BACKGROUND

South Sudan’s modern contraceptive prevalence rate (mCPR) is the lowest globally—1.7% among married (or in union) women of reproductive age. The total fertility rate is 6.7 children per woman and 28% of women age 20-24 have given birth by age 18. The maternal mortality ratio is 1,150 per 100,000 live births, one of the highest in the world (Population Reference Bureau 2019, FP2030 2022, World Bank 2022).

Recognizing the need to improve maternal health and provide family planning (FP) and reproductive health services more widely and reliably, the Government of South Sudan (GOSS) has been an FP2020/FP2030 commitment maker since 2017, aiming to reduce maternal mortality, improve availability and access to FP information and services, and increase mCPR (FP2020 2018). However, the country has poor health infrastructure and a limited public sector health workforce to provide its population with FP and other basic health services. The COVID-19 pandemic led to further challenges, including periodic health service curtailment, movement restrictions, and provider and client fears regarding providing or accessing services.

APPRAOCH

Prompted by the limited success in improving FP access in South Sudan to date, IntraHealth International implemented a “dedicated provider” model based on evidence that by having time, skills, and materials, dedicated providers are able to serve more women with FP, meet unmet need, and expand contraceptive choice (Neukom et al. 2011). Between October 2019 and December 2020, with funding from USAID under the Evidence to Action for Strengthened Family Planning and Reproductive Health for Women and Girls (E2A) project, IntraHealth recruited and placed nurses and community health workers to provide health services.
(CHWs) in 9 public sector health facilities and adjacent communities to address health workforce limitations, expand clients’ FP method options, increase access to provider-dependent methods, and stimulate further demand to help meet high levels of unmet need for FP.

Our dedicated-provider approach was built on similar models used in Zambia and elsewhere to improve access to FP methods including long-acting reversible contraceptives (LARCs) (Neukom at el. 2011, Duvall et al. 2014). We also drew from similar staffing approaches used in PEPFAR programming to fill critical workforce gaps to meet HIV care and treatment targets. The design of the approach was informed by a baseline assessment (June-November 2019) that highlighted major gaps in FP capacity and services, including low FP method provision; little or no staff training on FP in the past two years; lack of CHWs providing FP services in communities; absence of guidelines and job aids; and service data gaps.

Placement of FP-dedicated service providers
The project hired, trained, and deployed 17 nurses—a combination of registered nurses and nurse-midwives—during November-December 2019 to serve as dedicated providers. We paid the salaries of each dedicated provider for the duration of the intervention, at salary scale comparable to government remuneration for registered nurses plus incentives, with additional NGO benefits. Technical project staff conducted initial orientation and training, based on the South Sudan Ministry of Health (MOH)’s first-ever FP curriculum, developed in 2018/19, and Juba-based project staff and more experienced dedicated providers at the health facilities conducted subsequent mentoring and coaching.

Using supplemental evidence-based job aids and other information, education, and communication (IEC) materials, the facility-based dedicated providers delivered FP information, counseling, and a broad range of FP methods and services for 13 months, from December 2019-December 2020. Contraceptive methods provided at the facilities included oral contraceptive pills (OCPs; combined hormonal pills and progestin-only pills); condoms (male and female); lactation amenorrhea method (LAM); emergency contraceptive pills (ECPs); injectables (DPMA; both by intramuscular and subcutaneous injection, including client self-injection); and copper IUDs; and implants (Nexplanon/Implanon and Jadelle), including removal. To augment the work of the dedicated providers, the project recruited, hired, and trained 26 CHWs in January-February 2020 and placed them in surrounding communities served by the nine facilities. We paid monthly stipends to the CHWs. Dedicated providers from the facilities monitored and coached the CHWs in the communities. The CHWs’ activities began in February 2020 but were suspended in March 2020 when GOSS introduced COVID-19 directives and restrictions. The CHWs subsequently resumed work in September 2020. CHWs provided health education, FP counseling, condoms, pills, re-injection with DMPA-SC (Sayana Press), LAM advice, and referral for LARCs.

Health facility sites
The nine service sites where the dedicated providers were placed comprised a mix of busy public sector hospitals and primary health care centers (PHCCs), both rural and urban, in four counties in southern and western South Sudan (Figure 1). All sites were also staffed by other government service providers who were supported by the multi-donor Health Pooled Fund South Sudan to provide a wide range of curative and preventive services that included FP. UNFPA supplied the contraceptives provided at the sites.

Figure 1: Health facilities where FP-dedicated providers were placed

**Wau County**
1. Wau Teaching Hospital
**Yambio County**
2. Yambio State Hospital
3. Yambio PHCC
**Juba County**
4. Gurei PHCC

**Magwi County**
5. Nimule Hospital
6. Magwi PHCC
7. Mogali PHCC
8. Abara PHCC
9. Obbo PHCC
Dedicated provider placement was intended to be additive, in order to improve FP access and broaden clients’ contraceptive method options where FP needs were high but ability to provide FP services was constrained by health workforce shortages, lower prioritization of FP, and competing demands on service provider time and attention. The dedicated providers reinforced efforts to integrate FP into other services—HIV, antenatal care, postnatal care, and infant and child services—within the facilities and to maintain and strengthen intra-site referral linkages. Both hospitals and PHCCs were selected because hospitals provide greater opportunity to reach postabortion and postpartum clients with FP counseling and services while PHCCs are more easily accessible to clients, given their proximity to communities.

**Demand stimulation**

Stimulation of demand for FP at community and facility levels was a key component of the work of both the dedicated providers and the CHWs. At the community level, the CHWs sought to increase individual and community awareness through group and one-on-one education sessions on the importance and benefits of FP and availability of methods and services. At the facility level, in addition to directly providing services to FP clients and training and mentoring the CHWs, the 17 dedicated providers conducted FP education sessions with clients waiting at the facility for maternal, newborn, and child health (MNCH), HIV, and/or gender-based violence services, to increase knowledge of FP methods and refer them, if interested, for available FP services.

**Data collection**

Documentation of FP services was irregular at the nine service sites prior to the intervention. Beginning in December 2019, the dedicated providers were responsible for regularly documenting FP service provision in registers and subsequently entering use and method mix data regularly and reliably into the district health information system (DHIS2). CHWs used separate registers to document community outreach, method provision and referrals, and this information was relayed to the dedicated providers for inclusion in the DHIS2.

**Implementation disruption due to COVID-19**

COVID-19 posed the most significant challenge to implementation. GOSS COVID-19 restrictions resulted in the cancellation of outreach activities such as mobilizing faith-based leaders and partnering with a local youth organization to raise awareness of the benefits of FP and availability of FP services. Within the facilities, however, the dedicated providers continued providing FP services using personal protective equipment, COVID-19 IEC materials, handwashing stations, and enhanced facility infection prevention practices. COVID-19 messages were also incorporated into FP health education activities. To help minimize clinic visits for clients based on their method of choice, longer-acting contraceptive methods like injectables, implants, and IUDs were regularly and routinely available in clinics and multiple packs of OCPs were offered (6-12 cycles or 2-4 packs). In addition, to further reduce the need for client visits, the MOH allowed providers to begin offering DMPA-SC self-injection services to clients.

**RESULTS**

**Demand**

Despite the interruption of community-level demand generation activities for five months due to COVID-19, many clients were reached via health education talks and counseling, mostly at facilities among clients coming for MNCH and HIV services. In the 13-month span from December 2019 to December 2020, 1,831 education sessions were held, with 27,352 participants; 20,641 individuals received FP counseling.

**Client visits for FP method initiation or resupply**

Despite COVID-19 limitations, monthly provision of FP methods—by all providers at the nine sites and CHWs in the surrounding communities—rose substantially from baseline levels at the nine health facilities, as seen in Figure 2. In November 2019, the first month with baseline data from all nine facilities, 478 client visits for FP methods occurred. Provision of FP then rose substantially after the placement of dedicated providers and CHWs started, with client visits for FP methods more than doubling, to 1,228 in February 2020 and 1,166 in March 2020, after which COVID-19 restrictions ensued. After COVID-19 restrictions were lifted FP service levels rose threefold from September 2020-December 2020 compared to baseline levels, ranging from 1,526 to 1,841 client visits per month. From December 2019 to December 2020, the average number of client visits for FP methods per month was 1,298, representing a 271% increase from the November baseline data.
Overall, there were 16,869 client visits at which contraceptive methods were provided, 33% of which entailed a client choosing an FP method for the first time. Approximately 65% of these client visits were made by clients under the age of 25, a reflection of South Sudan’s young population, where approximately 70% of the population is under age 30 (UNFPA 2022). Approximately 90% of these visits to receive an FP method were made by women.

Figure 2: Monthly client visits for FP method initiation or resupply

Dedicated providers’ contribution to FP services
The 17 FP-dedicated service providers delivered the great majority of the FP services at the nine health facilities, including almost 75% of service provision for contraceptive initiation or resupply, as indicated in Table 1 and Figure 3. The dedicated providers averaged approximately 1,100 client visits per month during the COVID-19 lockdown period (April-August 2020) and subsequently averaged 966 visits per month from September 2020 to December 2020, after CHWs resumed activity. (This slight falloff, 12%, may have been a result of clients preferring the convenience of accessing FP methods closer to home. The other facility-based providers also had a lower proportion of clients in February and March when CHWs began services.)

Table 1: Number and proportion of FP services provided, by cadre

<table>
<thead>
<tr>
<th>Provider category</th>
<th># Clients received FP education</th>
<th># Clients received FP counseling</th>
<th># Client visits/FP method received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated Providers (17)</td>
<td>14,621 (53%)</td>
<td>12,590 (61%)</td>
<td>12,356 (73%)</td>
</tr>
<tr>
<td>CHWs (27)</td>
<td>7,282 (27%)</td>
<td>4,006 (19%)</td>
<td>2,182 (13%)</td>
</tr>
<tr>
<td>Other Providers</td>
<td>5,449 (20%)</td>
<td>4,050 (20%)</td>
<td>2,331 (14%)</td>
</tr>
<tr>
<td>Total</td>
<td>27,352</td>
<td>20,646</td>
<td>16,869</td>
</tr>
</tbody>
</table>

Partial baseline; 6/9 facilities
Full baseline; 9/9 facilities
Covid-19 restrictions; CHWs halt work
CHWs begin work
Covid-19 restrictions lifted
CHWs restart work
Dedicated providers begin to work
Methods chosen
Clients in and around the facilities where dedicated providers had been placed chose from a broad range of methods, as seen in Figure 4. The dedicated providers and in-country project staff monitored the availability of FP commodities and promptly addressed any stockouts via transfer from nearby facilities with excess commodity supply.

The methods chosen included two versions of injectables (DMPA), 48% of which were delivered intramuscularly and 52% of which were delivered subcutaneously; two types of implants, Jadelle (45%) and Implanon (55%); two types of oral contraceptives, combined oral contraceptives (66%) and progestin-only pills (34%); and both female and male condoms (use of which was documented only when provided as the primary method for pregnancy prevention,
Hormonal contraception comprised 89% of the methods chosen, with injectables (36%) and implants (32%) predominating. Client use of IUDs was negligible despite efforts to improve provider skills and ensure the method was an available option at all intervention sites.

**DMPA-SC/Sayana Press self-injection**
Guided by the MOH, we piloted DMPA-SC self-injection at the outset of the COVID-19 pandemic to enable clients to receive the method without having to visit the facility. From March 2020 to December 2020, 102 clients elected self-injection. The dedicated providers counseled and trained clients on self-injection steps, safety and storage conditions, reinjection windows, and precautions on handling and disposal of used syringes. The first self-injection was conducted at the facility and observed by the dedicated providers. Clients were then provided with up to two additional DMPA-SC doses for self-injection at home. The dedicated providers, and CHWs, once reinstated, provided follow-up support to clients in the community using a standard checklist. Between June and December 2021, 67 clients reinjected at home.

**Use of longer-acting, more effective methods**
Compared to the November baseline data from the nine facilities, service data show that women increasingly chose highly effective, longer-acting methods, with a notable rise in women choosing implants (see Figure 5). Fifty implants were chosen by clients during the November 2019 baseline month, which rose to an average of 410 per month for the duration of the intervention (December 2019-December 2020). This represents an 820% monthly increase in clients opting for implants as their method of choice. In the last quarter of the intervention, the average number of implants chosen by clients rose to 568 per month, representing an 1,135% increase compared to baseline. All dedicated providers were trained to be able to provide implant removal and to counsel that implants can—and should—be removed at any time a client wants to have them removed. Service data show that 377 implants were removed during this time period at the nine sites. The majority of these clients indicated either they wanted to become pregnant or wanted a replacement implant.

**CONCLUSION**
The addition of a small cohort of trained and motivated service providers can be an effective and timely intervention that broadens FP method choice, widens client access to provider-dependent

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**Figure 5: Clients visits by type of method initiated/resupplied**

![Figure 5: Clients visits by type of method initiated/resupplied](image-url)
methods, and results in rapid uptake of public sector FP services in fragile countries with limited health infrastructure, high disease burden, low contraceptive prevalence, and high unmet need for FP. The increase in FP client visits to other service providers at the facilities where the dedicated providers were placed is also notable, suggesting there were broader benefits to health education at and around the facilities, and that the dedicated providers may have strengthened, not just supplemented, FP services at the facility. These achievements were also notable for having occurred during and despite the COVID-19 pandemic. One positive effect of pandemic-induced changes to South Sudan’s health service policies was the inclusion of self-injection of DMPA as a promising service delivery approach, which was encouraged and aided by the dedicated providers and by convenience to clients.

Despite its effectiveness in quickly meeting ongoing and unmet need for FP, the dedicated FP provider approach may be challenging to scale up and sustain as supplementing facilities with dedicated providers would require substantial financial investment. However, as the funding landscape evolves to include both increased GOSS financing and donor support for FP, future interventions could begin by stimulating demand and initiating service provision by dedicated providers who then step back to mentor their counterparts, as has been done in Nigeria with CHWs and provision of implant insertion services (Charyeva et al. 2015).

We suggest state health ministries, donors, and FP implementing partners in South Sudan collaborate to tailor the model to settings where demand and unmet need for FP are highest and add a costing analysis to support its integration into local financing mechanisms.

References


