP-MOH approach revealed substantial improvements in FP outcomes without an apparent negative effect on immunization services. However, immunization dropout raised a concern in the MCHIP sites and other health facilities in the focus districts.[9] In light of the MCHIP findings, the MOH endorsed the approach for limited scale-up with certain modifications, including a focus on immunization service provision. MCSP built on the MCHIP-MOH efforts by working with the government to adapt and expand the approach to new health facilities in Grand Bassa, Nimba, and Lofa counties in 2016–2017. This was part of a broader objective to integrate postpartum family planning messaging and counseling throughout the continuum of care and at each point of contact with pregnant women and new mothers at all MCSP-supported health facilities.

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[2] Conde-Agudelo A, Rosas-Bermudez A, Castano F, Norton MH. 2012. Effects of birth spacing on maternal, perinatal, infant, and child health: a systematic review of causal mechanisms. *Stud Fam Plann*. 43(2):93–114. doi: 10.1111/j.1728-4465.2012.00308.x.

[3] National Malaria Control Program Liberia, Ministry of Health (MOH) Liberia, Liberia Institute of Statistics and Geo-Information Services (LISGIS), ICF. 2017. *Liberia Malaria Indicator Survey 2016*. Monrovia, Liberia: MOH Liberia, LISGIS, and ICF.

[4] National Malaria Control Program Liberia, MOH Liberia, LISGIS, ICF. 2017. *Liberia Malaria Indicator Survey 2016*. Monrovia, Liberia: MOH Liberia, LISGIS, and ICF.

[5] LISGIS, MOH Liberia, National AIDS Control Program Liberia, ICF International. 2014. *Liberia Demographic and Health Survey 2013*. Monrovia, Liberia: LISGIS and ICF International.

[6] High-Impact Practices in Family Planning. 2013. *Family Planning and Immunization Integration: Reaching postpartum women with family planning services*. Washington, DC: USAID.

[7] Huntington D, Aplogan A. 1994. The integration of family planning and childhood immunization services in Togo. *Stud Fam Plann*. 25(3): 176–83. doi: 10.2307/2137943.

[8] Dulli LS, Eichleay M, Rademacher K, Sortijas S, Nsengiyumva T. 2016. Meeting postpartum women's family planning needs through integrated family planning and immunization services: results of a cluster-randomized controlled trial in Rwanda. *Glob Health Sci Pract*. 4(1):73–86. doi: 10.9745/GHSP-D-15-00291.

[9] Cooper CM, Fields R, Mazzeo CI, et al. 2015. Successful proof of concept of family planning and immunization integration in Liberia. *Glob Health Sci Pract*. 3(1):71–84. doi: 10.9745/GHSP-D-14-00156.

Intervention Description and Rationale

The service integration model employed by MCSP and the MOH involved vaccinators providing a few brief FP messages one-on-one to mothers and offering a referral for same-day, co-located FP services at the end of each routine immunization visit. The vaccinator continued to provide regular immunization counseling, including with a reminder of when to return for the next vaccine. The vaccinator would provide women who accept the referral with a blue referral card, which, in most health facilities, allowed these women priority access to FP services given that they had already waited in line for immunization services. The FP provider would then receive and counsel the postpartum woman on FP options and, if desired, provide a method on the same day for the woman. If a woman did not accept a same-day referral to the FP provider, the vaccinator provided a brochure on PPFP (including benefits to the mother, father, child, and family), and encouraged her to discuss it with her partner and come back to see the FP provider at any time for further information and counseling.

For women coming directly for FP, if women had an infant with them, FP providers asked to see the child's health card. The FP providers checked the return date for the next vaccination and reminded the mother of the date to return. If the date had already passed or was the same day, the FP provider referred the mother and her infant to the vaccinator for same-day vaccination. For women without their child or the child health card with them, FP providers reinforced the importance of vaccination, and encouraged the mothers to bring their child for all their vaccines and complete the immunization schedule in a timely manner. A job aid, referral cards, and IEC materials were introduced to support the integration process.

This bidirectional referral is a modification to the intervention approach piloted during the MCHIP project. It responds to a recommendation from the pilot to use the integrated services to promote both PPFP and fully immunizing infants.

The integration design focused on fixed-site referral (i.e., within the facility) only due to concerns of privacy during outreach activities and often insufficient human resources to enable the midwife who provides FP services to leave the health facility. Vaccinators were routinely going to the community for outreach activities and used this as an opportunity to encourage postpartum women to visit the FP provider for counseling. However, the FP provider typically did not accompany the vaccinator on outreach visits.

The implementation of the model through MCSP was designed to test a scalable model of FP/immunization integration, in that supervision for the intervention was incorporated into routine, joint, integrated supportive supervision visits conducted by the county and district health teams, along with implementing partners.

Rationale for the Study

As noted in the high-impact practices brief, more evidence is needed before this approach can be classified as a "proven practice." Specific areas that require further exploration include how different integrated models **implemented at scale** impact FP and immunization, and associated infant and child health outcomes; how integrated service delivery affects quality of service provision; and how the success or failure of integrated service delivery is affected by contextual factors within the service setting and community. Therefore, MCSP conducted a study in two of the three intervention counties to address aspects of these existing research gaps and contribute to global knowledge on FP and immunization integration.

The aim of this study was to assess how integration of FP and immunization services affects service utilization and perceptions of quality at MCSP sites.

The specific objectives of the study were to:

- Assess how integration affects FP and immunization service provision/utilization.
- Assess how integration service delivery affects perceptions of FP and immunization service quality.
- Assess how integration is affected by contextual factors within the service setting and community.

This report presents the findings from all intervention sites across the three supported counties. Results from the comparison sites in Lofa and Grand Bassa counties are also presented. Findings will be used to inform program planning and global learning around effective programmatic approaches for integrating FP and immunization services.

Methods

Implementation of the Intervention

MCSP first held advocacy meetings at the central MOH and with county health teams (CHTs) to discuss the rationale of the service integration. The purpose of the stakeholder meetings was to share experiences learned from the MCHIP expanded program on immunization (EPI)-family planning (FP) integration implemented in Bong and Lofa counties and to advance Liberia EPI/FP integration programming to the next phase through MCSP.

MCSP conducted a 1-day orientation in each of the three implementation counties for county-level reproductive, immunization, and clinical supervisors; district health officers; and health facility officers-in-charge. The purpose of the orientation was to acquaint them with the integration process, as they were responsible for supervision of all activities in the health facilities.

Initially, MCSP planned to roll out EPI-FP integration in two phases. Using this phased approach, a study nested within program implementation would provide valuable information on effectiveness and perceived quality of the intervention. Informed by phase I findings, the intervention would be rolled out to the phase II facilities. Based on this original plan, half of eligible health facilities were selected from each of the three MCSP-supported counties (Grand Bassa, Lofa, and Nimba) for phase I implementation (intervention facilities). Eligibility was defined as the facility having an FP provider and vaccinator on staff, and providing and reporting FP and immunization services at the time of facility selection. Comparison sites were identified in Lofa and Grand Bassa counties from among the phase II facilities (comparison sites). Comparison sites were not selected in Nimba County, as the project planned to close activities in Nimba County before MCSP would have been able to collect data from the integration implementation in phase II facilities. In the end, MCSP was not able to implement in phase II facilities due to resource constraints.

FP providers and vaccinators from selected facilities then participated in a 3-day training that included one full-day practical session with actual clients in health facilities. The training was held in September 2016 in Nimba and in October–November 2016 in Grand Bassa and Lofa. The training focused on using the communication tools, referral process, values clarification around provision of FP and immunization services, instructions on how to share information and work together within the facility to implement the integrated services successfully, and practice using simulation before the final day practical session.

CHT supervisors and MCSP staff visited each health facility monthly during routine supportive supervision to monitor the integration efforts, provide mentorship to improve the implementation, and collect and review referral data for 9 months following introduction of the integration. MCSP technical and monitoring and evaluation advisors visited select facilities on a quarterly basis to provide mentoring and coaching, and review data quality and results.

Nested Study Design

This study was designed as a mixed-methods process evaluation study. MCSP used a quasi-experimental design to assess the effect of integrating immunization and FP services on utilization of FP and routine immunization services. At intervention and comparison sites, MCSP monitored routine HMIS data for service delivery trends and introduced supplementary data collection to monitor the intrafacility referral process. After approximately 9 months of implementation, MCSP conducted a qualitative study employing KIIs and FGDs at intervention and comparison sites, and with district-, county-, and national-level MOH supervisors and managers. The semistructured questionnaires explored the barriers and motivations for PPFP uptake, vaccination schedule completion, and perceptions about integration activities, benefits, challenges, and recommendations. At the facility level, the study gathered information from service providers about their roles and responsibilities related to the integration process, perceptions of quality of services following integration of services, and the availability and provision of FP and immunization services and commodities.

Study Site Selection

In Lofa and Grand Bassa counties, 38 of 47 MCSP-supported health facilities met the eligibility criteria at the time of study site selection in September 2016. Eligibility was defined as a facility that had at least one vaccinator and at least one FP provider on staff, was currently providing EPI and FP services, and was recording and reporting data from these services into the HMIS. Of the eligible facilities, 36 were pair-matched based on the following criteria (in order): county, level of health facility (e.g., hospital, health center, or clinic), type of health facility (i.e., public or private), third dose of pentavalent vaccine coverage (June–August 2016),[10] and facility catchment area (if pentavalent vaccine coverage was similar for more than two health facilities, selected pairs based on most similar catchment population) (see Table 1). Two sites were not able to be matched and were excluded from the study. Paired facilities were randomized to intervention or comparison site using a random number generator in Excel.

Table 1. Intervention and comparison facilities by county

County	Facility Type	Total MCSP-Supported Facilities	Total Facilities Selected For EPI-FP Integration Study	Intervention Facilities	Comparison Facilities	Not Matched
Grand Bassa	Hospitals	3	2	1	1	0
	Health Centers	1	0	N/A	N/A	N/A
	Clinics	26	22	11	11	0
Lofa	Hospitals	4	4	2	2	0
	Health Centers	0	0	N/A	N/A	N/A
	Clinics	13	10	4	4	2[11]
TOTAL		47	38	18	18	2

Quantitative Data Collection and Analysis Methods

FP and EPI service delivery data collected and reported through HMIS were monitored for 6 months before and 9 months following the start of the intervention at all Lofa and Grand Bassa study sites (May 2016–July 2017). At intervention sites in Nimba County, these trends were monitored for 6 months before and 11 months following the start of the intervention (March 2016-July 2017). Intervention facilities in all three counties recorded data on intrafacility referrals between the EPI and FP departments after the integrated approach was introduced.

HMIS and process data were verified routinely for data quality. At the time of analysis, outliers within the data set were validated by program staff in the counties using the existing ledgers for service data recording at the facilities. Facilities with total FP users in month exceeding 25% of the entire catchment population (i.e., more people than there are total women of reproductive age in the catchment population) were dropped, along with their paired facility, as this violated our data validation rule. This affected Liberia Agricultural Company Hospital and its paired facility, Liberia Government Hospital in Grand Bassa county.

[10] Numerator: Penta3 doses administered fixed and outreach (Source: DHIS2 on September 23, 2016). Denominator: facility catchment population (source: DHIS2 in February 2016) * 4% (i.e., population <1)/12 months (to get monthly target) * 3 months (to get quarterly target). Note: Some facilities had no report for penta3 vaccinations in a month. These data were assumed to be "missing," not "0." The average only took into account months with data reported.

[11] Two clinics in Lofa were not matched because there were no facilities with a similar combination of Penta3 coverage and catchment population.

Data analysis consisted of trend analysis comparing intervention to comparison sites before and after intervention. The primary outcome indicators used were total number of FP users, number of first doses of pentavalent vaccine administered, number of third doses of pentavalent vaccine administered, and the dropout rate between the first and third dose of the pentavalent vaccine.

Male and female condom users and vasectomy clients were removed from the calculation of total FP users, as these methods require male partner participation and thus are not typically used for PPFP by Liberian postpartum women. Quarterly FP and EPI utilization was compared before versus after the intervention was introduced at comparison and intervention sites. Referral data were analyzed to assess the number of referral acceptors (EPI to FP and FP to EPI), the proportion of those referrals that were completed, and the proportion of referral completers who accepted an FP method on the same day.

Qualitative Data Collection and Analysis

Data Collection Team and Training

The research team consisted of a research consultant and four data collectors. A 3-day practical training was conducted to familiarize the data collectors with the protocol and instruments, informed consent procedures, standard operating procedures, and principles of ethical data collection. At the conclusion of the training, the data collection team conducted a pilot test at Lloydsville Clinic in Grand Bassa County before fieldwork. Lloydsville Clinic was one of the intervention sites not selected for inclusion in the qualitative study. During the pilot, the data collection team tested the informed consent process, data collection tools, and procedures. After pilot-testing, the study team added three new instruments necessary to administer at comparison sites: the Interview Guide for Vaccinators, the Interview Guide for FP Providers, and the FGD Guide for Mothers. The principal investigator and members of the study team provided guidance and oversight for the training and pilot activities.

Study Participants, Sample Size, and Recruitment

Facilities were purposively selected for the postintervention qualitative study from among study sites in Lofa and Grand Bassa counties to include two low-, two average-, and two high-performing sites in each county. Performance was based on the percentage of mothers whose children received vaccination and were referred to FP, and the percentage of mothers who received an FP method and received referral for same-day immunization services in February–March 2017. All intervention hospitals were purposefully selected to meet target sample size. Comparison sites selected for the qualitative study were randomly selected from the sites matched to the sampled intervention facilities. Twelve intervention and four comparison facilities were included in the qualitative subset of facilities. MCSP used prospective recruitment during the ninth month of implementation to identify participants eligible for the FGDs. Eligible participants included mothers with infants under 1 year old who attended either FP or EPI services at an intervention or comparison study site, and fathers with infants under 1 year old in the communities around the study facilities. Eligible mothers from intervention sites were those who accepted or did not accept a referral to FP from EPI, or who accepted a referral from FP to EPI. All participants were over age 18. Eligible participants were invited to come to an FGD on a designated date in the following month. At the start of each focus group, each participant was again screened for eligibility by trained data collectors before obtaining informed consent.

FP providers and vaccinators (health workers) were recruited from sampled health facilities. At facilities with more than one FP provider or vaccinator, those who participated in the EPI-FP training were prioritized for participation in the study. National-, county-, and district-level health team members, including managers, EPI supervisors, and FP supervisors, were convenience sampled from participating counties and districts. Health workers and supervisors who had assumed their post within the 3 months before recruitment were excluded from the sample, as they would have had limited experience with the integration activities.

With guidance from MCSP investigators, facility staff prospectively recruited participants throughout June 2017. Participants' eligibility was confirmed by the study team before enrolling in the study.

Written informed consent was administered to FGD participants and KII respondents. To ensure that all participants understood the elements in the consent form, they were asked to explain the information in the consent form. Participants signed or used a thumbprint, and all forms were countersigned by data collectors before the discussion began.

Data Collection

The study team first administered a questionnaire to collect demographic data from the participants; no personal identifying information was collected. The FGD questionnaire was then administered. Questions were explained in local dialects whenever necessary. The study team had one Kissi-, one Lorma-, and one Bassa-speaking person. These people were very useful when the team needed people to translate the questions for proper understanding to those who could not clearly understand and speak English.

FGDs were audio recorded to ensure that all information during the discussions was captured. Thirty-one of the 34 FGDs were audio recorded. Three FGD groups did not consent to be audio recorded. There was a moderator and a designated note taker for every interview and focus group.

Data Analysis

Notes were reviewed and expanded upon by those present during the KII or FGD within 48 hours of the KII or FGD. In some circumstances, the study team listened to the audio recording to further review the discussions held and add additional notes that were not captured during the KII or FGD process. Notes were then typed, and grouped by primary topic. Analysis was conducted to identify additional themes that emerged within each primary topic and develop a coding structure. The coding structure was then applied to all notes. Divergence between participant type and geography were reviewed and noted.

Ethical Considerations

Ethical approval and oversight in Liberia was provided by the University of Liberia IRB (Protocol #: 17-01-022) and in Baltimore, Maryland, USA, by the Johns Hopkins Bloomberg School of Public Health IRB (IRB No. 00007524).

Results

Description of All Intervention Sites

Catchment populations were generally higher in Grand Bassa County facilities compared to Lofa and Nimba county facilities (see Table 2). Within Grand Bassa, intervention facilities had a higher population and number of FP users per month than comparison facilities. Similarly, Grand Bassa had the highest number of FP users on a monthly basis, compared to Lofa and Nimba preintervention. Penta3 doses administered on a monthly basis were similar between intervention and comparison facilities in Grand Bassa and Lofa counties. Lofa and Nimba had similar numbers for median Penta3 doses administered on a monthly basis before intervention (14), whereas Grand Bassa had nearly twice this figure. All facilities had a vaccinator and FP provider on staff.

Table 2. Baseline characteristics of intervention and comparison facilities, by county

	Grand Bassa		Lofa		Nimba
	Intervention	Comparison	Intervention	Comparison	Intervention
Catchment Population (Median: 2016)	8,280	7,421	3,772	2,901	5,372
Pentavalent 3 Doses Administered (Facility Monthly Median: May–October 2016)	30	31	13	15	14
FP Total Users (Excluding Condom and Vasectomy Users) (Facility Monthly Median: May–October 2016)	64	39	34	28	21
Facility Type					
Hospital	0	0	2	2	1
Health Center	0	0	0	0	1
Clinic	11	11	4	4	12
Facility Ownership					
Public	9	9	1	1	13
Private (Not-for-profit, faith-based)	2	2	5	5	1

Description of Qualitative Study Participants

For the focus groups, the target respondent groups included mothers, fathers, EPI referral acceptors, FP referral acceptors, and FP referral nonacceptors. A referral acceptor refers to a client who came for a particular service (e.g., EPI) and agreed to be referred to a second service (e.g., FP) after discussion with the primary service provider. For example, an FP referral acceptor is a woman who brought her child for vaccination services (EPI) and, following discussion with the vaccinator, decided to go see the FP provider for counseling. All focus groups were homogenous in terms of gender and type of participant (e.g., FP referral acceptor or nonacceptor).

Overall, there were 143 participants (124 from integrated sites and 19 from comparison sites) and 144 participants (125 from integrated sites and 19 from comparison sites) for the Lofa and Grand Bassa FGDs, respectively (see Table 3). For in-depth interviews, the target respondent groups included FP providers, vaccinators, CHT members, district health officers, and facility supervisors (officers-in-charge). KIIs were conducted with 22 participants in Lofa, 21 participants in Grand Bassa, and one participant from the central MOH in Monrovia (see Table 4). All participants were over age 18 and provided informed consent. In all, there were eight facilities visited in Lofa and nine facilities visited in Grand Bassa.

The study team anticipated that EPI acceptor FGDs would be held, but none were conducted as the study team was not able to recruit sufficient numbers of EPI referral acceptors. Facility staff were aware that the EPI information is provided by the vaccinators during immunization and by the FP providers when the mothers come for FP method refills. However, they were not able to identify and recruit any clients who accepted a same-day referral to EPI from FP. The categories of participants available for FGDs in intervention sites were FP acceptors, FP nonacceptors, and fathers. In comparison sites, FGDs were held with mothers of children under 1 year old.

Table 3. Focus group discussion participants by county

	Number of Participants	
	Intervention Sites	**Comparison Sites**
Grand Bassa County		
Family Planning (FP) Referral Acceptors	48	N/A
FP Referral Nonacceptors	47	N/A
Fathers of Children Under 1 Year Old	30	N/A
Mothers of Children Under 1 Year Old	N/A	19
Lofa County		
FP Referral Acceptors	54	N/A
FP Referral Nonacceptors	53	N/A
Fathers of Children Under 1 Year Old	17	N/A
Mothers of Children Under 1 Year Old	N/A	19
TOTAL	**249**	**38**

Table 4. Key informant interviews by county

County / Service Providers	County and National Level	District Level	Intervention Site	Comparison Site	Total
Grand Bassa County					
Supervisor/Manager	2	3	2		7
Family Planning Provider			5	1	6
Vaccinator			6	2	8
Lofa County					
Supervisor/Manager	4	2	2		8
Family Planning Provider			5	2	7
Vaccinator			6	1	7
Montserrado County					
National-level manager	1				
TOTAL	**7**	**5**	**26**	**6**	**43**

Service Integration Results

The results are presented in the following order:

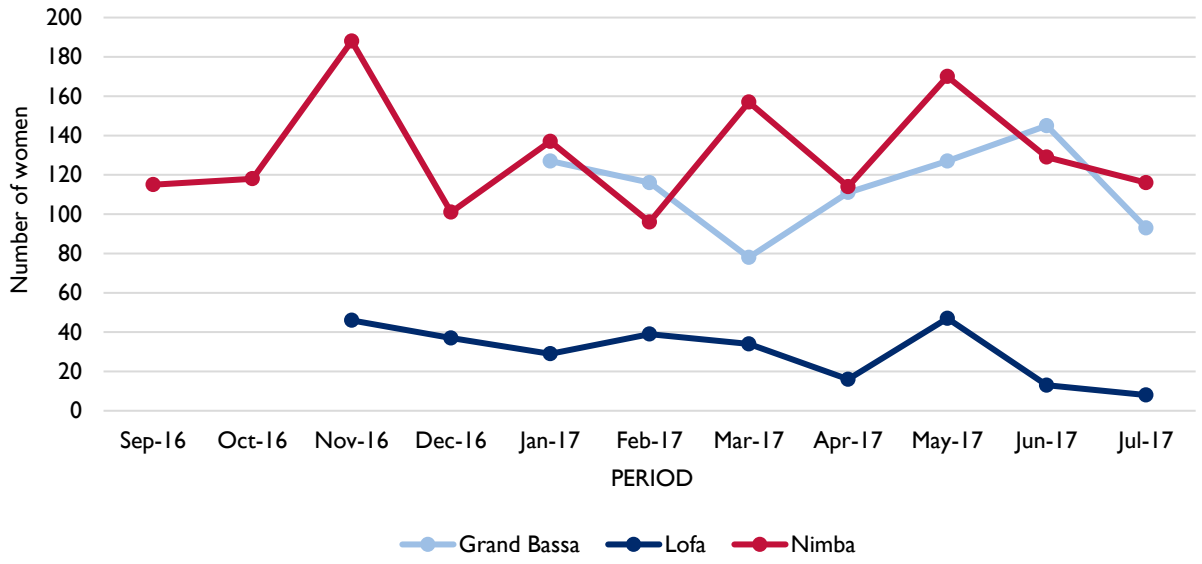
1. Intrafacility referral: vaccinator to FP provider
2. Intrafacility referral: FP provider to vaccinator
3. FP service utilization
4. Immunization utilization
5. Qualitative study findings

Where possible, results are compared to matched study comparison sites.

Intrafacility Referral: Vaccinator to FP Provider

During the intervention period,[12] there were a total of 1,441, 797, and 269 same-day EPI to FP referral acceptors in Nimba, Grand Bassa, and Lofa counties, respectively. While the month-to-month trend varied based on the number of clients accessing EPI services, there was a steady trend throughout the intervention period of referral acceptors in Nimba and Grand Bassa. In Lofa County, there was a slight decreasing trend in number of referral acceptors throughout the intervention period (see Figure 1).

Figure 1. Number of women who accepted a referral from vaccinator to family planning provider on the same day



Across all three counties, 12% of vaccinator-caregiver interactions resulted in a referral to FP on the same day. The referral acceptor rate varied slightly between counties. In Nimba County, 15% of caregivers accepted a same-day referral to an FP provider, whereas only 11% and 9% accepted in Grand Bassa and Lofa counties, respectively (see Figure 2).

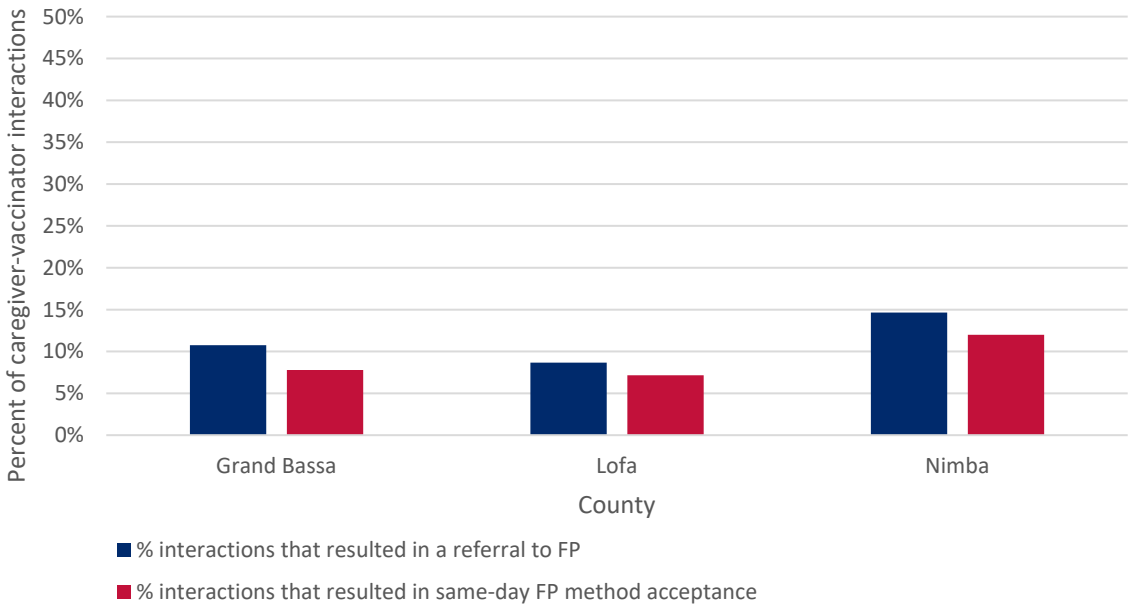
To fully immunize her infant within one year, each mother should visit the vaccinator four times from the time her child is born to his or her first birthday. This excludes birth dose, which MCSP assumes is administered before the mother is discharged from the facility. Each vaccinator-caregiver interaction represents an opportunity for the vaccinator to provide the brief FP information and offer referral, assuming the caregiver is the infant's mother or another postpartum woman. If and once a woman accepts a referral to an FP provider from the vaccinator, she will likely not be referred again at subsequent immunization visits.

[12] Nimba: September 2016–July 2017, Grand Bassa: November 2017–July 2017, Lofa: November 2016–July 2017

The total number of interactions was therefore calculated as the total number of fixed-site measles vaccine doses and first, second, and third pentavalent vaccine doses administered. Therefore, if all infants received four vaccinations during the monitoring period, all caregivers were postpartum women, and all caregivers accepted a referral to FP, only 25% of the "interactions" would be referred.

The acceptance rate may be affected by the proportion of postpartum women already using a modern FP method, exposure to the intervention during previous immunization contacts, FP and immunization service setup, the quality of the PPFP communication provided by the vaccinator, and community norms affecting women's decisions to seek PPFP services.

Figure 2. Caregiver interactions with vaccinator that resulted in acceptance of same-day referral to family planning provider, and same-day FP method acceptance



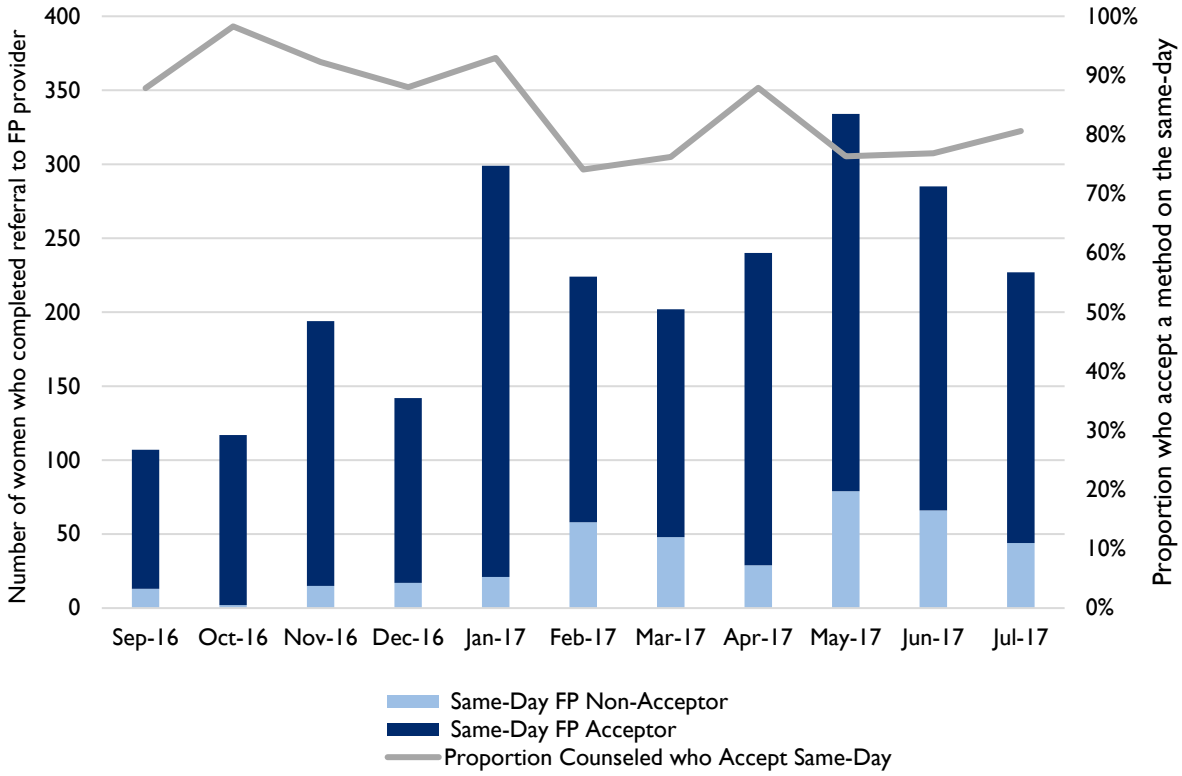
Of those caregivers who accepted a same-day referral to an FP provider, 2,371 (96%) completed the referral and were counseled by the FP provider. Of those who completed the referral and were counseled, the majority (83%; 1,979) accepted a modern method on the same day (see Figure 2 & Table 5). The proportion of referral acceptors that accepted a method on the same day was similar across all three counties.

Table 5. Same-day immunization to family planning referral and method acceptors

County	Same-Day EPI-FP Referral Acceptors	Same-Day FP Commodity Nonacceptor	Same-Day FP Commodity Acceptor	Proportion Counseled Who Accepted FP Commodity on Same Day
Grand Bassa	797	111	577	84%
Lofa	269	38	222	85%
Nimba	1,441	243	1,180	83%
Total	**2,507**	**392**	**1,979**	**83%**

Figure 3 depicts the total number of FP method acceptors and nonacceptors of those who were counseled on PPFP after referral from a vaccinator. Overall, between 1–8% of total FP clients (excluding condom and vasectomy users) were same-day PPFP method acceptors. In months without contraceptive weeks, PPFP same-day referral and method acceptors represented approximately 3–8% of total FP clients.

Figure 3. Postpartum family planning acceptance rate among those who accepted same-day referral from EPI to FP

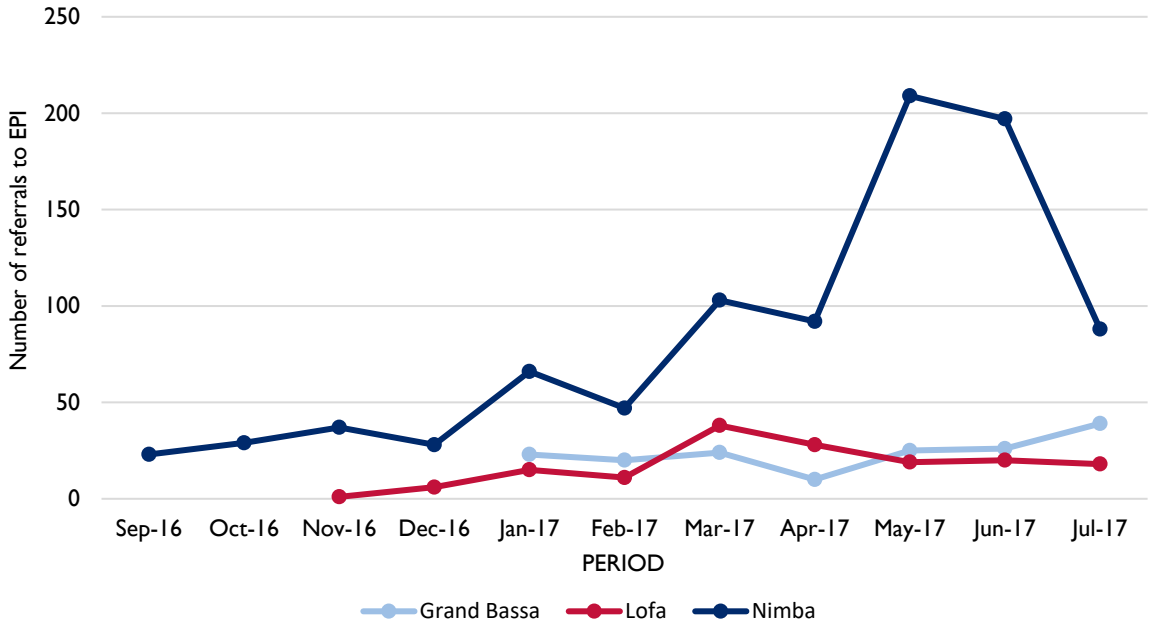


While the intervention sought to likewise encourage women who were not ready to go for FP on the same day as the vaccination day to return to the FP provider on a different day, the completion of these non-same day referrals was challenging to track. Women often did not return with the orange referral card and may not have noted to the FP provider that they had previously spoken with the vaccinator about FP. Overall, 365 referrals were recorded to have been completed on a different day (Grand Bassa: 149, Lofa: 15, Nimba: 201).

Intrafacility Referral: FP Provider to Vaccinator

Overall, 1,432 mothers with infants were referred by an FP provider to the vaccinator on the same day. Of these, 87% (1,242) completed the referral on the same day. The majority of these referrals were in Nimba County (see Figure 4). There was a slight increasing trend in the number of referrals throughout the intervention period.

Figure 4. FP clients who were referred from FP provider to immunization on the same day



FP Outcomes

Following the introduction of the integrated approach, total FP users (excluding male and female condom and vasectomy users) increased during the period of the intervention in all counties, as observed using routine service delivery data.

In counties with comparison sites (i.e., Lofa and Grand Bassa), fluctuations in total FP users were observed at treatment and comparison facilities (see Figures 5 and 6). The quarterly spikes in number of FP users reflect contraceptive weeks (outreach for FP) that typically occur once per quarter. There was limited difference in the difference pre- and postintervention comparing intervention sites to comparison sites. However, the trend in Grand Bassa shows greater increase in FP users in intervention facilities over the comparison facilities when comparing the intervention to preintervention period.

Figure 5. Total family planning (FP) users observed at intervention (n=11) and comparison facilities (n=11) in Grand Bassa County

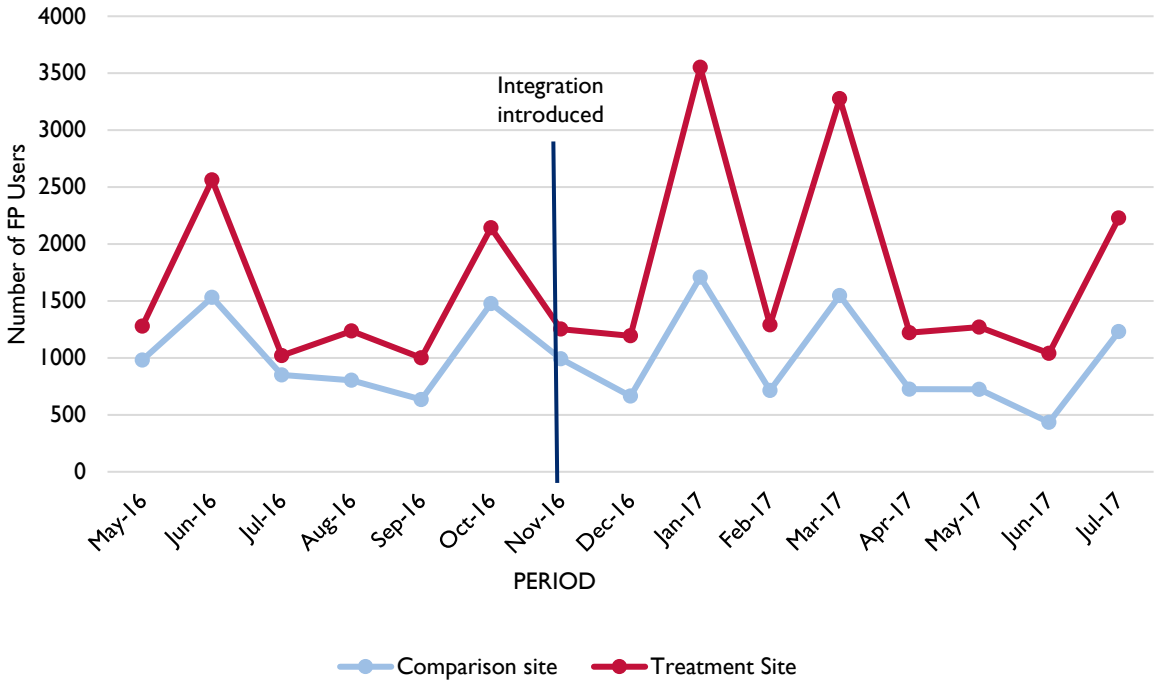
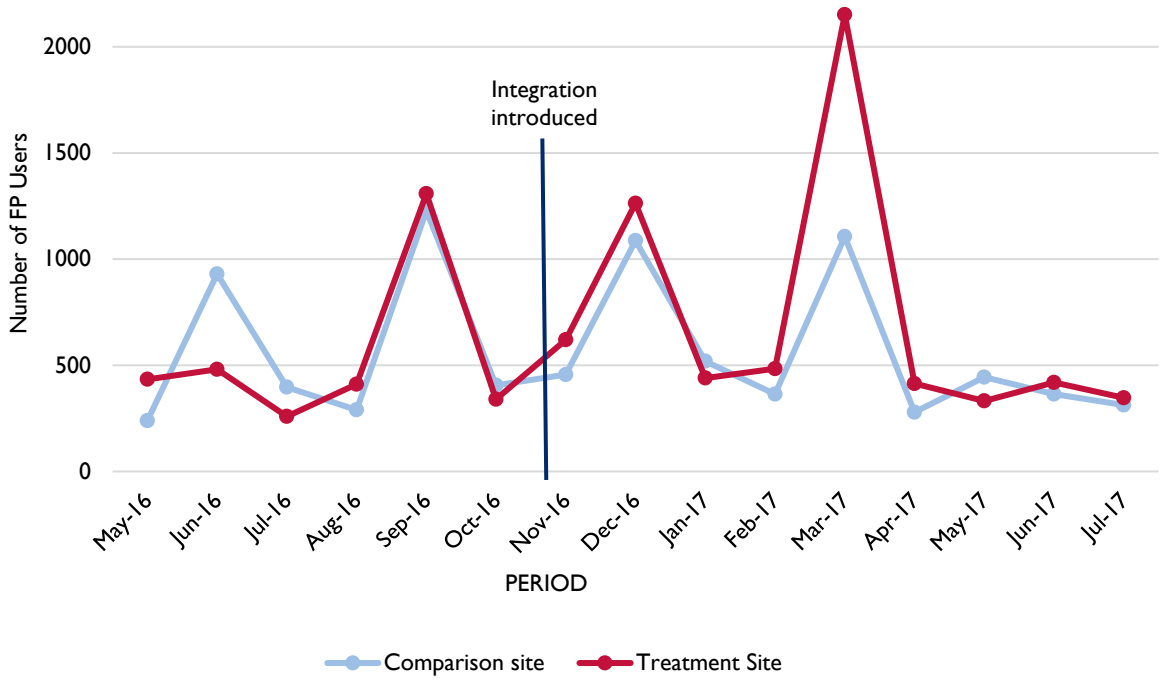
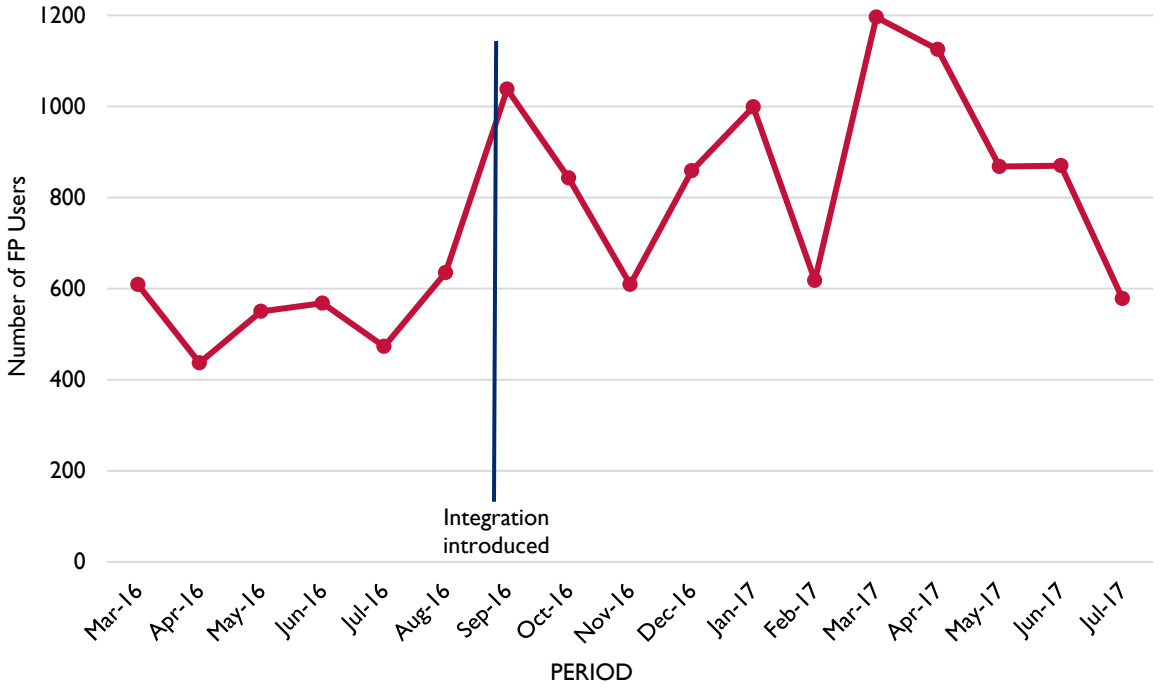


Figure 6. Total family planning (FP) users observed at intervention (n=6) and comparison (n=6) facilities in Lofa County



In Nimba County, the total FP users increased following the introduction of the intervention. The average number of total FP users increased to 873 per month during the intervention period, compared to 545 per month during baseline period. This shows significant impact of the intervention on FP uptake in the county (see Figure 7); however, without comparison facilities, MCSP cannot fully attribute the impact to the intervention.

Figure 7. Total family planning (FP) users observed in Nimba County integration facilities (n=14)



As shown in Table 6, total FP users increased by 16% in the fourth quarter (February–April 2017, two quarters after initiation of intervention) compared to the first quarter (May–July 2016, two quarters before intervention) in Grand Bassa, compared to a 13% decrease in total FP users at comparison sites in the same period. In Lofa, intervention facilities experienced a 61% increase between these two quarters, compared to the comparison sites with only a 10% increase. While total users at intervention sites increased slightly more than at comparison sites, comparing postintervention quarters to preintervention quarters, this difference in differences is not statistically significant.

In Nimba, the total number of FP users doubled (100% increase) between March and May 2016 (first quarter: preintervention) and March to May 2017 (Q5: postintervention) (see Table 7). Though the increase in Nimba cannot be wholly attributed to the intervention due to lack of comparison site data, there is indication that this increase can be at least partially attributed to the intervention.

From the first to the fourth quarter in Lofa and Nimba counties, the MOH conducted contraceptive weeks, where FP outreach was conducted and promoted. Due to lack of funding, the contraceptive week did not take place in Q5. For this reason, MCSP is not able to compare first-quarter FP utilization to Q5 FP utilization.

Table 6. Total family planning users in intervention and comparison facilities, by quarter, Grand Bassa and Lofa Counties

	Preintervention		Postintervention			Comparison		
County	Q1 (May–July 2016)	Q2 (August–October 2016)	Q3 (November 2016–January 2017)	Q4 (February–April 2017)	Q5 (May–July 2017)	% Change (Q3–Q1)	% Change (Q4–Q1)	% Change (Q5–Q1)
Grand Bassa								
Comparison Facilities	3,363	2,914	3,365	2,986	2,388	0%	-11%	-29%
Treatment Facilities	4,862	4,378	5,998	5,786	4,538	23%	19%	-7%
Lofa								
Comparison Facilities	1,566	1924	2,062	1,749	1,121	32%	12%	-28%
Treatment Facilities	1,174	2,059	2,323	3,049	1,098	98%	160%	-6%

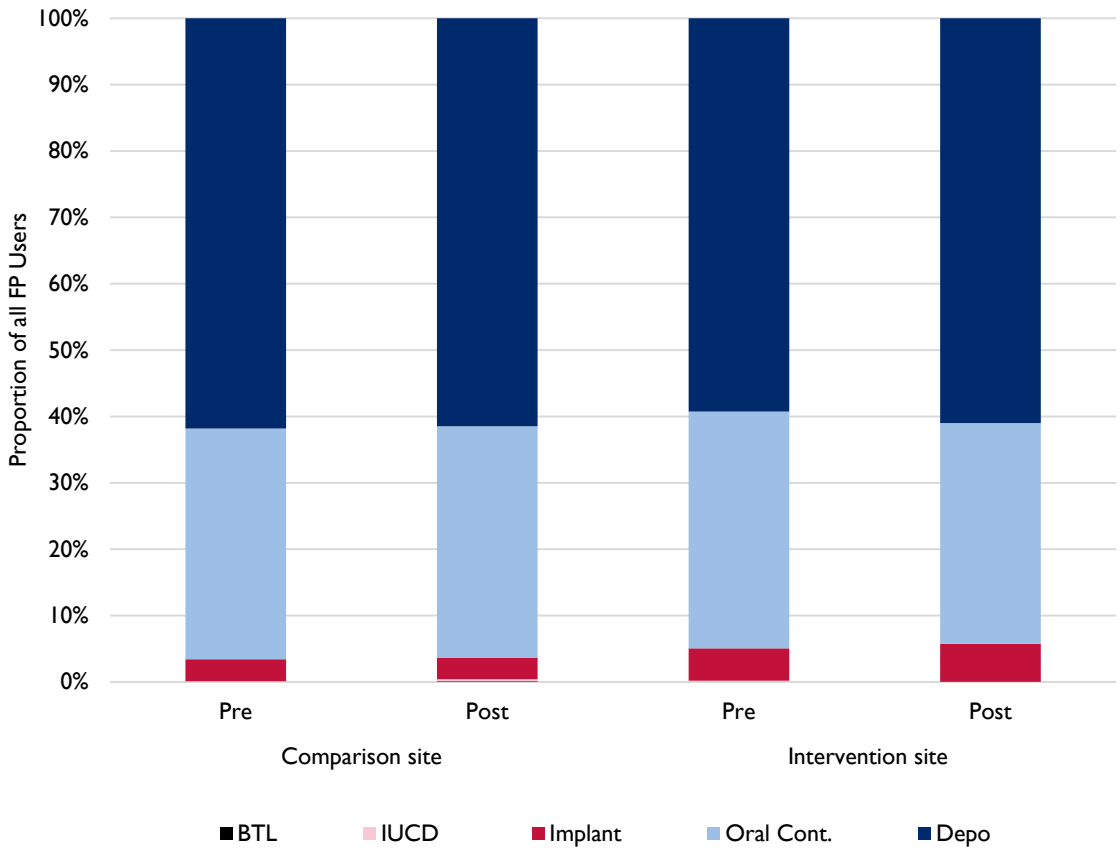
Table 7. Total family planning users in intervention facilities, by quarter, Nimba County

	Preintervention		Postintervention			Comparison		
County	Q1 (March–May 2016)	Q2 (June–August 2017)	Q3 (September–November 2017)	Q4 (December 2016–February 2017)	Q5 (March–May 2017)	% Change (Q3–Q1)	% Change (Q4–Q1)	% Change (Q5–Q1)
Nimba	1,596	1,676	2,490	2,476	3,189	56%	55%	100%

Method Mix

At intervention and comparison sites in Lofa and Grand Bassa, MCSP collected additional data on method mix pre- and postintervention. There was no significant difference in method mix between intervention and comparison sites, nor between pre- and postintegrated service delivery. Across all comparison and intervention sites, the preferred FP methods are Depo-Provera (approximately 60% of women) and oral contraceptives (approximately 35%) (see Figure 8). Note that this excludes the lactational amenorrhea method (LAM), as it is not tracked through routine service statistics.

Figure 8. Method mix across all intervention and comparison sites, May 2016–July 2017



Note: BTL: Bi-tubal ligation; IUCD: intrauterine contraceptive device; Oral Cont: oral contraceptive; Dep; depoprovera. BTL and IUCD represent very small fraction of all FP users.

Immunization Outcomes

The trends in first and third dose administration of pentavalent vaccine were similar in intervention and comparison facilities in Lofa and Grand Bassa counties. However, across all sites, there was some decrease observed in the total number of doses administered. The decrease was also observed in other counties not implementing EPI-FP integration, as reported in the 2016 Liberia Malaria Indicator Survey.[13] These results demonstrate no negative impact of the intervention on immunization administration rates.

There was fluctuation in the third doses of the pentavalent vaccine administered in Lofa and Grand Bassa counties as compared to the first doses of the pentavalent vaccine, which accounts for the fluctuation observed in dropout rate, as shown in Figure 9 below. There are several factors that could possibly account for the drop in how many third doses of the pentavalent vaccine were administered. It is notable that there is an increase in the dropout rate in May–July of both 2016 and 2017 across intervention and comparison sites, which suggests some seasonal effect due to rainy season and potentially children in hard-to-reach areas not completing their vaccination schedule. Other contextual factors may also be at play. However, as Figure 9 depicts, there is no major difference in the dropout rate between the treatment and comparison facilities. The interpretation is that the intervention did not increase dropout rate.

[13] National Malaria Control Program Liberia, MOH Liberia, LISGIS, ICF. 2017. *Liberia Malaria Indicator Survey 2016*. Monrovia, Liberia: MOH Liberia, LISGIS, and ICF.

Figure 9. Pentavalent vaccine first doses at intervention (n=12) and comparison (n=12) facilities in Grand Bassa County

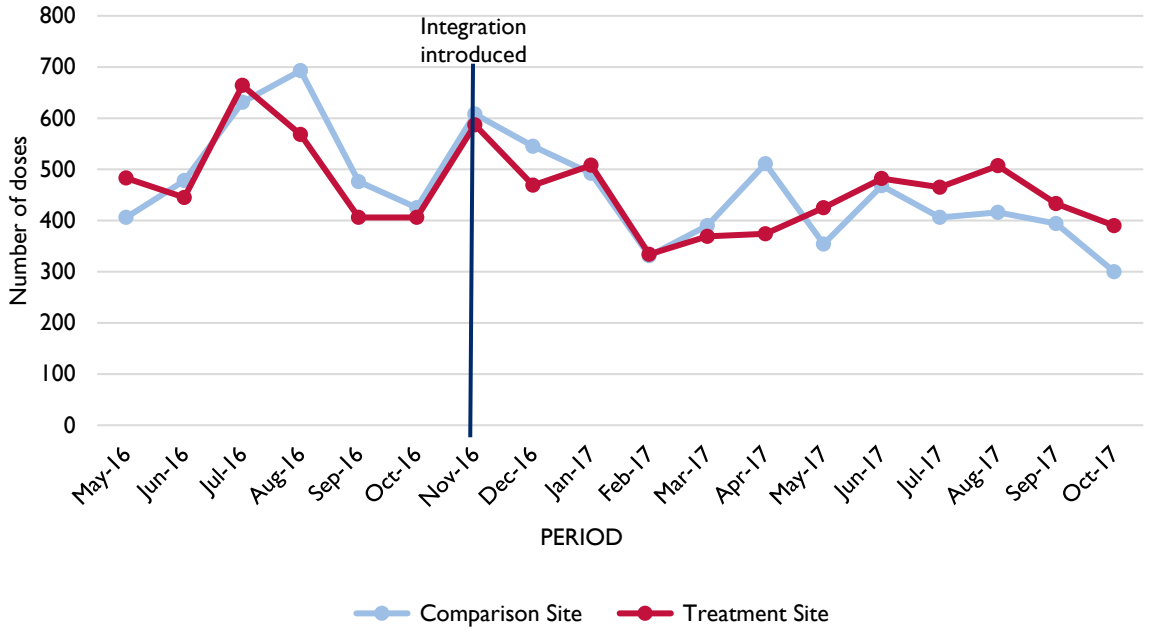


Figure 10. Pentavalent vaccine first doses at intervention (n=6) and comparison facilities (n=6) in Lofa County

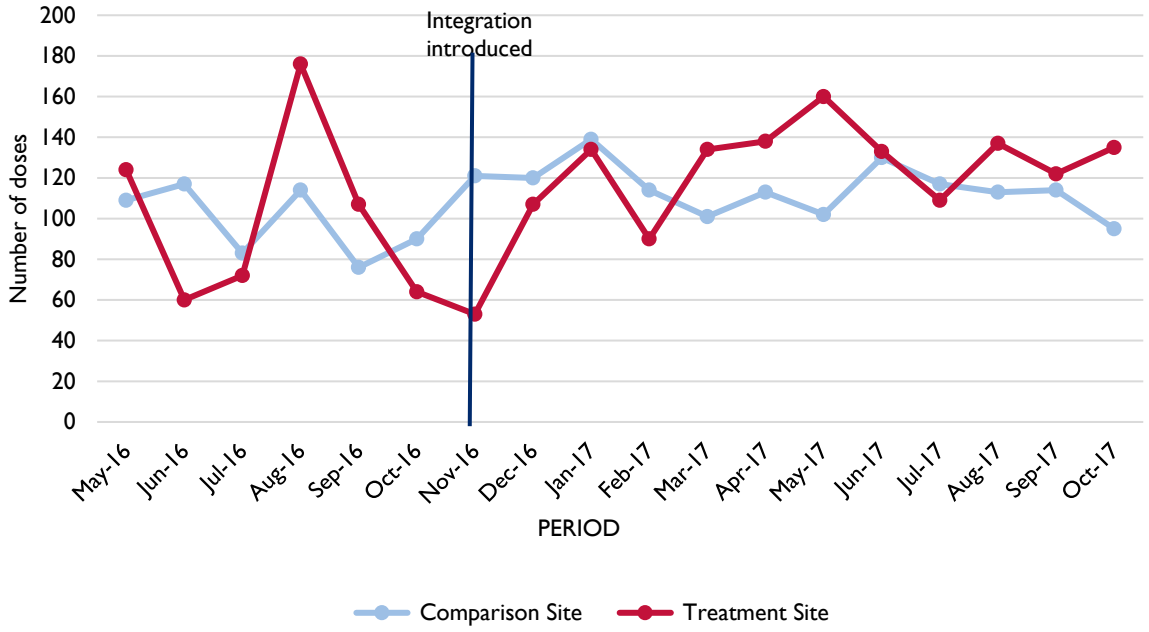


Figure 11. Pentavalent vaccine third doses at intervention (n=12) and comparison facilities (n=12) in Grand Bassa County

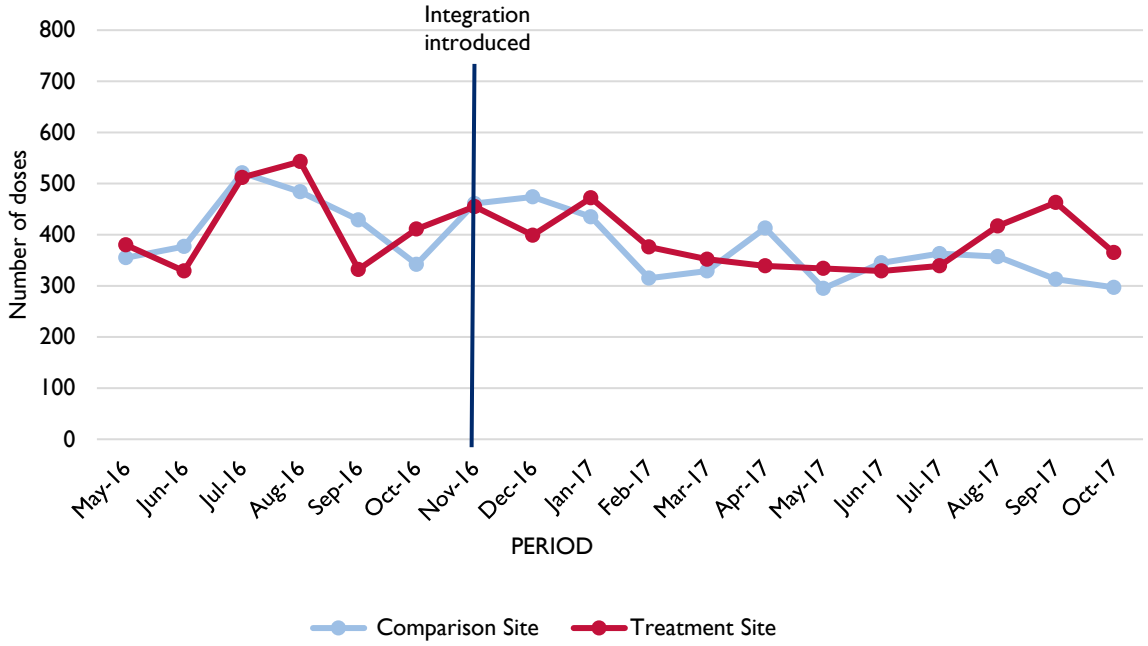


Figure 12. Pentavalent vaccine third doses at intervention (n=6) and comparison facilities (n=6) in Lofa County

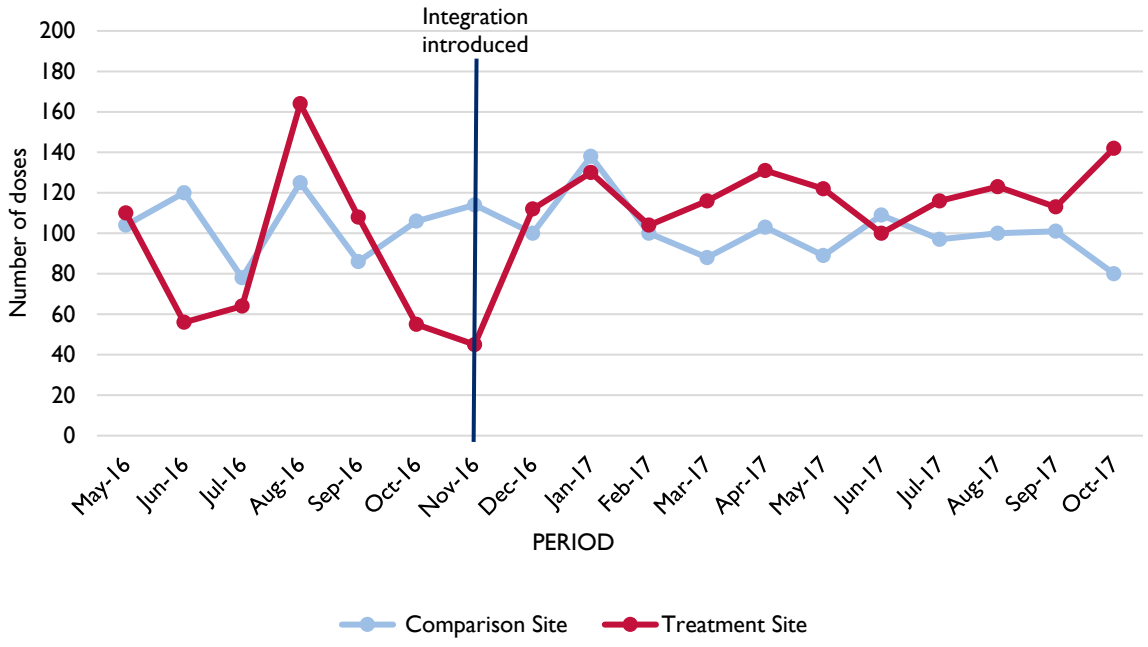


Figure 13. First to third dose pentavalent vaccine dropout rates at intervention and comparison facilities in Grand Bassa County

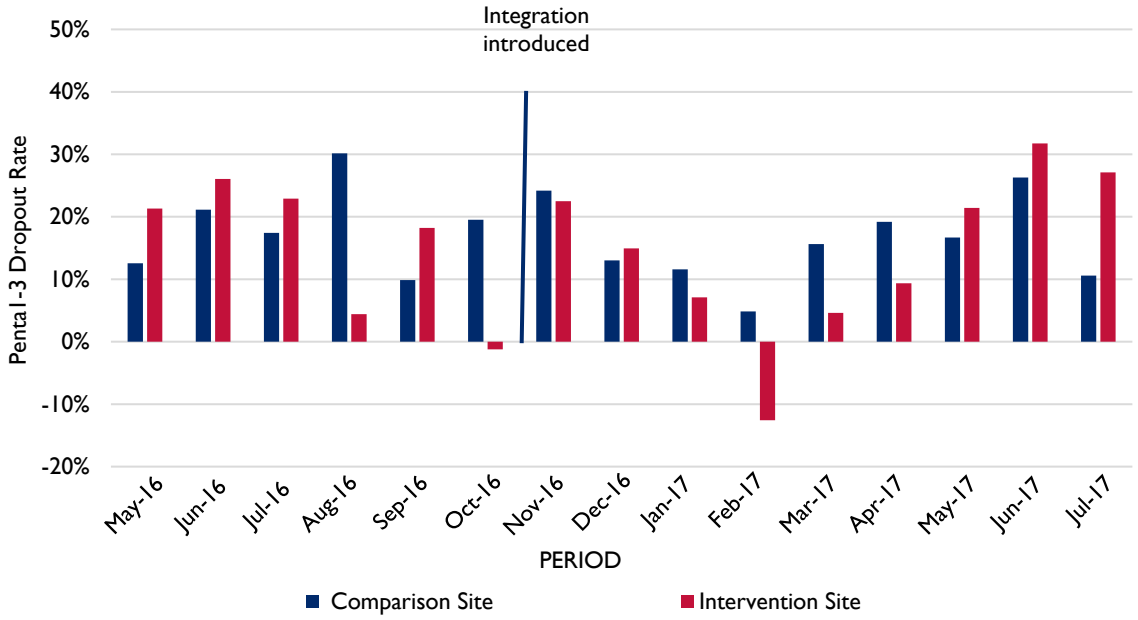
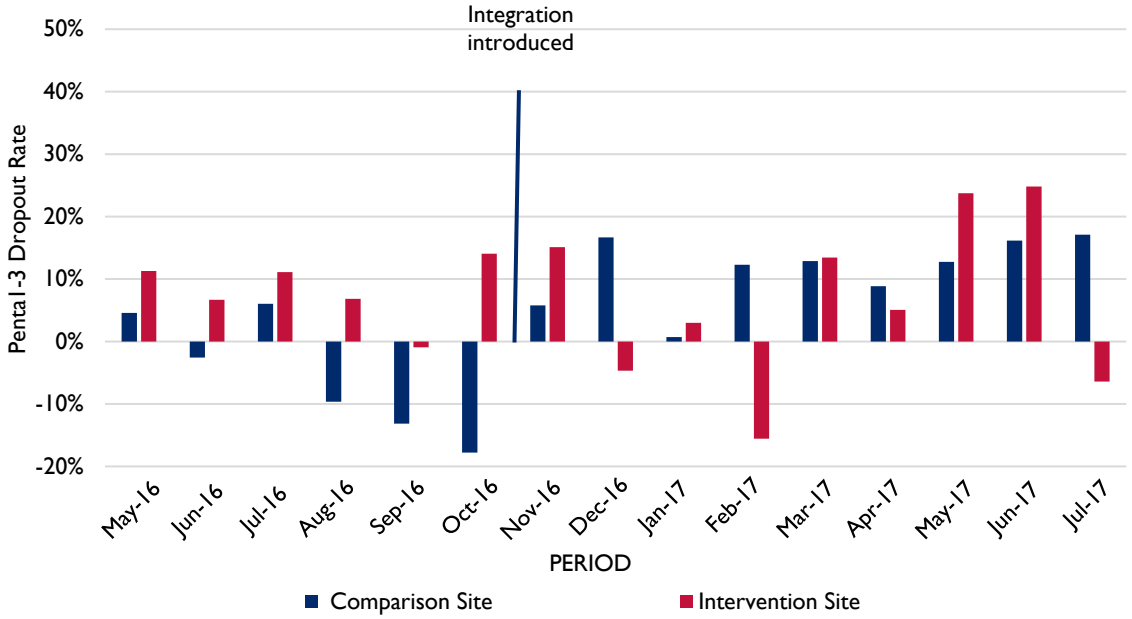
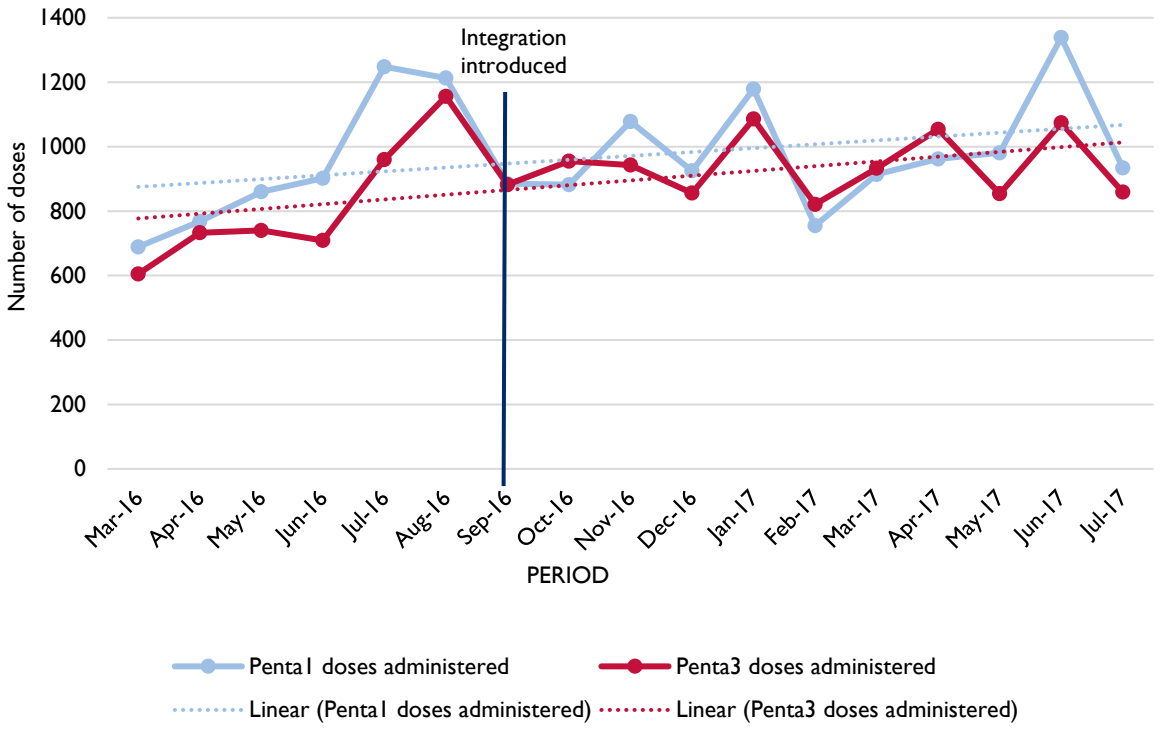


Figure 14. First to third dose pentavalent vaccine dropout rates at intervention and comparison facilities in Lofa County



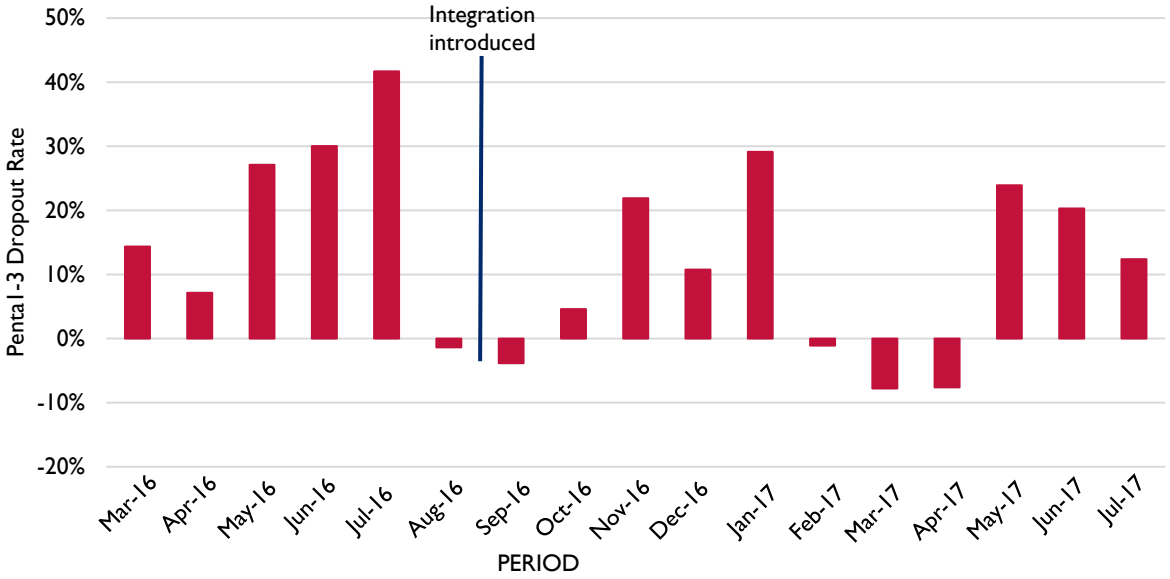
In Nimba County, there was an increase in the number of first and third doses of the pentavalent vaccine administered during the implementation period. After the integration began, the mean number of first and third doses administered monthly increased from 947 to 984 (Penta1), and 817 to 938 (Penta3), compared to the six months before integration.

Figure 15. Number of first and third pentavalent vaccine doses administered in Nimba County intervention facilities (n=14)



In Nimba County, the dropout rate reduced during the intervention. Even though MCSP cannot completely attribute this decrease to the intervention, this clearly demonstrates that the intervention did not have any negative impact on the immunization. Figure 16 shows the dropout rate from the first to third pentavalent vaccine doses in Nimba County pre- and postintervention.

Figure 16. Dropout rates from the first to third pentavalent vaccine doses in Nimba County intervention facilities (n=14) pre- and postintervention



Qualitative Study Findings

Service Provider Roles and Responsibilities

Service providers included in the qualitative study were national-level managers, supervisors (CHT and district health officers), vaccinators, and FP providers. Each service provider had different roles and responsibilities. Managers described their role as overseeing and supervising health activities at the county level. They are the direct representation of the MOH in the county, making sure that health policies and programs are implemented. Supervisors operate at the district and facility level, ensuring that service providers at the facility are functional; needed resources, including drugs and medical supplies, are available; and health programs are properly implemented. Managers and supervisors conduct a joint supportive supervision visit on a monthly basis, during which they coach service providers to help improve their skills for the quality of services. This supervision included review of FP/immunization integration activities and coaching on how to improve the intervention in selected facilities.

"I am a midwife. I provide FP and counseling, and I conduct delivery and antenatal care."
–FP provider in Lofa

"I am responsible for vaccinating children and providing counseling to mothers on FP."
–vaccinator in Grand Bassa

"I supervise clinics on a daily basis and check all records."
–supervisor in Lofa

The midwives interviewed relayed that their main responsibilities were to provide antenatal care (ANC), FP counseling and services, EPI reminder messages, HIV counseling and testing, and other relevant health activities. They are available at every health facility, including clinics, health centers, and hospitals. The vaccinators said they are responsible for all EPI activities at the clinics and hospitals. They provide FP messages and referrals to mothers at the MCSP integrated sites, doing EPI community outreach and other related health services.

Benefits of Service Integration and Reasons for Success

According to FP providers and vaccinators, integrated services provided the impetus for frequent joint meetings to reconcile documentation before reporting and to discuss how to improve facility performance. In some sites, they also occasionally carry out joint supportive outreach activities. Most male vaccinators agreed that the FP messages they provide to the mothers have strengthened mothers' confidence in them, such that the mothers can freely communicate with them now more than before the integration. Service providers (managers and supervisors) attributed the increase in the uptake of FP and timely EPI dosing at their sites to vaccinators and FP providers delivering EPI-FP messages to clients, especially to mothers for PPFP and vaccination of their children.

Most participants, both service providers and mothers, indicated they perceive the service integration as helpful because it saves them time and money. Most mothers expressed that they are encouraged to access both services on the same day. They said that when they go for their child's vaccination and are told about FP, the mothers who accept FP on the same day will keep coming for their babies' vaccinations and their FP method refills together, since some of the FP method refills and their child's vaccination dates are on the same day. These mothers also generally make an effort to keep their FP method refill and their infant's vaccination cards together.

"We bring the baby card because when the [immunization] return date falls on the day you are coming for FP, you can just come with it as once."
–30- to 34-year-old woman in Lofa

"The mothers are happy with us. They can talk with us freely now."
–vaccinator in Lofa

Mothers and service providers said that a few of the women who declined to accept an FP method on the same day but returned for FP at a later date (i.e., nonsame-day acceptors) come for FP method refills and their children's vaccinations on different days, and their FP cards are kept separate from their children's vaccine cards. These are mothers who, when told about FP by the vaccinator, did not accept a referral but received leaflets with information on FP and took them home to their partners or others to read. Upon understanding and with encouragement from their partners or family, these women may come back to benefit from the service. Service providers mentioned that it is most likely that some mothers in this category could be missing their children's vaccination schedule since the health cards are not kept together.

Most of the FP providers said they would remind postpartum women about their children's vaccinations, even if the child was not with them on that day. The majority of mothers in this category confirmed that they are being counseled, encouraged, and reminded about them and their children's health under the integrated service approach.

"I can only bring my FP card because we are not scheduled the same time."
–18- to 19-year-old woman in Lofa

"We talk to [babies' mothers] anytime they come here to know if they have carry their children for vaccine."
–FP provider in Lofa

"Some of them will come, while some will not come at all."
–FP provider in Grand Bassa

Clients believed that the integrated services give them insight into their health and that of their children. The services gave them better understanding of the rationales for vaccination and FP. A majority of mothers spoke to the benefits of integrated service use and/or the positive implementation of it in the facilities they frequented. For these clients, coming on the same day for their FP method refill and their children's vaccinations is seen as cost-effective because they only pay for transportation once to the health facility.

"FP helps to prevent women from [giving birth] plenty, and the vaccine is also good because it prevents children from sicknesses."
–18- to 19-year-old woman in Lofa

Service providers reported that the program increased uptake of both EPI and FP commodities. A number of vaccinators interviewed stated that they have seen increases in facility-based immunization and the timely completion of vaccinations because they provide fully immunized certificates to more mothers compared to when the program was not in place. The majority of mothers also said that those taking an FP method complete their children's vaccination schedule on time due to reminders from vaccinators and FP providers alike. Service providers attributed these successes to the reminder messages provided by the FP providers when the mothers get their FP method refills and to the EPI outreach activities they conduct. The providers expressed that they were happy with how the program helps them meet the required targets set by the MOH.

"The number of people taking FP have increased, vaccinators are now immunizing right after the child is born (the golden period), and the mothers are now reminded and are not missing vaccination time as it used to be."
–district health officer

"Because FP and EPI are working together *and married,* when the babies' mothers come to me, I can tell them about FP. After administering the vaccine and if a baby's mother goes to the FP provider, she talk to them about EPI."
–a vaccinator in Lofa

Many FP providers indicated that they observed substantial increases in FP method uptake for postpartum women, which was not common before the initiation of the integrated program.

"I think because the postpartum mothers are being added to the regular women taking FP, [this] has increased uptake and service utilization [for both FP and EPI]. [Mothers] are being reminded by the FP providers and the vaccinators to keep them aware of timely vaccination of their children as well as getting the FP commodities."
–supervisor

Providers attributed the increases in PPFP adoption to the messages provided by vaccinators following integration of services. They mentioned that the vaccinators were not involved in caring for mothers before, though they are the first providers the mothers interact with when they take their children for vaccinations, so including them in the mothers' care was necessary. A few FP providers commented that since vaccinators became part of the process, many postpartum mothers now seek FP. Some midwives also mentioned that before integration, they did not tell pregnant women about PPFP; they were only concerned with providing ANC and newborn care. Now, with service integration and a heightened awareness of the benefit of providing PPFP counseling early and often, they start the counseling with the mothers during ANC contacts and after deliveries until the mothers decide to accept or not accept an FP method. This was true at comparison and intervention sites, as MCSP has been promoting PPFP across the continuum ofcare for pregnant women and mothers. Providers also noted that because of the counseling by FP providers, the availability of the commodities and the priority services for FP acceptors has improved because more attention is paid to forecasting and ensuring consistent supply. Overall, they mentioned that the process is positively impacting the health of women and children. They also said that they have observed more young girls going back to school while taking an FP method.

"They can say, I have my RPG in my hand and am going to school."
(The phrase means FP clients feel protected and are confident to pursue their life goals. RPG stands for rocket-propelled grenade.)
–district health officer

Barriers and Success Factors for EPI to FP Referral Completion

It was reported by multiple FGD participants in both study counties that once the information provided by vaccinators and FP providers is clear (i.e., postpartum counseling and messaging frequency and quality improve as result of the training provided to health workers), postpartum mothers are more likely to accept an FP method. Providers confirmed that they observed that women who are already aware of FP via some information from friends in the community, especially those mothers with more children, easily accept an FP method when they are provided with a clearer understanding of the service. FGD participants reported that hearing FP information from vaccinators is an opportunity to change their lives for the better.

"For me, the very first day I came for FP, the family planning woman asked me why you want to take FP. So I told her I have two children and I don't have the support, and now I have the third one and have dropped from school, so I decided to take FP [so] that I will be able to send my children to school. My friend had already told me about FP."
–a woman in her early 20s

"If your friend told you about FP and you know you na born plenty [have given birth many times] and the man say every time you just borning [giving birth], when they know that the engine [body structure] is old na [now], they will leave you, so it is good to take it for your engine to get cold."
-25- to 29-year-old woman in Lofa

"Every postpartum mother has been involved [in taking FP], especially those mothers at risk—those who have [given birth] seven times."
–manager in Grand Bassa

A majority of service providers and supervisors/managers said that they had expectations at the initiation of the program that integrated services would increase service utilization because of the level of awareness. Two providers, a vaccinator and a supervisor in Lofa, did not expect that the program would increase service utilization because of the cultural norms and the community perception about FP, especially for postpartum mothers. However, these two service providers mentioned that over the integration period, they observed a significant increase in the uptake of PPFP.

"My expectation was the mothers will not accept, especially the postpartum ones, but a good number of them are accepting."
–vaccinator in Lofa

A majority of participants in both counties reported that one of the main motivational factors for accepting referrals to a different service provider is that the services are free of charge. This allows all people, regardless of their ability to pay, to access the services equally.

"Good side is we can't buy the vaccine and the FP."
–25 to 29-year-old woman in Lofa

"More people coming because we can get everything free."
–20- to 24-year-old woman in Grand Bassa

The most reported barrier for completion of referrals from EPI to FP is stigmatization by the community. Most clients and providers commented that the perception of the community about FP, and PPFP in particular, is generally negative, and this discourages people from accepting FP, especially during the postpartum period. Some of the negative perceptions expressed by both providers and clients were based on norms (traditional and/or religious); others believed that FP methods may affect their health. Some examples given were that FP methods might make them gain or lose weight, cause frequent menstrual bleeding, or give women infections.

Service providers and participants relayed that some women do not accept any FP method, fearing that it might result in infertility—they worry about developing bleeding problems and other complications. They also felt that the community perceives young mothers taking FP methods to be promiscuous women who do not want to have more children. Mothers were concerned with the perception of other women (and men) when they learned they were taking—or even considering—an FP method in the postpartum period. Some women felt shame; some felt they would be seen seeking FP services with a young infant and would be talked about in the community, as taking an FP method before your baby can walk is against social norms in some communities. Both participants and providers recommended increasing the level of community awareness for a better understanding of the service.

"Other women say, when you [have a] young baby, you take FP, [and] you will not [be able to get pregnant] again."
–25- to 29-year-old woman in Grand Bassa

"When we heard about FP, others said they are killing [sterilizing], and they want our women to kill. Some say they do not want our women to born [give birth]."
–man over 40 years old in Grand Bassa, describing that FP was introduced to reduce reproduction

"I work with gCHVs [general community health volunteers] in the community. They should be included in the program to create more awareness in the community for the people to understand the importance of FP and EPI."
–vaccinator in Lofa

The issue of stigma alludes to another mentioned previously: privacy. Only a few facilities have extra rooms for immunization to provide FP messages individually to mothers. The majority of vaccinators give the messages in the open (outpatient department/waiting area), sometimes even to a group of women. To mitigate this issue, some facilities provide a designated room for vaccinators to use to ensure privacy. In either case, privacy was an issue: Those in a separate room did not want to be seen walking from that room to the FP room. Those receiving vaccination services in the open did not want FP discussed in earshot of others also waiting for vaccination services. Interestingly, **the issue of privacy was mostly mentioned by providers, not clients**. It is possible that despite adequate privacy (e.g., if vaccinations are given in a separate room or behind a screen), women are still afraid that others watching will know what is being discussed when they enter the room where FP counseling takes place.

"Most people who come to the hospital know one another, and some people can't keep that secret."
–25- to 29-year-old woman in Lofa

"For me, the advice is OK, but the level of privacy is not OK for the discussion of FP because the place [has no walls]."
–25- to 29-year-old woman in Lofa

According to providers, vaccinators with extra rooms have more mothers who agree to go for FP services on the same day, compared to those who use the open spaces.

Some of the integration sites provided separate rooms for vaccinators after the training for the purpose of privacy to give the FP messages. This was a statement made by one of the vaccinators and confirmed by some participants: "We do the vaccination in the outpatient department, and I think it has effect on more people not deciding to go for FP because some people can be ashamed."

"Because no privacy, some women can be shame."
–30- to 34-year-old woman in Lofa

"No one can go in front of their friends."
–18- to 19-year-old woman in Grand Bassa

Dedicated private spaces were only provided by those facilities whose vaccinators had extra rooms for immunization. Privacy screens were procured by the program, but due to delays in shipment, they were not distributed to the facilities until August 2017. Vaccinators were using the rooms for vaccination and to provide FP message one-on-one to the mothers.

Vaccinators mentioned that some of them already had rooms for immunization before the integration program, and some who did not negotiated with the facility administration to allocate them a room after the training to enable them to implement the program better by providing one-on-one FP messages to mothers. As mentioned above, the issue of privacy serves was one of the determining factors for when to decide whether mothers should go for FP counseling.

Respectful care and waiting time also affected PPFP uptake. A number of participants in FP acceptor and non-acceptor FGDs cited that a provider at one of the sampled facilities spoke to them roughly, which discouraged them coming for FP and even stopped those already using an FP method from coming for the service at that specific facility. In Grand Bassa, participants reported that the waiting time for EPI and FP depends on when they arrive at the facility. The prioritization of same-day EPI referrals to FP in the FP queue was somewhat inconsistent depending on the facility. This leads the team to believe that the expedited referrals are taking place more commonly in Lofa than in Grand Bassa, according to participants' responses, which may affect decisions to seek FP counseling after an EPI visit.

"To get family planning is quick."
–20- to 24-year-old woman in Lofa

"No wasting time."
–30- to 34-year-old woman in Lofa

Barriers and Success Factors for FP to EPI Referrals

Overall, FP providers only offer reminders to mothers about vaccination when they go for FP method refill, rather than same-day referrals to the vaccinator. Providers ask mothers for the immunization card, check the next scheduled child vaccination date, and remind mothers about the child's next vaccination dates. FP providers stated that this is only meant to remind mothers to vaccinate their children on time, and reminders are not documented. Mothers are typically not referred on the same day to vaccinators, since the specified vaccination date usually does not fall on the same day the mothers come for FP method refill. Many responses indicated that mothers who are illiterate are likely to forget or lose their child's vaccination cards, but FP providers do their best to encourage mothers to bring their children back for vaccinations and advise on the dates to do so if they are able to see it in a child's vaccination card.

"Some will not show the card to people who can read to show them return date, so they will keep it till either the time passes or they lose the card."
–woman over 40 years old in Lofa

Perceived success factors for FP to immunization referral completion included the proper implementation of reminders, aided by chance that the next vaccination date corresponded with the day the woman came to the facility for FP services. Respondents (FP providers) and participants (FP acceptors) stated that through the reminder process—FP providers asking the mothers and looking through their children's vaccination cards—when mothers come for refill, some of the mothers realize that their children's scheduled immunization dates fall on the same day they are getting their refill, perhaps because they did not remember or forgot the scheduled dates. Women were not likely to bring vaccination cards to the clinic if they knew their children's vaccination date did not coincide with their FP visit. However, for those whose dates matched, it was motivation to do both at the same time.

All of the FP acceptor respondents in both counties agreed that they are regularly reminded by FP providers about their children's vaccination schedule when they come for their FP refill and also by vaccinators when they bring their children for vaccination. However, women who come from the community straight to the clinic for FP services are most of the time not postpartum mothers (meaning they do not have children that are the age for vaccination), so providers do not give EPI messages to this category of women; they are only provided with FP services.

"If I go with my baby vaccine card, the woman can look at it, and if it is time, she can tell me to take my baby for vaccination."
-25- to 29-year-old woman in Grand Bassa

Multiple participants in both counties in the FP acceptors group agreed that they understand FP providers when they talk to them about vaccination. They are not being forced to take their children for vaccination because they understand that the vaccine is important for their children's health. Other women in the same group said that when they go for the FP method refill, FP providers will not serve them until they take their children for vaccination if the schedule falls on the same day before coming back for FP service. The mothers said they did not see it as a means of forcing them to take their children for vaccination, but rather something they did willingly once they were reminded by the FP providers because they knew how important vaccination is for their children.

"Because the vaccine is good, that is why when I go for FP, and they tell me to go for it first, I can take my baby for it. If it was not good, the FP woman was not going to tell."
–25- to 29-year-old woman in Grand Bassa

Even in the nonacceptor group, the majority of women suggested the integration should continue because it is good to be informed about FP, even if they do not immediately accept a method. However, a couple of the mothers (less than five total) in the FP referral nonacceptor group suggested that women in the community may be uncomfortable with vaccinators talking about FP or may wish vaccinators did not keep giving FP messages because they had already made up their mind not to take it.

"Some will feel bad because when they bring their children for vaccine, FP will be discussed, and some don't want to take FP."
–35- to 39-year-old female, Grand Bassa

These women generally believe the community's negative perception about FP, which is based on beliefs that FP can make you sick, that FP methods can pass through the breast milk and make the baby sick or even kill the baby, or that FP is for dogs or crazy women. For such reasons, some women do not want to hear about FP or accept services that will have a negative impact on their health from vaccinators during routine immunization visits.

Challenges of Service Integration

Providers noted some challenges to integrating the services. The primary challenge mentioned was an **increased workload** due to more people coming for FP and vaccination services, which led to longer work hours for service providers. Multiple managers, supervisors, vaccinators, and FP providers reported that staff are overwhelmed with the workload because the increased awareness of PPFP has increased the inflow of clients. The midwife providing FP services at the clinic is typically also providing ANC, labor and delivery care, and performing other duties, such as child health and management of the facility. Therefore, additional FP clients increase the workload on these staff and the time they dedicate to FP. This may take time away from ANC or other services because more clients are coming for FP counseling. As a result, **wait time** for other patients, such as ANC clients, has increased due to priority servicing of FP acceptors and limited staffing at the health facility.

"The challenge is we have to leave patients [in] line and attend to [FP clients] before coming back to our patients. The workload is heavy now, our [antenatal clients] wait too long now, and some of them can get [upset] and start complaining."
–female health worker, Lofa County

Staff also mentioned that one of the contributing factors hindering services integration success was **staff attrition**. Some trained and experienced staff have left, and the new staff have yet to be trained to provide those services.

Recommendations from Service Providers and Community Members

Some providers suggested that community health workers should be included in the integration process for more community awareness of these services, especially PPFP, to help provide better understanding for the community, reduce the negative perception about FP, and increase the number of acceptors. FGD participants in both counties also want **more community awareness of the integrated service** to help the community understand the importance of FP method use and child vaccination to reduce the negative thinking about FP and EPI.

Service providers indicated that providing **some level of privacy**, especially at facilities whose vaccinators do not have a designated room, will improve the quality of care and service utilization, which they think will reduce the number of nonacceptors. Many of the vaccinators without their own rooms to provide one-on-one FP messages to mothers cited the lack of privacy as the main reason for mothers' refusal to accept FP that day.

Service providers recommended **at least two staff** each for both services at each facility compared to the current staffing—typically one FP provider and one vaccinator for smaller facilities—to meet the increased service demand. Many providers said they needed more staff because the workload increased.

To mitigate staff turnover and ensure continued integration of services, providers emphasized the need for **training for new staff** on the approach and for **continued professional development** (refresher training) for experienced staff providing immunization and FP services to improve quality of care.

Managers and supervisors think that **expansion of the program** to other facilities within the study counties and to other counties will help improve the overall health agenda, especially for women and children, because of the positive effects of the program they have witnessed at the integrated sites.

Contextual Factors Affecting Service Integration

FP Commodity Availability

The majority of service providers working at intervention sites reported that since the service integration, the issue of stock-outs has been reduced. They said that sufficient commodity supplies have generally been delivered on time. They believe this is because they now submit requisitions while buffers are still in stock, and request based on anticipated demand. FP providers were trained during the EPI-FP integration training to ensure adequate stock of commodities at all times, which includes submitting timely requisitions, and to prepare in advance for greater demand of FP commodities. This emphasis on timely requests and proper planning may have contributed to improved supply chain for FP commodities. One FP provider at a facility reported, "When I notice that I am getting into my buffer, I quickly put in to have my commodities to avoid stock-out." A provider also said, "I can attribute the availability of commodities now to the better road condition." A few FP providers at the integrated facilities mentioned stock-outs in June–July 2017 for the first time since the initiation of the program.

Some service providers also commented that the issue of FP commodity availability can sometimes be a challenge at some facilities since the program started, due to the increased inflow of clients, and sometimes due to the road conditions, logistics, and delay in taking the vaccines to the various facilities. A few other supervisors and managers, on the other hand, reported that there were still challenges at some other facilities, especially at the nonintegrated sites. They relayed that they have observed the issue of stock-outs at few of the facilities during supervision. They said the problem is sometimes due to delays in commodity distribution from the central MOH level, rather than an issue with facility-level forecasting.

A number of managers and supervisors observed during the integration that the issue of commodity availability has been challenging, since facilities started having increased commodities demand following service integration. Some managers attributed the issue of stock-out to the delay in getting the commodities from central depots to the facilities due to MOH supply chain transportation constraints. The challenge around the distribution of commodities from county level to service point is a nationwide management concern. Efforts were made by MCSP county-level staff in close collaboration with district- and county-level staff to fast-track supply issues.

"The commodities have been there, but we just went out of stock for the first time since the program."
–FP provider in Lofa

"We always have commodities, but they are not sufficient looking at the number of baby mothers coming for FP."
–supervisor in Grand Bassa

Vaccine Availability

A number of the mothers reported that vaccines are always available for their children when they visit the facilities. The statement was confirmed by the majority of the service providers. On the other hand, mothers also expressed during FGDs that mothers are usually rescheduled for Bacillus Calmette–Guérin (BCG) vaccination after walking far distances and paying for transportation. This information was confirmed by vaccinators because they want to avoid wasting the BCG vaccine. Mothers said vaccinators tell them that there have to be a certain number of children who need to receive the vaccine before one vial of the BCG can be opened.[14] Many midlevel EPI managers decided to plan on how to use the BCG vaccine vial to reduce waste. However, according to the World Health Organization, a child/woman should receive all vaccinations for which they are eligible at each facility contact.

"Sometimes FP commodities are not available at health facilities as well as the antigens, especially the BCG."
–a manager in Lofa

Requests for Pregnancy Test

Another barrier to FP uptake is that most FP providers in both counties conduct pregnancy tests for women coming for FP services to rule out pregnancy if they are not reasonably sure about the client's pregnancy status. This is a general practice across the country and is part of the MOH Core Standards for family planning. Providers said that before the requesting the test, the clients are interviewed about their status. More than half of FP providers interviewed said that if the test is available at the facility, they do the test free of charge. If the test is not available, the client will have to buy it from outside the facility and bring it with them for the test to be performed before an FP method is offered.

"Women who come and say they missed their period are encouraged to take a pregnancy test to rule out pregnancy before giving FP."
–FP provider, Lofa

[14] A multidose vial of BCG is used in the Liberia immunization program. The waste level is very high if a vial is opened and discarded after 6 hours following reconstitution.

Partners' Perspectives and Social Support

According to women who did not accept a referral to FP, partner disapproval was one of the most frequent reasons cited for rejection of FP. FP providers counsel mothers to consult their husbands/partners. If the male partners are not convinced about the benefits of FP, they do not allow their female partners to accept it. Many women indicated their partners had said no to them taking an FP method. It is difficult to say how many women actually spoke to their partners and how many never attempted because they were too afraid to raise the issue. Primarily participants living far away from the towns, and/or those who also had strong cultural and religious (predominantly Muslim) backgrounds in Lofa County, provided this information. Reports of partners as a barrier to FP uptake were heard more from women in Lofa County than Grand Bassa County. A few women from the comparison sites provided the same information.

Comparing the information provided by participants in Grand Bassa in villages far from the main roads, only a few women mentioned that they had challenges with their partners on FP. It was observed that women living in towns and villages close to the main roads in Grand Bassa and Lofa counties were more aware of FP services and were most likely to accept an FP method. This could be because of the level of understanding or because they received more awareness and messages on FP not only from the integrated program, but also from FP campaign messages provided by other institutions.

"Sometimes we can tell our husbands that we are tired borning [of giving birth] and want to take FP, but they can say no, and if you force it, they will take it from you, and it will be a problem."
–30- to 34-year-old woman in Lofa

"Some men do not understand FP—they want to born plenty children, so they are Facao."('Facao' is a football player. If someone is 'Facao,' they do not listen.)
–man over 40 years old in Lofa

"Since she is taking FP and she can't hinge in the mud [become pregnant], she may easily fall in love with another man and start to cheat on me."
–35- to 39-year-old man in Lofa

Comparison Sites Providing Integrated Services

MCSP anticipated that participants at comparison sites would not be knowledgeable about the integrated services since they were not exposed to the program. However, it was observed that participants at many comparison sites were aware and involved with both services, similar to the integrated sites. A majority of postpartum mothers at comparison sites said they were already exposed to PPFP counseling and accepting and using PPFP. In fact, all comparison sites in Lofa County reported to be providing integrated services by the end of the study observation period. In Grand Bassa County, two of the nine comparison sites reported some activity related to service integration by this time. This resulted in an underestimated effect of the intervention, as the comparison sites also started integrating services.

The qualitative study team observed that the comparison sites selected happened to be along the main roads and/or at big facilities, and that the integration approach may have been introduced by other organizations other than MCSP, since these were not included in the MCSP integrated sites but were providing services in this manner. Another likely reason for spillover from the integrated sites to the comparisons was that many of the supervisors interviewed mentioned that they do onsite training and coaching during the joint supportive supervision, where they train or coach service providers in all facilities on activities going on at the time. All district-level supervisors in the three counties were trained and participated in monthly supportive supervision visits. Some of these supervisors used knowledge and skills learned during these trainings and supervision at nonintervention facilities. This then affected the activities and integration at the comparison sites.

In addition, MCSP has been working to improve quality of PPFP services in all supported facilities (including comparison sites) and points of contact with pregnant women (i.e., during antenatal care visits and at the time of birth), which could result in increased uptake of PPFP services, even without EPI referral to FP. Finally, due to limited staffing, in some circumstances, FP providers must conduct counseling on EPI and provide vaccination services if vaccinators are absent. They use this opportunity to talk about PPFP.

Discussion

Summary

The percentage of women who want to space their next pregnancy is a crude measure of the extent of the need for FP services, given that not all of these women are aware of the risks of closely spaced pregnancies. Women who want to postpone their next pregnancy for 2 or more years, or who want to stop childbearing altogether but are not using a contraceptive method are said to have an unmet need for FP services.

In Liberia, many mothers in the extended postpartum period may want to delay or avoid pregnancies, but most of them do not use modern contraceptive methods. MCSP's findings show that reasons for this may include that women are uncomfortable talking about or having others know they are using a PPFP method. This stigma around PPFP may arise from the common notion in Liberia that postpartum women should not have sex "until the baby walks," but in reality, many of them are engaged in sexual activities before the child walks or reaches 1 year old. In addition, there are many fears and misconceptions about the side effects of FP that affect women's decisions to seek PPFP counseling.

The vast majority of mothers in the postpartum and extended postpartum period make multiple contacts with the clinic not for themselves to seek care, but for their children's immunization. This puts immunization services among the highest-used health services globally. Empowering vaccinators to give one-on-one messages to mothers after their children's immunizations helps create more awareness thatpostpartum mothers can indeed use modern contraceptive methods, and that they may be at risk of another, closely spaced pregnancy if not using a family planning method after childbirth.

MCSP's experience integrating FP and immunization services in Liberia demonstrated that despite stigmatization and resultant privacy concerns, mothers appreciate receiving FP messages from their children's vaccinators. Though unable to demonstrate a statistically significant impact on the total number of FP users because of integrating the two services, there is evidence of an increase in acceptance and use of PPFP at comparison and intervention sites following the initiation of the approach in 2016. In addition, MCSP demonstrated that the intervention has no negative impact on immunization utilization or dropout rates. Providers and clients alike expressed the benefits of integrating these services in terms of improving the quality of care they receive at the facility, improving health outcomes, and reducing costs for families.

Implementation Challenges

Primary challenges experienced during implementation included:

- Competing priorities at county level: Infrequent in-depth review and discussion of results, and implementation quality.
- Transfer of staff from intervention sites to nonintervention sites: This had a spillover effect on at least two comparison sites as trained staff applied skills learned while at intervention sites to their new places of work. On the other hand, new staff assigned to intervention sites had limited skills and had to be trained and mentored on the job for during at least two supervision visits before they were able to implement the approach confidently on their own.

Limitations

Primary study limitations included:

- PPFP use, including LAM, is not captured in HMIS. MCSP's primary outcome indicator for FP services use (i.e., total FP user) is broader than MCSP's target population (postpartum women), making demonstrating change in the subgroup challenging.
- MCSP was unable to use the "new FP acceptor" indicator due to data quality concerns with conflicting definitions of new acceptor across counties and sites.
- The small number of intervention sites and the short intervention period were inadequate for generalization of findings and realization of significant changes attributed to intervention, as behavior change around PPFP for both providers and women may take longer than the 9-month postintervention observation period.
- Same-day referral data do not capture the full impact of intervention. Women may be referred from vaccinators during an outreach visit on a separate day or may return to the clinic on another day but not reveal they were referred by a vaccinator. Perception of PPFP and PPFP norms may slowly change as a result of increased awareness generated by the program, but the long-term impact of these shifting norms on communities' and women's acceptance of PPFP could not be captured in the short time frame of implementation of this intervention.
- Spillover to just under half of the comparison sites limited our ability to demonstrate differences in service utilization trends between the study arms.

Recommendations for Future Programming

- Include community component/outreach, community engagement, and behavior change interventions paired with the facility intervention.
- Add PPFP indicator (including LAM) to HMIS and review/track uptake at each health facility.
- Ensure that high-quality counseling and follow-up for LAM are provided at health facilities.
- Explore adding FP referral messages to five key immunization messages.
- At health clinics and hospital outpatient departments, endeavor to have at least two certified midwives and two vaccinators to manage outreach and fixed services.
- Ensure sufficient level of privacy for vaccinators to enable them to provide PPFP messages.
- Improve depth of review of implementation during supervision visits and county-level review meetings. This includes looking at data and results with facility staff, conducting in-depth mentoring during supervision to improve the effectiveness of the intervention, and building more investment within county-level health teams for accountability of facility supervisors on FP/immunization integration.
- Ensure constant availability of all commodities at the health facilities through proper planning, forecasting, procurement, and distribution to the services points.
- Conduct exit interviews. Explore exposure to intervention and resultant client motivations, knowledge, and intentions around PPFP.
- Include as part of a broader effort to encourage contraceptive uptake.

Conclusion

The integrated immunization and family planning service delivery approach implemented in three MCSP-supported counties was a worthy undertaking. Though MCSP was not able to demonstrate statistically significant change with the HMIS indicators due to lack of a PPFP-specific indicator and intervention spillover, both mothers and providers interviewed said the integrated service provision was good because it provides a one-time opportunity for both mother and child to receive multiple services, and there was no negative impact on routine immunization. Regular information sharing by vaccinators serves as a reminder for postpartum mothers. Community engagement and involvement would promote FP services uptake and, in a later days, remove stigma around PPFP. The two-way referral (vaccinator to FP provider and FP provider to vaccinator) will reinforce the importance of completing the immunization schedule in a timely manner.

The integration of FP and vaccination services maximizes each contact that women and children have with the health system to promote lifesaving interventions. The approach provides holistic care for mothers and children, allowing mothers to access multiple services at one time, and helps postpartum mothers to space pregnancies. Ultimately, integrating these services is another opportunity to improve health outcomes for women and children in Liberia across the continuum of care.