From 2009 to 2015, Pathfinder International and its partners implemented the USAID-funded Strengthening Communities through Integrated Programming (SCIP) project in Nampula province, Mozambique. As part of SCIP’s overarching mandate to improve quality of life at the household and community levels, the project worked to increase access to contraceptive services by strengthening and better integrating health and community systems. Toward project end, Pathfinder observed a nearly 400 percent increase in couple years of protection (CYP)—a measure that uses the total amount of contraceptive methods distributed in SCIP-supported sites to estimate the years a given couple would be protected from pregnancy. Moreover, the increase in CYP occurred across all contraceptive methods included in the Mozambican method mix, suggesting improved method choice and minimized health provider bias. Recognizing the magnitude of these findings, Pathfinder conducted a retrospective analysis to explore the interventions and approaches that contributed to these results. This technical brief discusses the retrospective analysis, key results, and interpretation of the findings.
Context

Despite progress in important health indicators in recent years—including substantial declines in infant and child mortality—contraceptive use in Mozambique has remained stagnant over the last decade (11.7 percent in 2003; 11.3 percent in 2011). In Nampula, the nation’s largest province by total population, contraceptive prevalence declined from 9.2 percent in 2003 to just 5 percent in 2011, representing the third lowest rate in the country. Although uptake lagged, unmet need for contraception in Nampula rose sharply over the same time period—from 13.3 to 25 percent—reflecting a growing number of women understanding and expressing their sexual and reproductive health (SRH) needs.

From 2009 to 2015, Pathfinder International and its partners implemented the USAID-funded Strengthening Communities through Integrated Programming (SCIP) project in 14 of Nampula’s 21 districts. SCIP’s overarching goal was to improve quality of life at the household and community levels. As part of this broad objective, Pathfinder worked with the Ministry of Health (MOH) to increase access to contraceptive services at both the facility and community levels.

When the SCIP project began in 2009, the range of contraceptive methods available in Mozambique was quite narrow. Contraceptive implants had not yet been introduced into the country’s health system and although intrauterine devices (IUDs) were offered, providers reported a lack of confidence in their IUD insertion and removal skills. Provision of permanent methods was limited to central hospitals with the requisite surgical capacity. These factors led to a situation in which long-acting and permanent methods were rendered largely absent from the method mix, with a full 95 percent of modern method users in Mozambique relying on pills, condoms, and injectables (Depo) for ongoing contraception. Chronic nationwide shortages of both short- and long-acting methods further restricted availability.

Distance to health services posed another acute barrier to contraceptive access and uptake. At project start-up, there were two government-led modalities for providing health services at the community level—mobile brigades (i.e., teams of health providers who routinely travel to a central location within communities to offer services) and maternal and child health (MCH) weeks (i.e., targeted MCH outreach campaigns conducted in communities by health facility staff, and heavily supported by partner organizations). However, the range of services offered through these platforms fell short of meeting communities’ diverse needs. At that time, condoms and oral contraceptive pills were the sole methods provided through mobile brigades, and MCH weeks offered only vaccination and maternal health services. Pervasive sociocultural barriers, such as myths and misconceptions about contraception and limited male involvement in SRH, compounded supply-side obstacles.

Given the multiple barriers to accessing and adopting contraception in Nampula province, the SCIP project worked with the MOH, communities, and local leaders’ groups to: mitigate severe commodity shortages; improve facility-based services; expand method availability through both static and community-based service delivery points; and support communities and individuals to identify and demand quality contraceptive services that meet their needs.

Analysis of Results

SCIP Contraception Results

Over the life of the SCIP project, Pathfinder observed a statistically significant increase in current use of contraception from 7.2 percent at baseline (2010) to 17.6 percent at endline (2014) in the project’s catchment area. As illustrated in Figure 1, couple years of protection (CYP)—a measure derived by multiplying the total amount of all contraceptive methods distributed in SCIP-supported sites by the relative effectiveness of each method to estimate the total years a given couple would be protected from pregnancy—increased by nearly 400 percent, from 28,841 in 2010 to 142,906 in 2014. Interestingly, not only did overall CYP increase, but from the April-June 2013 quarter onward, an increase began to occur across all contraceptive methods included in the Mozambican method mix. This suggests that both access to and choice of methods improved, and implies that health provider bias toward any particular method during contraceptive counseling was minimized.

The consistent increase in uptake of long-acting methods is particularly notable, given that contraceptive use in Mozambique is heavily skewed toward short-acting methods. Trends in estimated unique users of long-acting methods (IUDs and implants) are shown below Figure 1.

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* This indicator refers to use of any of the following methods: female sterilization, male sterilization, oral contraceptive pills, IUDs, injectable contraception (Depo), implants, condoms, or lactational amenorrhea. In Mozambique, a comprehensive method mix includes: oral contraceptive pills, condoms, Depo, IUDs, implants, and sterilization. The graph includes all methods except condoms (which have been excluded to avoid “double counting”). Pathfinder used standard CYP conversion rates to convert CYP data into estimated unique implant and IUD users. This calculation assumes that each implant or IUD distributed corresponds to one individual client.
Thus, to gauge the validity of the increase, Pathfinder compared trends in CYP in the 14 SCIP-supported districts with the remaining 7 non-SCIP-supported districts in Nampula province. Because of differences in population size between these two groups, Pathfinder standardized the comparison by estimating overall “coverage” for each group—defined as the proportion of women protected from pregnancy by contraception. Coverage was calculated by dividing the total CYP achieved in a given quarter in each district by the estimated number of non-pregnant women of reproductive age residing in that district. The SCIP team then plotted a line of best fit to calculate the incremental average increase in coverage per quarter per group. As Figure 2 shows, CYP increased across both groups over time; however, in SCIP districts, CYP increased at a rate that was more than 1.5 times higher per quarter than in non-SCIP districts.

Once the validity of the increase in CYP was affirmed, Pathfinder investigated how SCIP’s key contraception interventions contributed to the stronger positive trend observed in project-supported sites. To do so, Pathfinder consulted with internal stakeholders and reviewed relevant project documentation (project reports, training databases, training curricula, programmatic funding requests for activities, and reports from supervisors and managers) to identify and delineate the key contraception interventions by the timing and intensity with which they occurred. The interventions were then plotted on an “intensity timeline” to enable staff to compare the incremental increase in CYP with the rollout of project-supported interventions. Visualizing the interventions vis-à-vis quarterly CYP figures allowed SCIP staff to determine which clusters of high-intensity activities preceded—and therefore may have contributed to—the observed increase in CYP across all methods. Relevant government-led contraception activities were considered alongside SCIP interventions.

† Note that SCIP-supported and non-SCIP-supported districts are comparable in terms of population characteristics; however, SCIP sites include Nampula City which, as an urban setting, offers more accessible health services. Nampula City is not representative of the remaining districts in the province and thus may skew the data. ** This model assumes that the shifts in CYP occur in a linear fashion.

†† In other words, in non-SCIP sites, approximately 773 women were reached each quarter out of a total 193,426 non-pregnant women of reproductive age residing in the districts. In SCIP sites, approximately 5,637 were reached out of a total 880,871.

![Figure 1: Trends in Couple Years of Protection (CYP) in SCIP-Supported Districts, 2010-2014](image-url)
The following sections discuss: 1) the key interventions aiming to increase contraceptive access and uptake over the life of the project; 2) the “intensity timeline” created by SCIP staff; and 3) interpretation of the findings.

Key SCIP Contraception Interventions

SCIP’s key contraception interventions fall into two main categories: health systems strengthening and integrated community and health systems strengthening.

Health Systems Strengthening Interventions

Improving commodity security
At project start-up, the nationwide shortage of contraceptive commodities undermined initiation of planned SCIP activities. For example, community-based distribution of contraception was delayed due to prolonged national stock-outs of oral contraceptive pills, and provider trainings were deferred due to limited method availability. Recognizing the critical need to strengthen commodity security, Pathfinder and other stakeholders provided technical assistance through participation in the national and provincial commodity supply task forces to build government capacity to accurately forecast commodity needs. At the facility level, SCIP provincial MCH nurse supervisors reviewed available stock during quarterly supervision visits, and worked with providers to estimate needed commodities for the upcoming month and correctly complete stock order forms.

Strengthening human resources for health
To expand method choice at static facilities, Pathfinder worked with the government to build providers’ clinical capacity to offer long-acting methods. Given provider discomfort with IUDs, SCIP worked with the MOH to enhance provider skills and confidence through a series of competency-based trainings on IUD insertion and removal for a total of 99 health providers who staff the 139 SCIP-supported health facilities. These trainings were facilitated by SCIP-supported provincial MCH nurses and used the MOH training curriculum, supplemented by a Pathfinder module covering balanced contraceptive counseling.

Following the government’s introduction of contraceptive implants into the health system in 2012, Pathfinder worked with the MOH to expedite rollout of the new method. During the July–September 2012 quarter, Pathfinder supported a pilot training for 32 providers, followed by subsequent mass trainings for 103 providers on implant insertion and removal. Similar to the IUD trainings, SCIP provincial MCH nurses facilitated the implant trainings, and Pathfinder worked with the MOH to revise the contraception curriculum to include information pertaining to implants.

Review of the training curricula revealed one distinguishing factor across the implant- and IUD-specific trainings. In both, dedicated time was allocated to reviewing all other methods included in the Mozambican method mix. Often, contraception trainings focus solely on the method that is being introduced due to time and resource constraints, along with assumptions that the workforce is sufficiently skilled and confident in provision of existing methods. This may inadvertently introduce provider bias toward the new method, either by implicitly placing undue emphasis on the method or simply because these skills become the most recently updated. Careful to avoid this, Pathfinder worked with the MOH to ensure that the curricula not only covered the new method, but also reviewed all other methods available, contraindications of each, and the importance of balanced counseling.
Following trainings, SCIP provincial nurse supervisors conducted day-long mentorship visits with providers on a quarterly basis to reinforce their newly acquired skills. During these visits, nurse supervisors used a checklist aligning with the MOH’s quality standards to assess counseling, clinical skills, infection prevention measures, and management and flow of contraceptive services. Nurse supervisors then provided on-the-job training and mentorship to individual providers to redress any observed gaps.

**Expanding contraceptive service delivery**

To mitigate access barriers and expand contraceptive service delivery at the community level, Pathfinder worked with its government counterparts to broaden the range of methods offered through mobile brigades and to integrate contraception into biannual MCH weeks. At project start-up, pills and condoms were the only methods provided during mobile brigades, although providers involved had the capacity to offer long-acting methods as well. To broaden clients’ choice, the project advocated for expansion of the range of methods available during brigades with its local government counterparts.

Even more restrictive, no contraceptive methods were offered through MCH weeks at project start-up. Supported primarily by UNICEF, the main goal of the MCH weeks was to increase vaccination and maternal health coverage; yet as a national campaign, they reached communities across the country. Recognizing this key missed opportunity to reach women at the community level with contraceptive services, SCIP leveraged Pathfinder’s broader involvement in the national Sexual and Reproductive Health Steering Committee to advocate for provision of contraception during MCH weeks. As shown in Table 1, Pathfinder’s efforts contributed to increased method availability via mobile brigades and MCH weeks throughout the project’s lifecycle.

**Integrated Community and Health Systems Strengthening**

Fostering informed, empowered communities capable of identifying and demanding quality health services lies at the core of the SCIP project’s mission. With an eye to sustainability, Pathfinder worked to strengthen existing, formalized community structures tasked with overseeing local health initiatives per the country’s decentralization policy, such as community leadership councils and health facility co-management committees (further described in the box below). Without these key structures, very few avenues exist for bridging community and health systems; however, at project start-up, many had weakened or lapsed altogether. Responding to this challenge, the project first revitalized and, where necessary, established, these structures.

Once these were functional, the SCIP project supported nurses from the nearest health facility to facilitate discussions with community leadership councils about the social norms and beliefs that hamper informed contraceptive decision making by couples and families. These nurses led “hot topics” discussions with 31,069 community leaders on a range of SRH issues, including: contraception; sexually transmitted infections; HIV and AIDS; institutional deliveries; and antenatal and postpartum care. In addition, SCIP provincial nurse supervisors trained a total of 948 community leader facilitators (described in the box below) in the importance of male involvement in SRH, emphasizing contraception. These discussions with community leadership councils and leader facilitators contributed to an enabling environment for behavior change, encouraged health-seeking behavior among community members, and generated demand for services.

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**Table 1: Pathfinder Efforts Contributing to the Progressive Expansion of Methods Provided through Mobile Brigades and MCH Weeks**

<table>
<thead>
<tr>
<th>Service Delivery Point</th>
<th>Mobile Delivery</th>
<th>MCH weeks</th>
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<tr>
<td></td>
<td>Pills and condoms</td>
<td>Depo and implants</td>
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<tr>
<td><strong>No contraceptive methods</strong></td>
<td><strong>Pills and condoms</strong></td>
<td><strong>Depo</strong></td>
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<td><strong>BASELINE (2009)</strong></td>
<td><strong>OCTOBER 2011</strong></td>
<td><strong>OCTOBER 2013</strong></td>
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To ensure that community needs (as identified and aggregated by community leadership councils and community leader facilitators) are systematically fed back into the health system, SCIP built the capacity of 100 health facility co-management committees (see box on previous page) to serve as the formal mechanism linking health and community systems. These co-management committees also play a role in assisting facilities to gauge community demand for contraceptive methods, which helps facility staff forecast the amount of commodities needed for outreach events.

In addition to these vital community structures, the project supported a cadre of 33,693 community health workers (animadoras) and volunteers to: sensitize community members on a constellation of health issues including contraception, to directly distribute pills and condoms, and to refer clients to facilities for other methods and for initial contraception consultations. However, as a result of the severe shortages of oral contraceptive pills at project start-up, animadoras focused almost exclusively on behavior change and demand generation until early 2012. This extended period of time allowed animadoras to nurture sustained, continuous dialogue with community members about the importance of healthy timing and spacing of pregnancies, alongside other important health issues.

Finally, with technical support from Pathfinder, the provincial health directorate organized the Nampula Provincial Family Planning Conference in November 2012. This full-day event attracted 201 political, community, and religious leaders, and focused on making FP relevant to the diverse stakeholders present. Sessions drew connections between FP and a constellation of issues relevant to attendees, including improved MCH, nutrition status, and economic opportunity. The conference resulted in increased FP awareness among influential political and religious leaders, further solidifying the enabling environment for improved access to and uptake of contraception that the project had fostered at the community level.

### Intervention Timeline

Once the key contraception interventions were identified, project staff plotted the rollout of these interventions on the timeline below, according to their timing and the intensity with which they occurred. Construction of this intensity timeline

#### Figure 3: Intensity Timeline Demonstrating Rollout and Intensity with which Activities Occurred

To understand which clusters of high-intensity activities may have played a more pronounced role in the increase in CYP across all methods, the SCIP team plotted the key contraception interventions by their timing and the intensity with which they occurred.

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<td>3 Animadoras trained in FP sensitization and distribution of pills, condoms</td>
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<td>8 Expanded range of methods provided at community level through mobile brigades</td>
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<td>9 Contraception included in biannual MCH weeks conducted at community level</td>
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**Note:** In Mozambique, community health workers are not permitted to distribute contraception to new family planning (FP) acceptors. Rather, animadoras must refer these clients to health facilities for initial FP consultations and screening for contraindications. In early 2012, the SCIP consortium introduced 40,000 pill packs into the provincial distribution routing system to alleviate shortages. The consortium advocated for facilities to begin supplying the community network with this additional stock, thus initiating community-based distribution activities. The rationale for assigning levels of intensity to interventions varies by type of activity. For activities 1-5, intensity was heavy in the initial project period as efforts were made to revitalize community structures, reach community leadership councils, and deploy animadoras throughout all communities within the SCIP catchment area. Intensity levels for these three activities reduce as saturation of communities is reached. The second intensity peak for animadora training denotes refresher trainings on contraception as part of new animadora trainings on nutrition (another SCIP result area). For community leader facilitator training in male involvement in SRH, heavy intensity from October 2012 through September 2013 coincides with SCIP’s focus on male involvement beginning from this period; again, intensity wanes as saturation is reached. For all provider trainings, heavy intensity levels indicate standalone trainings, whereas lower intensity levels denote on-the-job training. For specific events (e.g., Nampula Provincial FP Conference, MCH weeks), high intensity indicates that the event occurred. For provision of methods in mobile brigades (activity 8), intensity gradually increases because inclusion of Deps occurred incrementally until all brigades were reached.
allowed project staff to assess which clusters of activities may have played a more pronounced role in the increase in CYP across all methods beginning from the April–June 2013 quarter (when the increase was first observed).

The intensity mapping timeline revealed that in the years preceding the April–June 2013 quarter, four interventions were implemented for a period exceeding two quarters (activities 1–3 and 6). Of these, just one intervention was directed primarily toward the health system—training of providers in IUD insertion and removal—and this intervention was not implemented with heavy intensity. The remaining three activities were part of SCIP’s package of interventions aimed at integrating health and community systems, and were implemented with high intensity. These interventions were: 1) revitalizing or establishing community structures; 2) community leadership council sensitization on contraception (this intervention saw continuous implementation, with seven intensive quarters from January 2011 to September 2012 leading up to the observed increase in uptake across all methods); and 3) training of animadoras in community-based distribution of pills and condoms, and referral for longer-acting methods.

**Interpretation of Findings**

As shown in Figure 4 below, the largest jumps in CYP occurred during the national MCH weeks, during which the project and provincial/district government coordinated to promote services and ensure zero stock-outs. However, the observed pattern of contraceptive uptake suggests that knowledge of and demand for a diverse method mix was achieved prior to national campaigns, evidenced by the sizable and immediate increase in uptake of new methods as soon as they became available. For example, during the first quarter in which implants were offered through MCH weeks (April–June 2014), uptake of implants alone accounted for 16,192 CYP, representing an exponential increase from the previous quarter (1,938 CYP). Moreover, reports from health providers at static facilities indicate that demand for implants far exceeded supply in the three quarters prior to April–June 2014. Interestingly, CYP attributable to IUDs also peaked during the two MCH weeks (April–June 2014 and October–December 2014), yet IUDs were never offered at the community level through this service modality. This pattern suggests that either: 1) referrals for IUD services to static facilities were completed more frequently during MCH weeks, or 2) the groundswell of clients seeking services through MCH weeks prompted other women in the community to seek out their method of choice at static facilities.

Findings from the retrospective analysis revealed that the majority of interventions preceding the increase in CYP (and conducted with high intensity) were part of SCIP’s package of interventions aimed at integrating health and community systems. Coupled with balanced provider training and the project’s robust behavior change activities, Pathfinder’s efforts to integrate health and community systems appear to have resulted in a scenario where informed clients were met with unbiased health providers working within a system capable of meeting individuals’ diverse contraceptive needs when voiced.

**Figure 4: CYP trends in SCIP-supported districts plotted alongside intensity levels of project interventions:** As shown below, the activities that were part of the project’s package of integrated systems strengthening interventions were implemented with continuous, heavy intensity in the period preceding the increase in CYP across all methods (first observed in the April–June 2013 quarter). Integrated health and community systems strengthening appears to have contributed to a scenario in which informed clients were met with unbiased health providers working within a system capable of meeting individuals’ diverse contraceptive needs when voiced.
The findings of this programmatic analysis are supported by previous studies that have demonstrated the added value conferred by interventions that take into account both the community and health systems. For instance, the Community Health and Family Planning Project, implemented by the Navrongo Health Research Center in northern Ghana, found that the combination of community-based and facility-based interventions had a higher impact on fertility declines than either intervention in isolation. Other studies have shown that when either the community or facility is prioritized over the other, the intervention’s impact is attenuated. For example, a 2001 quasi-experimental study in Cameroon revealed lower impact in an intervention group receiving community-based interventions alone because the health system was unable to support and motivate community health workers. Ensuring that attention is paid to both the community and health system has also been associated with increased likelihood of sustained programmatic impact; a 2015 systematic review of provision of FP services by community health workers suggested that sustainability is more likely when community health worker programs are strongly linked to the formal health system.

Global literature correlates community-based interventions with improved knowledge and increased uptake of contraception, as well as reductions in maternal morbidity and neonatal mortality, and increased rates of institutional deliveries and early breastfeeding. Results from the SCIP project’s retrospective analysis complement these findings, and suggest that efforts to build health system capacity in concert with strong community participation may play a role in diversifying contraceptive method choice and uptake.

Next Steps
Pathfinder is currently expanding its efforts to explore the contextual factors contributing to a range of SRH achievements across its portfolio of projects. As part of this effort, the SCIP team is conducting a study to explore a notable increase in institutional deliveries that occurred in select positive deviance cases in the SCIP catchment area. Preliminary findings from the analysis reinforce and further validate the importance of integrated community and health systems strengthening for improving uptake of SRH services—a key element of the SCIP project’s legacy in Nampula.